

Appendix B Submissions

22606 Andrew Hynes of Tenterfield , NSW

Objection to Bonshaw to Lismore Transgrid line proposal

Land Use and Planning Impacts:

No consultation was sought between myself and Transgrid about land use and future property plans. We have been involved in property planning for the last 15 years. No questions of whether these power lines would impact on our property plan were ever initiated by Transgrid . Some of this land was set aside for superannuation but will now be very devalued or even unsaleable.

Heritage Impacts:

There has been no consultation as to the effects on my heritage or my children's. The Hynes family have been on this property for almost 103 years. This I would have thought would have been foremost in their assessing what disruption they may cause .I'm not an authority on aboriginal heritage.

Hazards and Risk Impacts:

We are unclear as to the effects of EMF's on us over the long term. These concerns are also carried to our breeding stock that will be under them. Possible fertility problems with either cows or bulls will have a major effect on our business. The risk of fires is of great concern as a fallen line could literally destroy our best pasture and cattle. This paddock under the line and a neighbouring paddock usually has bulk long grass which would be impossible to extinguish.

Visual Amenity Impacts:

This power line will be visible from almost all of the property. This will decrease aesthetic values of our open spaces and great views we have on our property. This will also have a great effect on valuation and resale of land in the district.

Construction Related Impacts:

It has come to my attention that some of the off easement roads are incorrect on your maps. One particular pole will need deep gully excavation for access. This could cause on going erosion control issues. There may need to be a more permanent crossing structure in this particular gully. Soils are fragile and subsoil here is dispersive and erode easily. Weeds will be an on going problem . My family will have to remain vigilant. 'Taronga' property has no tiger pear, lipia, or Patterson's curse and we need it to remain free of these weeds.

Traffic and Transport Impacts:

We realize that there will be volumes of traffic in construction of the line. This may coincide with busy times on our property or when stock are at strategic times eg calving or lambing. This may cause economic losses due to mis-mothering of the young.

Compensation:

The compensation offered is more equal to an annual payment than fair compensation. The offer in no way covers loss of production, land devaluation, possible health risks, fire risk, and ongoing work and expense that will be needed for tracks and address weed problems. The restriction of some farm related activities inside the easement will need to be compensated for. Sale of these holdings or portions of these holdings is one of our biggest concerns as it our superannuation. We fully endorse U.D.A.G. and Mingoola Progress Associations submission.

Yours Faithfully

Andrew Hynes
'Taronga'
Tenterfield NSW 2372

20521 Peter Woodrow of Private Citizen

Submission – Notice of Opposition to Dumaresq to Lismore 330Kv Transmission line

Attention - Anna Timbrell
Planning Officer - Infrastructure Projects (Energy)
NSW Department of Planning & Infrastructure
GPO Box 39
SYDNEY NSW 2001

Dear Sir/Madam,

I wish to express my opposition to TransGrid's proposed Dumaresq to Lismore Proposal. I am in no way directly affected by the Transmission lines, rather I am a concerned citizen who believes that the justification and process of The TransGrid application is so faulty that it should be declined by the Minister.

Strategic Planning and Project Justification

My objections specifically centre around TransGrid's complete failure in terms of its EA to appropriately outline the Strategic Planning and Project Justification in relation to the Director general's Requirements of Section 75F of the Environmental and Assessment Act 1979. Specifically TransGrid has not fulfilled the following mandatory requirements; TransGrid did not taken any account of the impact of non-network options prior to its initial proposal as mandated by section 5.6.6. the National Electricity Rules.

Furthermore TransGrid's basis for project justification is based on faulty data. TransGrid's predicted energy demands are based upon population growth, rather than actual energy usage, which has according to TransGrid's own documentation declined or remained flat(That is NO actual increase at all) over the last 7 (SEVEN) years despite increasing population growth on the North Coast. Why is TransGrid using old projection data in the project justification when it has newer (2011 data) showing over a 100 to 150MW decrease in demand projections?

TransGrid's failure to take into account for alternate energy sources is a direct breach of the National Electricity Rules. While the AER 2010 Report notes that TransGrid „fixed“ this breach in May 2010, some 2 years after the April 2008 Application Notice, this does not alter the fact that TransGrid breached the Act and section 5.6.6, in not having completed this mandatory requirement of the Act prior to the 2008 application notice. Furthermore, the attempt by TransGrid to remedy this in 2010 represented a process deliberately designed to fail. I and Grant Johnston, the other TAG co-chairman, had a conversation with a significant Alternative Energy Supplier on the Far North Coast, who stated, “This process is not real, no supplier could ever sign a contract for a 5 year period alone and one that could be cancelled at a months’ notice.” We contacted other suppliers in the region and received identical answers. When we asked the CEO of this large company to make this public, he stated that he could not and we could never mention his name or his company's name because TransGrid would, and I quote, “Blackball them right out of the game.” TransGrid has a widely held reputation for bullying tactics, and this entire process, held two years after the initial AER go-ahead was designed to fail. Finally, TransGrid only undertook this process after being reported to the AER by UDAG & TAG, via Federal Member Mr Tony Windsor, for being in breach of their mandatory responsibilities under the NER.

Based upon these fundamental errors in strategic planning and project justification, TransGrid's rationalization for the project is untenable based on the following key areas.

Justification under the Regulatory Arm rather Than the Market Arm

Under the Regulatory Arm TransGrid was provided a go-ahead on the basis that it was the cheapest alternative, not on any other factor. TransGrid's entire justification is reliant on the NEED for increased demand. This has proven to be false over the last 7 years by TransGrid's own figures. Furthermore, the Terranora connector is clearly the cheapest option despite ownership issues. Also the I-Grid Report clearly stated that infrastructure spending is the most expensive option and that Smart-metering and demand management of the Far North coast is the single most cost effective strategy.

2011 Annual Planning Report (TransGrid) Forecast Demand

Nearly 30% (over 100 MW) difference in Forecast demand projections between TransGrid's Final Report (2009) and TransGrid's 2011 Annual Planning Report, raises fundamental questions about the Project's very justification.

2010 AER Report

The AER has found shortcomings in the process conducted by TransGrid in reaching its decision to build the line. Key areas of concern are that:

- the application notice did not contain an adequate analysis of all reasonable network and non-network options
- neither the application notice (April 2008) nor the final report (March 2009) adequately examined the potential for material inter-network impacts
- the final report did not summarise or respond to submissions on the application notice
- the decision to limit the Regulatory Test analysis to a single reasonable scenario was inadequately justified and did not meet the requirement to provide a detailed description on why TransGrid consider the asset passed the Regulatory Test.

Asset Devaluation

The project costing does not reflect the reduced value of assets in the vicinity of the proposed transmission line due to the many factors including visual impacts and perceived health risks. A reduced value of assets has been transferred as a hidden cost to the asset owners in the vicinity of the transmission line, both within the, and outside the easement. Consequently the project costing is false. The current cost of over a quarter of a billion dollars, would be much higher when cost to land values for those alone the line are calculated.

Climate Impact

The project claims regarding the CO₂emissions is limited and biased. The evaluation of the emissions does not account for the built emissions associated with the production of materials used to construct and subsequently operate the transmission line. Consequently the projected savings in CO₂ emissions is incorrect.

Alternative supplies.

Furthermore, TransGrid's basis for project justification is based on faulty data. TransGrid's predicted energy demands are based upon population growth, rather than actual energy usage, which has according to TransGrid's own documentation declined or remained flat (2011 Annual Planning Report Forecast Demand North Coast) over the last three years and will continue to do so for the foreseeable future (2011 Annual Planning Report Forecast Demand North Coast).

Nowhere in the TransGrid's proposal takes into account the North Coast community's uptake energy saving systems, such as light bulbs, insulation, heat pumps, solar water heating and solar and wind electricity generation. TransGrid has also failed at every stage to adhere to the recommendations and findings of the Eastlink Enquiry.

The level of planning and justification competence is also displayed in TransGrid's Executive Summary. On page 4 of the ES the project cost is quoted at \$227 million, on page 12 at 210 million and in their most recent community publication \$270 million. It beggars belief that after a 3 year delay and the imposition of the new cost of an \$18-20 million dollar substation at Tenterfield that the price could actually drop. Even at this level the unprofessional and imprecise planning is apparent.

Land Use & Planning Impacts

The Land Use and Planning Impacts of the proposed transmission line are also significant. Tenterfield's current growth in smallholder blocks is to its north, in the very same region as the proposed lines. The proposed project will devalue the acreage of current landholders, even more significantly it will deter new purchasers from entering into the town. The proposal also places in danger the traditional land usage in the area, beef cattle and organic farming Ecological Impacts

I also wish to object to the TransGrid's proposed project on the basis of its Ecological Impacts on the local ecology and landscape. The proposed route for the transmission lines through the Tenterfield region will impact dramatically on a number of indigenous fauna and flora listed as environmentally significant. In particular the proposed route will impact on the Conservation of EPBC Act listed communities White Box, Blakely's Red Gums, Orange Gums, Lyrebirds and Koalas.

Visual Amenity Impacts

Visual Amenity Impacts of the proposed transmission line will have detrimental impacts on both the land-value and tourism industry in the community. Apart from destroying the majestic landscape and „local and regional views“ of the Northern Tablelands, the TransGrid proposal, will harm the local tourist industry, which depend for its very livelihood the pristine, unspoilt and natural local landscape. Not only will the value of those upon whose land the proposed route is situated but all adjacent landholders will suffer significant depreciation of their land. Local Real Estate agents have suggested that this could be 40-60% decline in value for those directly affected, and a 20 to 40% decline for those who hold properties within view of the transmission lines.

Finally, the Visual Amenity Impacts of the proposed transmission line, will have detrimental impacts on both the land-value and tourism industry in the community. Apart from destroying the majestic landscape and „local and regional views“ of the Northern Tablelands, the TransGrid proposal, will harm the local tourist industry, which depend for its very livelihood the pristine, unspoilt and natural local landscape.

In summary, TransGrid has not only failed to justify the need for this project but has actively breached a number of the National Electricity Rules. TransGrid has failed utterly in its Environmental Assessment Requirements under part 3A of the Environmental Planning and Assessment Act 1979. And despite carrying out analysis of network and non-network options, only subsequent to TransGrid Action Group Inc. & Upper Dumaresq Action Groups made Federal Minister Mr Tony Windsor aware of the breach in 2010, TransGrid must be held accountable for the fact that it breached the Act.

Mr Peter Woodrow JP B.A. M.Litt. Grad. Dip. Ed.

Co-Chairman & Public Officer of TAG(Transgrid Action Group) Tenterfield Inc.

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Tenterfield, NSW 2372

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0400029896

22004 Nick Stephens of Lismore City Council

Thank-you for providing this opportunity to provide a submission on the Environmental Assessment (EA) of the Bonshaw to Lismore Transmission Line Project. Lismore City Council, at it's October 2011 meeting, resolved to make a submission on TransGrid's EA document, with copies to the Premier, Treasurer and Minister for Resources & Energy. The following submission outlines the concerns raised by Council:

Lismore City Council acknowledges that parts of this submission may not relate directly to the Environmental Assessment (EA). However, Council seriously questions the justification of this project, and the expenditure of \$227 million for the transmission line when comparatively little investment has gone into demand management in the Far North Coast.

The EA bases the need for this infrastructure on predicted increases in peak summer demands. However, instead of detailing how summer peak demands will be managed over the coming years, and/or how localised renewable energy sources could be developed with the assistance of TransGrid to meet this demand, TransGrid appears to simply take for granted a predicted 25% increase in energy demand.

In a region which is acknowledged as having a sustainability-conscious community, including the greatest uptake of photo-voltaics and strong solar industry, there appears no evidence of TransGrid's attempts to exhaust all options for reducing peak demands, or exploiting resources available in the region for optimising localised generation of electricity to help off-set peak demands.

Lismore City Council strongly suggests that in preference to spending \$227 million on infrastructure, and the resulting 60m cleared easement through native vegetation, that this money be used to establish and implement a demand management strategy with Essential Energy for the Far North Coast and facilitate the development of a significant renewable energy project in the Far North Coast.

Issues to be considered in the development of these programs include:

- the evidence of a state wide decrease in electricity consumption of 2% per annum over the last 2 years,
- the anticipated further reduction in demand for carbon-based electricity due to carbon pricing legislation,
- the huge uptake of photovoltaics by people in this region, and preference for renewable sources of energy
- the lack of any current demand management strategy to reduce electricity consumption in this region
- latest research indicating that large scale photovoltaic energy generation will soon be at price parity with coal generated electricity (www.bloomberg.com)
- the apparent lack of consideration of Metgasco's 30 MW gas powered electricity plant to help meet peak summer demand.

We look forward to your responses on this submission.

Kind Regards

22006 (Name withheld) of Tenterfield, NSW

I am a resident of the Mole River Valley and a member of the Upper Dumaresq Action Group (UDAG). I fully support UDAG's submission in opposition to the construction of the line.

My personal submission relates to the RfP issued by Transgrid in 2010 (EA 2.3.3, 2.3.4, 2.4): As stated in the UDAG submission:

The RP issued by TransGrid in 2010 did not seek alternatives to the construction of the Dumaresq to Lismore line. The RfP sought support for "generally less than 3 days per year", for the summers to 2014/15(RFP51_10, p 16) and was issued ... "as an operational risk management procedure to cater for the unexpected delay in project delivery". It is therefore hardly surprising that the RfP did not elicit alternatives which would "address the long-term network limitations for which the proposed Project is being developed" (EA, 2.3.4), as it was not a document designed for that purpose. In light of this, TransGrid's conclusion that the RfP confirmed their view that "the best long-term option ... would be the development of the proposed project" seems quite extraordinary.

I would like to add further to the above argument:

The AER Investigation report (p 21) stated that "it appears unlikely that a fundamentally different outcome would be achieved even if the shortcomings of the process were addressed. As noted above, a RFP was issued to seek non-network alternatives in May 2010. The AER considers that the RFP contained sufficient information to enable prospective providers of non-network solutions to formulate alternative options".

While the RfP may have contained sufficient information to enable prospective providers of non-network solutions to formulate alternative options, it did not give such providers the opportunity to submit those alternative options.

Also, the AER seems to have misinterpreted the fact that, since the responses to the RfP could be considered by TransGrid as possible alternatives to the line, this means that the RfP sought alternatives to the construction of the line. This is plainly a failure of logic on the part of the AER.

The purpose of the RfP was not to investigate alternatives to the construction of the line, and hence it is not reasonable to use the responses to the RfP to draw conclusions about the existence, or otherwise, of such alternatives.

To quote from the ISF report (p 14):

"TransGrid could reasonably be expected to consider a more proactive approach to non-network options, for example contracting directly with a demand response provider, or contracting for installation of targeted energy efficiency measures, or sharing the cost of time of use metering with the DNSP, or contracting directly with the proponent of one of the gas generators".

In summary: the AER Investigation report found " the application notice did not contain an adequate analysis of all reasonable network and non-network options" (p 20), and, "given the considerable cost of the proposed project, TransGrid should have considered a full range of scenarios" (p17). This still has not been done.

I therefore submit that there is no sound basis upon which to argue that the project as proposed is justified and therefore there is no proper basis upon which to approve the proposed project.

22031 James Harpham of RF Capital

I am concerned that the project will significantly damage the local environment. I feel money would be better spent on renewable sources of energy. Regards, James

22027 Kim Hamel of Tenterfield, NSW

I live at Pineview. I do not have an email address and so am making use of one of the neighbour's. My parents are very old and unwell, and my father is in hospital. My parents own the property and I am their tenant. The power line would be very bad for me because it would be quite close to my house. My partner has a young child and I am concerned about EMF's. I am also concerned about noise and dust while they build the line. My parents are concerned about the fall in value of our property. A photo of what our property would look like is in the Main Report Chapter 12 Visual Amenity. We were very upset by this. We do not want the pwerline to be built. We are members of UDAG and UDEN and support their submissions.

22008 Steven Francis of Tenterfield, NSW

My wife and I bought our property as a retirement investment at 25 Mole river road RBM 1945 I feel that the proposed transmission line, though doesn't cross our property but will still be visible from most parts, will devalue our investment which we have owned for 10yrs . Also during construction of pylons the extra heavy traffic on Mole River Road will become dangerous

22017 Matthew Cater of Tenterfield, NSW

Objection from Matthew Cater

We live at Mt Hope 7677 Bruxner Hwy West

We are a member of UDAG and UDEN and support their submissions.

We are objecting to the building of the Bonshaw to Lismore High Voltage Power Line on the following points

1. Land Use - we have restored an old house on our property with the intention of using it as a B&B, and were going to set up walking tracks on the higher land at the back as a part of the attraction. Where the walking tracks are is now under the proposed line. We are also concerned about future erosion on that country. They propose on the map a bridge, as well as an access track from the Highway. We object to the access track. We have never been consulted about it, and the first we knew of it was on studying the map in the proposal a month ago. The proposal uses old maps which are now incorrect in showing land use.
2. Socio-economic - the land value of our property will drop. We only recently bought the property, but if we had known about the proposal we would not have done so. We personally will not benefit in any way from its building, even from power supply since it is not our source of supply. We will not receive adequate compensation for its building, or compensation for the future land use with our tourism business being affected. It will cause us financial hardship
3. Visual amenity - the line will be clearly visible at all times from our house. It will only be less than kilometre from our house. The view from our house will be very ugly.
4. Health effects - we are very concerned about the effect of EMF's, especially since we have very young children. We fear that our children's health will be affected. We have also been told by Transgrid that fences will need to be earthed which are near the power line, and worry that in rainy periods our fences will be live, and may pose a threat to animals and our children. We have also suffered from anxiety and stress over 3 years as a result of this proposal.
5. Roads and Traffic - the Bruxner Highway runs straight past our front gate. There will be a massive increase in traffic on the roads (over 500%) during the building of the line. Even before the floods in January the road was poorly maintained. Transgrid says the road is an RTA road which it has not been for some time. It is maintained by the Tenterfield and Inverell Shires. Since the floods there are 2 bridges missing which have very narrow diversions over culverts. The road itself is dangerous and full of potholes. In order to avoid the potholes in the bitumen you have to drive on the wrong side of the road from place to place. There are 3 school buses (Texas/Bonshaw, Tenterfield and Mingoola) using the road. The bus drivers have already voiced concerns over the condition and dangerous nature of the road.
6. Dust and Noise - the line is proposed to be built so close to our house that we consider the impact of dust and noise will be unbearable.

In summation, our dealings with Transgrid have been unpleasant. They have never told us the full truth about their intentions, and have fobbed us off, or tried to make us feel better by saying they will move the line further away from where they originally sited it so we would agree to it.

We object to its being built at all

21481 (Name withheld) of Chapel Hill, QLD

I object for the following reasons:

1. Strategic planning and project justification The proposal is inadequate in that it does not comply with AER, a complaint which we made to the NER (to which the NER agreed). It does not adequately justify the need it insists it has. It is also running against current environmental practices by the use of coal fired power.

2. Land use planning impacts It glosses over the current use of land, as something that won't change. Access tracks will be an ongoing burden since we are already experiencing difficulty with unauthorised persons entering properties. It does not adequately address the issue of health effects

21483 (Name withheld) of Chapel Hill, QLD

I object for the following reasons:

1. Strategic planning and project justification The proposal is inadequate in that it does not comply with AER, a complaint which we made to the NER (to which the NER agreed). It does not adequately justify the need it insists it has. It is also running against current environmental practices by the use of coal fired power.

2. Land use planning impacts It glosses over the current use of land, as something that won't change. Access tracks will be an ongoing burden since we are already experiencing difficulty with unauthorised persons entering properties. It does not adequately address the issue of health effects

21485 (Name withheld) of Chapel Hill, QLD

I object for the following reasons:

1. Strategic planning and project justification The proposal is inadequate in that it does not comply with AER, a complaint which we made to the NER (to which the NER agreed). It does not adequately justify the need it insists it has. It is also running against current environmental practices by the use of coal fired power.

2. Land use planning impacts It glosses over the current use of land, as something that won't change. Access tracks will be an ongoing burden since we are already experiencing difficulty with unauthorised persons entering properties. It does not adequately address the issue of health effects

21540 John Rodwell of Transgrid Action Group (TAG)

Objects to this project

21590 Ruth Matthews of Moree, NSW

I object to the project for the following reasons:

1. The stress and health impact the project application is causing my parents who live in the Bonshaw area
2. The proposal is inadequate in that it does not comply with AER, a complaint which we made to the NER (to which the NER agreed). It does not adequately justify the need it insists it has. It is also running against current environmental practices by the use of coal fired power.
3. It does not adequately address the issue of health effects on farmer and stock .
4. Land values could diminish
5. Ecological impacts The proposal

21592 Ruth Matthews of Moree, NSW

I object to the project for the following reasons:

1. The stress and health impact the project application is causing my parents who live in the Bonshaw area
2. The proposal is inadequate in that it does not comply with AER, a complaint which we made to the NER (to which the NER agreed). It does not adequately justify the need it insists it has. It is also running against current environmental practices by the use of coal fired power.
3. It does not adequately address the issue of health effects on farmer and stock .
4. Land values could diminish
5. Ecological impacts The proposal

21618 Ruth Matthews of Moree, NSW

I object to the project for the following reasons:

1. The stress and health impact the project application is causing my parents who live in the Bonshaw area
2. The proposal is inadequate in that it does not comply with AER, a complaint which we made to the NER (to which the NER agreed). It does not adequately justify the need it insists it has. It is also running against current environmental practices by the use of coal fired power.
3. It does not adequately address the issue of health effects on farmer and stock .
4. Land values could diminish
5. Ecological impacts The proposal

21620 Mark Hesse of Piora, NSW

Please find attached my submission. I am not supportive of the project due to the dramatic visual impact that the proposed 330kV line will have on my property. We will be affected financially as our property will be de-valued as the proposed line is so close to our boundary. We are not entitled to compensation as the new 60m easement does not impact our property. However, despite this I realise that the project may still go ahead. Therefore, we request that Transgrid design an alternative structure at angle AP60 in lieu of the proposed steel lattice tower to lessen the visual impact on our property.

Dumaresq to Lismore Transmission Line – TransGrid Application No. MP09_0150

Introduction

My submission is related to the proposed Dumaresq to Lismore 330kV transmission line which is being assessed under Part 3A of the New South Wales Environmental Planning and Assessment Act 1979.

The submission is related to the visual impacts that will be impacting my residence at 115 Ellems Bridge Road, Piora.

Requirements

Under the Director-General's Requirements, the Environmental Assessment was required to address Visual Amenity Impacts as follows:

- The Environmental Assessment must include an assessment of the visual impacts associated with the proposal, including the impact on local and regional views by transmission lines and substations. Impacts on the values of adjacent wilderness areas should be considered. Alternative pole designs should be presented and assessed and the potential for undergrounding in sensitive locations should also be assessed.

Issues

The existing 132kV transmission line runs past my property, however my property is not affected by the current 45m easement. The proposed upgrade to a 330kV line, with an increase in easement width of 60m, still does not affect my property, hence I am not entitled to compensation as an "affected" property.

However, the existing (and proposed) transmission line is only 140m away from my residence which makes it one of the closest houses to the line, even though we are not entitled to compensation. In addition, there is a 22 degree angle position in the transmission line (identified as AP60 on Figure 3-2ab of the Environmental Assessment report) which under Chapter 4 Project description of the Environmental Assessment Report will require a steel tension structure.

This steel tension structure will have a high visual impact on my property and I request that TransGrid design an alternative structure at this angle which will lessen the visual impact. We have had a number of discussions with Darryl Henry, TransGrid's Engineering Officer/Project Coordinator who has indicated that this is possible.

Environmental Assessment

I would like to make comments on the Visual Assessment (Appendix H) of the Environmental Assessment Report in support of my submission.

- In Figure 22 my residence is identified as Receptor Location R101. In Table 4 Visibility Matrix – Residential Receptors, my residence has been assessed as having a Low Visual Impact Rating. The definition of Low Visibility rating on page 23 is: • The construction and operation of the Project

is unlikely to result in a prominent change to the landscape and views from surrounding receptor locations toward the project may be difficult to distinguish from elements within the surrounding landscape.

I disagree with this assessment for the following reasons:

- The current 132kV line is lower in height (approx 15m high) than the proposed 330kV line (approx 30m high). The new line will be double the height of the existing 132kV line which means that the proposed line will be more visible from my residence.
- The current structure at the angle (AP60) is a 3 pole structure made out of timber poles which blends into the landscape and has low visual impact.
- My residence is only 140m from the angle (AP60) and with a potential steel tension structure to be located in this position (height varies 25m-37m), the visual impact will be high.
- My residence has views of the transmission line west for approximately 1km, extending along the alignment.

Therefore, under the definitions of visual impact rating on page 23, my assessment is that a visual impact rating of High should apply to my property as this is defined as:

- High – the construction and operation of the Project may result in a very prominent physical change to the landscape, and includes the potential for proximate views toward extensive portions of the Project from sensitive receptor locations.

Please see the following photos which I have taken in support of this argument



Existing angle (AP60) taken from our house (140m away)

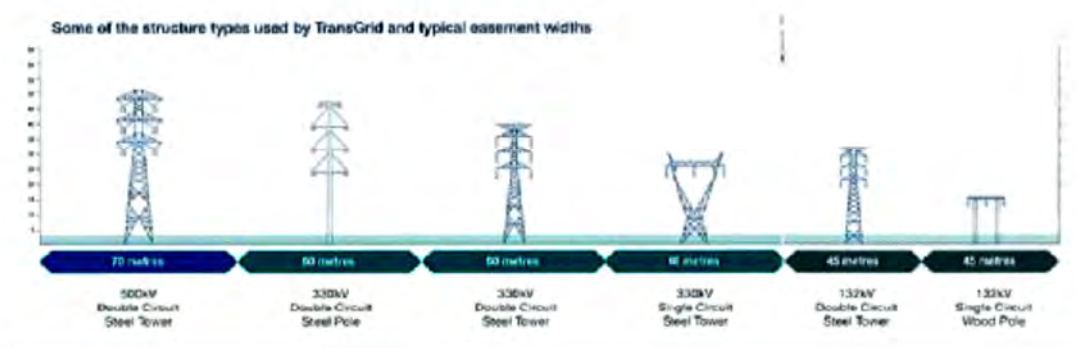
Existing angle (AP60) taken from our driveway





Views of existing line taken from our driveway (views extend for approx 1km)

Existing angle (AP60) and transmission line looking south-west from Ellems Bridge Rd



Relative heights of transmission lines. Note height of proposed 330kV Steel Tower compared to existing 132kV Wood Pole.



Typical Steel Tower – note dramatic visual impact compared to existing Wood Pole Structure

Options

In discussing the options to reduce the visual impact of the transmission line on our property, Darryl Henry from TransGrid has indicated to us that a 3 pole structure (suitably stayed), similar to the concrete H-Frame Suspension Structure used on the straight line positions could be designed at this location. The angle is only a 22 degree angle at AP60 which would make it possible for an alternative structure to be designed at this location. This will be less intrusive visually compared to the Steel Lattice Tower which would normally be constructed here (as identified in the Environmental Assessment Report).

The existing 3 pole timber structure on the 132kV line at this location is also stayed, with the land being used for grazing (not cultivation). The land form is low and subject to flooding. Therefore, there will be no additional impact on the existing land use due to this proposed alternative structure.

Conclusion

The proposed Dumaresq to Lismore 330kV transmission line to be constructed by TransGrid will have a High Visual Impact Rating on our property at 115 Ellems Bridge Road, Piora. In particular, the proposed steel lattice tower at angle AP60 will result in a very prominent change to the physical landscape and is located only 140m from our residence at 115 Ellems Bridge Road.

The increased easement width of 60m for the new transmission line will not impact our property and therefore we will not be entitled to compensation. Therefore, we request that an alternative structure at angle AP60 be designed (as discussed above) which will lessen the visual impact on our property.

21715 John Rodwell of Tenterfield, NSW

This submission will concentrate on the Director-General's requirements in respect to Strategic Planning and Project Justification

- The construction of any transmission line involves many impacts: land use, ecology, heritage, human amenity, visual amenity and the general environment.
- Even before these impacts are considered, it is necessary to demonstrate that any proposal to build a transmission line is well planned and can be justified.
- Transgrid's planning and justification for building the 330kV line from Dumaresq to Lismore are seriously flawed in two major areas:
 1. The latest estimates (from Transgrid's 2011 Planning Report) indicate that peak demand increases are now less than 50% of the increases used by Transgrid in 2008 to justify the project. This peak demand occurs for a few hours on a few days each year. Even if peak demand grew according to Transgrid's new modelling, there are cheaper, cleaner and more efficient ways to deal with it than the out-dated and expensive construction of a transmission line. But peak demand across Australia is actually falling (5% - 6% eg see <http://theconversation.edu.au/powering-down-has-australian-electricity-consumption-hit-its-peak-3044>) Therefore there is no justification for building the line. Indeed it is necessary that the line not be built and the state saved a large amount of expenditure. (see file attachment 1)
 2. The Australian Energy Regulator (AER) has found that Transgrid has not complied with the National Energy Rules (NER). There was no investigation of alternatives to the line's construction as required by Section 5.6.6. The so-called Request for Proposals (RfP) was issued by Transgrid in May 2010 two years after the April 2008 Application Notice. The RfP fails to comply with Section 5.6.6 on two counts:
 - it was not part of the original application and was only initiated after the AER began an investigation into Transgrid's application
 - it was issued to cater for the unexpected delay in project delivery, not to explore alternatives to the line's construction. The RfP dealt only with short term solutions to peak demand; it did not seek alternatives to the construction of the line and denied prospective providers any opportunity to submit alternatives (see file attachment 2)

In summary: The line is unnecessary and the NER requirements have not been satisfied. In the interests of all people of New South Wales the proposal by Transgrid should be rejected.

ATT: Compliance with the planning and network development provisions of the National Electricity Rules (AER, 2010)



Investigation Report

Compliance with the planning and network development provisions of the National Electricity Rules

TransGrid

September 2010

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Contents

Summary	iv
1 Introduction	1
1.1 Background to the investigation	1
1.2 Clause 5.6.6 of the Electricity Rules	2
1.3 Regulatory test	2
1.3.1 Intent of the regulatory test	3
1.4 Review of planning and consultation process	5
1.5 Revenue application review	5
2 Review of compliance	7
2.1 Needs analysis	7
2.1.1 AER's assessment of TransGrid's needs analysis	7
2.2 Range of options considered	8
2.2.1 Options considered in the application notice	9
2.2.2 AER's assessment of options considered by TransGrid in the application notice	9
2.2.3 AER's assessment of options considered by TransGrid in the final report	11
2.2.4 TransGrid's Request for Proposals Process	12
2.3 Other issues identified	13
2.3.1 Material inter-network impact	13
2.3.2 Treatment of submissions	15
2.3.3 Projects and scenarios – regulatory test	16
2.3.4 Nature of final report	18
3 Outcomes of the investigation	20
3.1 Enforcement options	20
3.2 Commitments received from TransGrid	21
3.3 Future compliance monitoring	22

Summary

This report completes the Australian Energy Regulator's (AER) investigation into the compliance of TransGrid with clause 5.6.6 of the National Electricity Rules (Electricity Rules) in regard to a proposed 330kV transmission line from Dumaresq to Lismore.

Clause 5.6.6 of the Electricity Rules requires an applicant who proposes to establish a "new large transmission asset" to comply with various planning and consultation procedures, including undertaking the regulatory test (at the time version 3 of the regulatory test was in place).

These processes aim to ensure that planning for new investment is transparent, that consultation to elicit alternative proposals is effective. In addition, these processes aim for non-network alternatives (such as generation and demand management) to be considered on a level playing field with network options and that market participants and users are confident decisions are made on grounds of economic efficiency.

The AER has found shortcomings in the process conducted by TransGrid in reaching its decision to build the line. Key areas of concern are that:

- the application notice did not contain an adequate analysis of all reasonable network and non-network options
- neither the application notice (April 2008) nor the final report (March 2009) adequately examined the potential for material inter-network impacts
- the final report did not summarise or respond to submissions on the application notice
- the decision to limit the Regulatory Test analysis to a single reasonable scenario was inadequately justified and did not meet the requirement to provide a detailed description on why TransGrid consider the asset passed the Regulatory Test.

However, further consultation has now been undertaken by TransGrid through the issue of a Request for Proposal (RFP) in May 2010.

Following consideration of the alleged Rule breaches and their potential impact and the further action by TransGrid, the AER has decided not to institute proceedings against TransGrid. However, given the importance of these issues, the AER has decided to issue this public report on the outcomes of this investigation.

Whilst TransGrid has not admitted any breach of the Electricity Rules, it has provided the AER with a series of commitments to improve future processes.

1 Introduction

1.1 Background to the investigation

TransGrid first raised the issue of emerging network limitations on the New South Wales far north coast in its *1999 Annual Planning Statement*, which noted that demand growth in the area was the highest in the state. The report concluded that the “preferred network option is the development of an additional 330 kV line to the area” and that the shortest and potentially least-cost option was a transmission line between Dumaresq and Lismore. TransGrid made similar statements in subsequent annual planning reports.

In August 2003, TransGrid published *Emerging Transmission Network Limitations on the New South Wales Far North Coast*, which outlined demand growth and the capabilities of the existing transmission system in the area. It called for options to address the emerging limitations, but did not elaborate on the options previously identified in the annual planning documents.

In April 2008 TransGrid published an application notice (under clause 5.6.6(c) of the Electricity Rules) outlining two “feasible network options” to address the network limitations.

- Option 1 (preferred) was a new transmission line between Dumaresq and Lismore, as first outlined in the 1999 planning statement
- Option 2 was a transmission line between Armidale and Lismore.

The notice outlined four other network augmentation options, but ruled them out from the further analysis.

In March 2009 TransGrid released its final report on the development of supply options to the NSW far north coast. Drawing heavily on text from the application notice, the report concluded that the option best satisfying the regulatory test was the construction of a 330 kV transmission line from Dumaresq to Lismore, at a cost of \$227 million (± 25 per cent).

In May 2010 TransGrid commenced a Request for Proposals (RFP) process seeking non-network alternatives which would reduce the loading on the network at critical times for a period of five years. This process is discussed in section 2.2.4.

1.2 Clause 5.6.6 of the Electricity Rules

Clause 5.6.6 as it appeared in version 29 of the Electricity Rules was the relevant provision at the time of TransGrid's transmission investment assessment.¹ Since that time the Australian Energy Market Commission (AEMC) has approved rule changes which have amended clause 5.6.6.

Clause 5.6.6 establishes a consultation process in relation to new large transmission network assets. The consultation process includes publication of an application notice and final report, in relation to which there are detailed minimum information and analysis requirements (discussed below). The application notice and final report must also include a statement on why the proposal satisfies the regulatory test.

1.3 Regulatory test

The regulatory test is an analysis tool that network service providers must apply in relation to new large transmission network assets. The regulatory test assesses whether the investment is efficient. In 1999 the ACCC developed the first regulatory test to replace the customer benefits test. After the initial stages of its operation, the ACCC undertook a comprehensive review of the regulatory test and released the regulatory test version two in 2004.

In October 2005, the Ministerial Council on Energy (MCE) lodged a rule change proposal with the AEMC to amend the Electricity Rules to include a series of regulatory test principles.² Under the proposal the AER was required to follow these principles when promulgating the regulatory test. While under these principles the broad approach to the regulatory test remained, the AER was required to incorporate new concepts for new large transmission network investments assessed under the

¹ Unless otherwise stated, all references in this Report to the Electricity Rules is to Version 29 of these Rules.

² MCE, *National Electricity Rules—Rule change application reform of the regulatory test principles*, 2005.

market benefits limb of the test. The AER issued version three of the regulatory test and regulatory test application guidelines in November 2007.

Version three of the regulatory test consists of two limbs:

- *The reliability limb*—applied to investments which are required to meet service standards obligations in the Electricity Rules, jurisdictional legislation, regulations or statutory instruments. A reliability augmentation will satisfy the test if it is the least cost option compared to a range of alternatives in a majority of reasonable scenarios.
- *The market benefits limb*—applied to non-reliability driven investment. New investment will satisfy the test if it maximises the net present value of the market benefits having regard to alternative options, timing and market development.

1.3.1 Intent of the regulatory test

The regulatory test is applied by Network Service Providers (NSPs) and is based on a cost-benefit analysis framework which is used to assess and rank different investment options.

Policy makers have agreed that transparency in the provision of information is one of the cornerstones for driving competitive and efficient investment outcomes in the energy market. The discussion below highlights the importance of transparency in the context of clause 5.6.6 of the Electricity Rules and the regulatory test.

The Energy Reform Implementation Group (ERIG) reviewed the role of the regulatory test. In its report to the Council of Australian Governments (COAG) in January 2007, ERIG stated that:

“The application of the regulatory test today is an obligation on TNSPs that has value through its role as a consultative mechanism and which provides some transparency on the TNSP’s decision making particularly in respect to the ranking of various project options.”³

3 Energy Reform Implementation Group, *Energy Reform: The Way Forward for Australia – A report to the Council of Australian Governments*, January 2007, p183.

ERIG further stated that, where there is insufficient transparency in the application of the regulatory test, investors may interpret decisions in the regulated sector as being based on grounds other than economic efficiency.⁴

In its final determination on the reform of the regulatory test principles in 2006, the AEMC supported ERIG's view that the regulatory test is an important consultative mechanism which improves the transparency with which network investment decisions are made.⁵

The AEMC considered that the application of the regulatory test by Transmission Network Service Providers (TNSPs), as a public planning and consultation process, increases the chance of developing an efficient solution to network investment.⁶ In its Final Rule Determination, it stated that transparency would help to elicit "alternative investment proposals that may be more efficient than those put forward by the proponent of network investment."⁷

It also stated that transparency would assist in creating an environment in which market participants would be more willing to trade and invest.

In regards to competitive neutrality, the AEMC noted that:

"From an economic perspective, "competitive neutrality" is essentially a means of achieving an overarching efficiency objective. It seems clear that the objective of achieving efficient investment outcomes would require an obligation on NSPs to assess all investment alternatives, irrespective of whether these are network or non-network options or undertaken by an NSP or market participant (that is, a competitive neutrality obligation). In the absence of such a requirement, NSPs may give preference to an investment option that would increase their asset base or otherwise suit their commercial interests, rather than reflect the public interest in an option that is most efficient.

Therefore, the Commission has determined that an objective of competitive neutrality should form part of the regulatory test principles."⁸

When developing the regulatory test, the ACCC and the AER also relied on the principles of economic efficiency and competitive neutrality. Given this, the test is

4 ERIG, Ibid, p169

5 Australian Energy Market Commission (AEMC), Reform of the regulatory test Principles, Final Determination, 2006, p48

6 AEMC, Ibid, p49

7 AEMC, Ibid, p49

8 AEMC, Ibid, p45

designed to ensure that network and non-network investments (such as generation and demand side management options) are considered equally.⁹

This policy history is instructive in understanding the intent of the regulatory test and clause 5.6.6 of the Electricity Rules. In summary, the two key relevant principles are transparency and competitive neutrality.

1.4 Review of planning and consultation process

As part of its ongoing compliance and enforcement process, the AER began reviewing TransGrid's compliance with clause 5.6.6 of the Electricity Rules in October 2009 in regard to its proposed 330kV transmission line from Dumaresq to Lismore.¹⁰

Shortly after the decision to commence the compliance review, the AER received correspondence alleging two specific breaches of the Electricity Rules by TransGrid in relation to the project. The complainant alleged that TransGrid breached:

- clause 5.6.6 (c)(iii) by failing to provide a detailed description of all other reasonable network and non-network alternatives
- clause 5.6.6(h) by failing to summarise the submissions received from interested parties and TransGrid's response to each submission.

1.5 Revenue application review

In considering TransGrid's 2009-2014 revenue proposal the AER accounted for estimated capital requirements for the Dumaresq-Lismore project. As part of this assessment, the AER received an independent review from PB Associates.¹¹

There is a distinction between an AER assessment of capital expenditure requirements under chapter 6A of the Electricity Rules and a compliance review of the relevant

⁹ ACCC, regulatory test for new interconnectors and network augmentations, 15 December 1999, p. 4.

¹⁰ TransGrid's conduct of the regulatory test was the subject of a dispute notice lodged with the AER on 30 July 2009. However, the Electricity Rules did not allow the AER discretion to consider the dispute notice (including whether or not the complainant met the definition of an "interested party") as more than 30 business days had passed since the publication of the final report.

¹¹ PB Associates, TransGrid revenue reset – An independent review, November 2008

provisions of chapter 5. In relation to chapter 6A, the AER must determine whether it is satisfied that the forecast capital expenditure represents:

- the efficient costs of achieving the expenditure's objectives
- the costs a prudent operator in the circumstances of the relevant service provider would incur to achieve those objectives
- a realistic expectation of the demand forecast and cost inputs required to achieve the objectives.

This is a separate process from the planning and consultation procedures governed by chapter 5. The fact that the forecast capital expenditure included in the 2009 revenue determination was in part justified by the inclusion of an allowance for the Dumaresq to Lismore line, does not demonstrate compliance with chapter 5. TNSPs are still required to complete a compliant planning and consultation process under chapter 5, regardless of whether the project was examined as part of a revenue reset process under chapter 6.

That said PB Associates highlighted significant issues in its report that are relevant to this assessment of TransGrid's compliance with clause 5.6.6. These issues are discussed in section 2 of this report.

2 Review of compliance

2.1 Needs analysis

Clause 5.6.6(c)(1)(ii) of the Electricity Rules requires that, in its application notice and final report, TransGrid provide a detailed description of the reasons for proposing the new asset, including a description of all load forecasts and assumptions used.

As outlined in the application notice, with all lines in service, the TransGrid network is currently capable of meeting demand over a 10-year planning horizon. However, TransGrid found that some augmentation to its existing network—or a non-network alternative—would be needed to meet N-1 criteria, which requires that demand be met with any one element of the network not in service.

2.1.1 AER's assessment of TransGrid's needs analysis

While TransGrid did conduct a needs analysis, the AER is concerned that it did not provide sufficient information to enable a prospective provider of non-network alternatives to formulate a proposal. TransGrid relied on prospective proponents requesting further information regarding the service that would be required to defer the preferred network option.

The AER considers that a key reason for the needs analysis is to provide sufficient information so that all options to address the need can be adequately explored. This in turn will assist in ensuring that all reasonable non-network alternatives are considered both in the final report and the regulatory test. For example, the application notice should have outlined the extent to which the reliability standard was not being met in terms of maximum demand, duration in hours and energy not supplied in order to enable assessment of alternative non network options such as for a local generator, or the location of the most effective demand side solutions.

In response to questions on this issue, TransGrid noted that it does not routinely use the application notice to request commercial proposals. Instead, TransGrid relies on a separate Request for Proposals (RFP) that sets out the service being requested and seeks appropriate non-network alternatives. Further discussion of this issue is provided below.

In regards to the jurisdictional planning standards that apply in this case, clause 5.6.6(c)(1)(ii) requires that TransGrid provide a detailed description of the “network performance requirements set out in schedule 5.1 or relevant legislation or regulations of a participating jurisdiction.”

As part of previous revenue determination processes, the AER has accepted that TransGrid’s use of the N-1 criteria as the basis for planning solutions is appropriate. However, the Electricity Rules requirement to transparently establish the need for the project with reference to relevant legislation or regulation in the application notice and final report remains.

The AER does not consider that TransGrid’s references to the expectations of the NSW jurisdiction or the statutory requirements on a distribution business meets the requirements of clause 5.6.6(c)(1)(ii).

Whilst TransGrid did not admit a breach of the Electricity Rules in this area, it did recognise that more information could have been set out in the application notice to further enable assessment of alternative non-network options.¹²

2.2 Range of options considered

Following the justification of the need for a solution to an emerging network limitation, clause 5.6.6(c)(1)(iii) requires that the application notice provide a detailed description of all other reasonable network and non-network alternatives to address the identified constraint.

The AER notes paragraphs 14 and 15 of the regulatory test version 3 define alternative options that may be considered as a generation option, demand side management/response option, network option, the substitution of electricity by the provision of alternative forms of energy or a combination of these. To be considered as part of the regulatory test an option must be a “genuine alternative.”

This is a separate requirement to clause 5.6.6(c)(1)(iii) that requires that all reasonable network and non-network alternatives be described in detail. Clause 5.6.6(c)(1)(iii) provides that these alternatives include, but are not limited to, interconnectors,

¹² TransGrid letter, 4 August 2010

generation options, demand side options, market network service options and options involving other transmission and distribution networks. Clause 5.6.6(c)(1)(iii) does not limit the description of options to those that have a proponent.

2.2.1 Options considered in the application notice

The TransGrid application notice proposed two “feasible” network options to address the constraint: a new line from Dumaresq to Lismore or a line from Armidale to Lismore.

The notice briefly considered other network solutions, including:

- a new Armidale – Kempsey Area 330 kV line
- a new Ebenezer – Lismore 330 kV line
- a new Armidale – Coffs Harbour – Lismore 330 kV line and
- various 132 kV line developments.

The application notice noted that no non-network alternative proponents had come forward in response to the previous public documents. It concluded that: “None the less (sic) proponents of non-network developments which may relieve the limitations in the transmission network are encouraged to submit proposals in response to this document.”¹³

2.2.2 AER’s assessment of options considered by TransGrid in the application notice

A clear policy intention underpinning clause 5.6.6 and the regulatory test is to ensure a robust and transparent process for the selection of projects to meet clearly identified needs.¹⁴

Despite the requirements of clause 5.6.6(c)(1)(iii) to describe all reasonable network and non-network alternatives to address the identified constraint, the application notice did not describe the sorts of non-network alternatives that would address the emerging network limitation.

¹³ Application notice, Development of Supply to the NSW Far North Coast, p18

¹⁴ AEMC, Ibid.

Further, TransGrid did not provide sufficient detail in its public documents to support its conclusions on the inappropriateness of some options. For example, the AER was provided with internal TransGrid planning documents that considered a range of broader options that were not published as part of the application notice.

The AER notes that during its investigation, TransGrid has provided further information on its assessment of options. The AER considers that much of this information should have been in the application notice.

This mirrors concerns raised by PB Associates during the revenue determination process that “except as what appeared to be retrospective technical and economical analysis, TransGrid could not support its position with a detailed internal report on the matter.”¹⁵

Further, PB Associates noted that “a number of options were dismissed on the grounds of costs, environmental issues, technical issues, etc without sufficient rigour and transparency.”¹⁶ PB Associates noted that such forms of analysis ran the risk that “there maybe a chance that TransGrid misses a more efficient project by dismissing options at too early a stage within its assessments.”

In some cases, TransGrid ruled out options on the basis that it would be difficult to obtain an easement. However, difficulty in obtaining easements is not uncommon with new transmission line developments. The AER considers that further explanation and justification is required over and above a simple statement on the likely difficulty in obtaining easements. Without this further analysis, decisions to dismiss an option on such a basis lack transparency and cannot be independently tested.

In response, TransGrid noted its belief that there were no reasonable non-network alternatives available at the time the application notice was published. However, the AER considers that TransGrid has not correctly interpreted the requirement to provide a detailed description of all other reasonable network and non-network alternatives (clause 5.6.6(c)(1)(iii)).

¹⁵ PB, Ibid, pg A57

¹⁶ PB, Ibid, pg A56

The AER considers that TransGrid is required to detail all reasonable network and non-network alternatives, regardless of whether there is a proponent for these options. This allows potential providers to come forward in response to the application notice if they believe they can provide the services identified in the application notice.

The AER considers that the regulatory test (version 3) requirements that a non-network alternative must have a proponent and be a genuine alternative, are a quite separate issue. These requirements fulfil a different purpose to the application notice, as described above.

Without conceding a breach of the Electricity Rules, TransGrid has accepted that more detailed information could have been included in the application notice.

2.2.3 AER's assessment of options considered by TransGrid in the final report

On 15 February 2010, the AER wrote to TransGrid seeking a detailed explanation and supporting materials relating to its assessment of options in the final report, including non-network alternatives. In its response of 12 March 2010, TransGrid provided a copy of each of the submissions received in response to the application notice.

TransGrid stated that it did not prepare supporting documentation or materials setting out its analysis of the non-network alternatives in its final report because it was “obvious on the face of the submissions” that the non-network alternatives proposed were not realistic alternatives.¹⁷

The AER is concerned that the planning and consultation process used by TransGrid in this instance reflects a bias towards considering only those options which TransGrid had already unilaterally decided were appropriate. In this case, TransGrid issued an application notice which did not facilitate commercial non-network alternatives coming forward. The subsequent final report then did not assess any non-network alternatives, as they did not in TransGrid's view represent viable non-network alternative options.

¹⁷ TransGrid letter to the AER, 12 March 2010

The intent of the regulatory test process is that network and non-network alternatives are considered together on a level playing field. For this to occur, commercial offers must be sought prior to the publication of the final report.

Further, the AER is concerned by TransGrid's statement that it does not routinely use the application notice to seek commercial proposals and that this will always occur through the issuing of an RFP.¹⁸ The AER is concerned that, in cases where a RFP is conducted after the final report, there is a risk that not all reasonable non-network alternatives can be described in the final report as required by clause 5.6.6(h).

To assure stakeholders that there is no systemic bias against the consideration of non-network solutions, the AER sought further evidence from TransGrid of similar processes that allowed reasonable non-network solutions to be described in the final report and, where applicable, included in the regulatory test assessment. TransGrid did not respond to this request.

This area will be a particular focus of the AER in future compliance assessments. In addition, the AER expects this issue to be addressed by TransGrid in future.

2.2.4 TransGrid's Request for Proposals Process

As outlined above, TransGrid do not routinely use the application notice to seek commercial proposals that could be assessed in the final report. The Final Report stated that submissions from parties interested in providing network support had been received in response to the application notice, and that discussion were continuing with those parties. A RFP was issued for the NSW far north coast in May 2010¹⁹.

In a letter to the AER in July 2010, TransGrid noted that three facts had changed in the 15 months after the final report that led to the publication of the RFP:

- the proposed project delivery date had slipped
- the peak load forecast had been revised down
- Directlink (now called Terranora) had become more unreliable.

¹⁸ TransGrid letter to the AER, 25 June 2010

¹⁹ The AER notes that the prospect of an RFP process was not mentioned by TransGrid in any of its public documents, prior to the release of the invitation to tender documents in May 2010.

In regard to the requirements of clause 5.6.6(c)(1)(iii), the AER considers that at least some of the previously non-public information set out in this recent RFP, should have been included in the application notice, such as:

- Potential (but not exhaustive) types of possible non-network solutions
- Geographic location for network support
- Magnitude of network support required
- Timing, duration and frequency for which the service would be required.

It is this kind of information that would have assisted in making the 5.6.6 and regulatory test process conducted by TransGrid more transparent and competitively neutral as between network and non-network options. The final report should then have assessed the network options on the same footing as any non-network options that had been proposed, leading to a firm statement on which option minimises the costs and thereby passes the regulatory test.

This approach also better aligns with the requirements of clause 5.6.6(h) that the final report both summarise and respond to submissions received on the application notice. The requirements of clause 5.6.6(h) are discussed further in detail below.

2.3 Other issues identified

2.3.1 Material inter-network impact

At the time this project was developed, clause 5.6.6(c)(5) required an augmentation technical report be prepared by the Inter-regional Planning Committee (IRPC), if there was likely to be a material inter-network impact and if consent to build the asset had not been received from all materially affected networks.

The IRPC published criteria to guide network service providers in determining whether a project has a material inter-network impact. Clause 5.6.6(d) requires that these criteria are considered in assessing whether there is a material inter-network impact.

The criteria define that a material inter-network impact for a transmission augmentation occurs if:

- there is a decrease in power transfer capability between transmission networks or in another TNSP's network of more than the minimum of 3% of maximum transfer capability and 50 MW, or
- there is an increase in power transfer capability between transmission networks of more than the minimum of 3% of maximum transfer capability and 50 MW.²⁰

TransGrid's application notice and final report stated it had "determined that none of the options ... would impose power transfer constraints or adversely impact on the quality of supply to adjoining transmission networks."

The AER considers that the Electricity Rules required that TransGrid undertake an analysis to determine the impact on other networks and then assess the materiality of any impact with regard to the criteria above. TransGrid has not provided evidence that this analysis occurred. Rather, TransGrid has simply stated that there is no material inter-network impact and as a result no augmentation technical report was required.

Further, TransGrid has noted that its assessment of the materiality of any inter-network impact was not set out in the application notice. However, TransGrid contend that it was not a requirement of clause 5.6.6 that a detailed assessment be set out in the application notice. Whilst clause 5.6.6(c)(5) of the Electricity Rules is unclear whether TransGrid was required to provide a detailed assessment of the materiality of any inter-network impact in its application notice, the AER considers that TransGrid's approach falls well short of best practice and is counter to the intent of an open and transparent process envisaged by clause 5.6.6.²¹

In addition, TransGrid also contends that even if there was likely to be a material inter-network impact, an augmentation technical report would not have been required as it had received consent to proceed with the construction of the line.

²⁰ Pg 16, Final Determination: Criteria for Assessing Material Inter-Network Impact of Transmission Augmentations, IRPC, 2004.

²¹ See, for example, clause 5.6.6(d) of the Electricity Rules.

However, the AER wrote to TransGrid on 15 February 2010, requesting details of any communication with either Directlink or Powerlink regarding the proposed options, including details of the consent referred to in clause 5.6.6(c)(5)(ii) or agreement that there was no material inter-network impact.

In its response of 12 March 2010, TransGrid stated:

“Joint planning is a well established process and the benefits it delivers are self evident to the participants. Consequently, formal documentation of those benefits, which include inherently managing inter-network impacts, is rarely undertaken. In this instance there is no formal documentation specifically relating to inter-network impacts.

In addition, TransGrid provided two e-mails from Powerlink in response to drafts of the application notice and final report. Following consideration of these e-mails, the AER does not consider that they constitute consent to the construction of the asset as required by clause 5.6.6(c)(5)(ii) – as they refer exclusively to comments on the application notice and final report, with no mention of construction of the asset.

However, TransGrid’s reference to a lack of formal documentation highlights a serious deficiency in the process conducted by TransGrid. Poor quality information can have significant ramifications for other market participants, who rely on operational and planning publications by network operators for the purposes of their operational and investment decisions.

As discussed below, TransGrid has committed to reporting on its new compliance systems to ensure future compliance with the new clause 5.6.6 and RIT-T processes. Given the importance of high quality information on the impact on power transfer capability for the efficient functioning of the market, the AER will give further consideration to the adequacy of the information disclosure required in this area.

2.3.2 Treatment of submissions

The Electricity Rules provide for a period of 30 business days following publication of the application notice for parties to make submissions.

It is a requirement of clause 5.6.6(h) that the final report summarise submissions and TransGrid’s response to each submission. TransGrid’s final report did not contain such a summary. The only statement in the final report about submissions was:

“In response to the application notice, TransGrid received submissions from parties interested in providing network support. Discussions are continuing with those parties to determine whether a cost effective network support arrangement can be achieved.”

The AER does not accept that this constitutes either a summary of submissions or a response to them.

TransGrid argued that the submissions did not raise realistic options. However, clause 5.6.6(h) does not require that submissions meet any particular standard. Rather, it just requires that all submissions be summarised and responded to. TransGrid’s final report did not meet this requirement.

TransGrid noted that one submission was marked “commercial in confidence” and considered the author could not be identified. TransGrid also explained that the identity of parties providing submissions was not revealed “in line with normal commercial practice and TransGrid’s purchasing policies.”

The AER considers that an appropriate course of action in these circumstances is to approach the party in question to seek agreement on a summary that does not reveal the source. For example, the summary could perhaps describe the service that was offered, without describing in detail the nature of the technology used to provide it.

It should also be emphasised to the submitting party that the Electricity Rules require a summary to be published. If these steps fail, a TNSP could approach the AER and explain the apparent “conflict” faced in trying to comply with the Electricity Rules. The AER could then provide guidance on the appropriate course of action in the specific circumstances. It is not adequate for participants to simply cite commercial practices as a reason for non-compliance with the requirements of the Electricity Rules.

Without admitting a breach in this area, TransGrid has recognised that more information could have been provided in the final report on the submissions received.

2.3.3 Projects and scenarios – regulatory test

The reliability limb of the regulatory test is satisfied if the option minimises the costs of meeting the requirement in a majority of reasonable scenarios. TransGrid determined that only a single reasonable scenario should be assessed as:

- it considered that a variation in load forecast made no difference to the project needs date
- no local generation was suitable for reliance as a substitute for network services and no information was provided that indicated that the local generators would be able to increase their reliability levels
- no new generation projects or demand side response projects of sufficient magnitude were committed or advanced to be included in a scenario that may influence the outcome of the analysis.²²

The AER considers that, given the considerable cost of the proposed project, TransGrid should have considered a full range of scenarios. While TransGrid undertook a sensitivity analysis, as part of the regulatory determination in 2008, PB Associates noted that these sensitivities were applied evenly across each project, meaning that the relative costs of the projects did not change. The AER agrees with PB that it is likely that some options are more sensitive to cost pressures than others. For example, the cost of obtaining easements is not likely to be equally sensitive across a range of projects.

With regard to load forecasting, paragraph 19(a)(1) of the regulatory test effectively requires that reasonable scenarios include a reasonable and mutually consistent forecast of “electricity demand (modified where appropriate to take into account demand-side options, economic growth, weather patterns and price elasticity).”

TransGrid assessed that the date the project was needed did not alter under any of the low, medium or high growth scenarios.²³ PB Associates noted it “would have expected some degree of discussion within the application notice regarding the sensitivity of the constraint and the project timing to the range of demand forecasts.”²⁴

²² TransGrid letter to the AER, 12 March 2010

²³ These low, medium and high growth scenarios were presented to the AER as part of TransGrid’s 2009-2014 revenue determination.

²⁴ PB, Ibid pg A57

The AER considers that the process used by TransGrid to arrive at the conclusions on the impact of demand forecast should have been explained in greater detail in the public documents.

TransGrid has accepted that “its approach to, and analysis of, determining the number and characteristics of any reasonable scenario was not set out in detail in the Application Notice or Final Report.” TransGrid contends that this was not a requirement of clause 5.6.6.

However, the AER disagrees with TransGrid’s interpretation of the requirements in this clause. Clause 5.6.6(c)(6) requires a detailed analysis of why the applicant considers that the asset satisfies the regulatory test and, where the applicant considers that the asset satisfies the regulatory test as a reliability augmentation, analysis of why the applicant considers that the asset is a reliability augmentation.

Paragraph 1 of the regulatory test (version 3) states that a reliability driven augmentation satisfies the regulatory test if the option minimises the costs of meeting those requirements, compared with the alternative option/s in a majority of reasonable scenarios.

Reading these two provisions together, it is clear that TransGrid had a requirement to detail why it considered that the asset satisfied the regulatory test by explaining the matters set out in the previous paragraph in detail. Accordingly, the AER considers that the failure to provide a detailed analysis in relation to the reasonable scenarios is contrary to the requirements of clause 5.6.6(c)(6) of the Electricity Rules.

2.3.4 Nature of final report

In many areas the final report relies on text from the application notice. To some extent this repetition is a consequence of clause 5.6.6(h) which requires the final report to set out the matters dealt with in the application notice. However, the reproduction of text from the application notice draws into question the report’s status as a “final” document.

For example, the final report states that it:

“[H]as been prepared to provide a basis for TransGrid and Country Energy to consult with registered participants and interested parties to identify options for the development of electricity supply to the far north coast area of New South Wales.”

While this may have been true of the application notice, (which made the same statement), the final report should have presented the results of the consultation.

In addition, given that clause 5.6.6(c)(6) requires that the final report outline why the asset satisfies the regulatory test, the reference to continuing negotiations with potential non-network providers is problematic as it is not clear what process would be undertaken if a more cost effective solution were to be found.

TransGrid has accepted that the quote re-produced above was more appropriate for the application notice and not the final report. However, TransGrid consider that the final report did reach a clear final conclusion, despite references to on-going negotiations.

3 Outcomes of the investigation

This investigation into the process undertaken by TransGrid in its development of a new transmission line has identified a lack of transparent analysis and limited public disclosure of data underpinning key conclusions.

Clause 5.6.6 is designed to provide transparency and accountability in planning and consultation processes and to ensure competitive neutrality between network and non-network alternatives.

This investigation report has found shortcomings in the process conducted by TransGrid in reaching its decision to build the 330kV transmission line between Dumaresq and Lismore:

- the application notice did not contain an adequate analysis of all reasonable network and non-network options (clause 5.6.6(c)(iii))
- neither the application notice nor the final report adequately examined the potential for material inter-network impacts, (clauses 5.6.6(c)(5) and 5.6.6(d))
- the final report did not summarise or respond to submissions on the application notice (clause 5.6.6(h))
- the decision to limit the analysis to a single reasonable scenario was inadequately justified (regulatory test version 3, paragraph 19) and thus did not meet the requirement for the application notice to set out a detailed analysis of why the regulatory test was satisfied or, alternatively, if the asset satisfied the regulatory test as a reliability augmentation, why the asset was a reliability augmentation (clause 5.6.6(6)).

3.1 Enforcement options

An infringement notice cannot be issued to TransGrid because clause 5.6.6 of the Electricity Rules is not a civil penalty provision. However, it is open to the AER to consider instituting proceedings against TransGrid and seeking appropriate orders from a Court.

However, in this instance it appears unlikely that a fundamentally different outcome would be achieved even if the shortcomings of the process were addressed. As noted above, a RFP was issued to seek non-network alternatives in May 2010. The AER considers that the RFP contained sufficient information to enable prospective providers of non-network solutions to formulate alternative options. TransGrid are currently considering the responses received.

Accordingly, on this occasion, the AER has decided that the appropriate response on this issue is to:

- seek commitments from TransGrid to improve future compliance
- publish this public investigation report
- commit to future audits of clause 5.6.6 processes.

3.2 Commitments received from TransGrid

To address the compliance concerns that have been outlined by the AER, TransGrid have provided a range of commitments on future compliance.

TransGrid has committed to:

1. Completing a review of TransGrid's planning, documentation, and compliance systems, including governance arrangements, for the new RIT-T framework within three months of this report being published with the assistance of expert external input from NERA.
2. Ensuring that this review has expressly considered the processes and systems needed to ensure:
 - Adequate publication of the data and analysis that underpins TransGrid's decision making in future RIT-T assessments
 - Submissions are properly responded to in public reports
 - Requirements in relation to material inter-network impacts, inter-regional impacts and material inter-regional network impact, as set out in the Rules for the RIT-T, are clarified and appropriately addressed

- Consideration of a sufficient range of market development scenarios
3. Implementing any findings of the above mentioned review by March 2011
 4. Providing reports to the AER:
 - At the completion of the initial review proposed in point 1
 - On the implementation of the new procedures as per point 3.

In addition, TransGrid has committed to engaging with the AER where confidentiality issues arise that may conflict with Electricity Rule requirements.

3.3 Future compliance monitoring

To encourage better performance in this area across the sector, the AER will undertake compliance checks of future planning and consultation processes. This will include random audits of processes based on publicly available information, including how network service providers have sought to apply the regulatory test, (or the new regulatory investment test for those that commenced after 1 August 2010).

Future work by the AER will focus on ensuring that the processes used by TNSPs are competitively neutral and that there is an appropriate quantity and quality of publicly available analysis used to justify conclusions.

Specifically, application notices should contain sufficient information to assist non-network proponents to compose commercial offers. Any submissions to the application notice must be summarised and responded to in the final report in detail. In the event that the TNSP does not consider that any of the proposed options are not technically feasible, this decision and associated detailed reasoning should be included.

The regulatory test included in the final report must then rank any commercial offers for non-network alternatives alongside network options. This is the competitively neutral approach envisaged by policy makers and is the intent behind clause 5.6.6.

Analyses of whether a material inter-network impact exists should be made with reference to the relevant criteria and supported by data analysis. It is not sufficient to simply state that there is no material impact.

More generally, each of the key decisions in the final report must be explained in full with all underlying assumptions included. The AER expects significant improvement in the conduct of future planning and consultation processes. This includes an improvement in the quality of information provided by network service providers in their documents required under clause 5.6.6 (the application notice and final report) and other supporting documentation.

21720 (Name withheld) of Tenterfield, NSW

We are the owners of land in the proposed corridor of the abovementioned transmission line and we are writing in response to the Environmental Assessment released by Transgrid. We wish to advise that we strongly object to the proposal and provide the following information to support our objection.

1. Strategic Planning and Project Justification

We believe that Transgrid has failed to comply with the mandatory requirements of the National Electricity Rules, Section 5.6.6 by not exploring non network alternatives prior to its initial proposal and that they still have not done so. We believe this is a major breach in light of Australia's move towards more green energy production and the implementation of the carbon tax.

The CSIRO 2009 IGrid Report into energy use on the Far North Coast found that even if Transgrid's projections for growth in peak demand had been correct, the current projected capacity shortfall could be comfortably met by distributed energy options eg. local generation, energy efficiency and demand management. This report has proven to be correct. Power usage on the Far North Coast over the last three years has declined or remained flat despite an increase in population. This flattening is due to the uptake of more energy efficient systems (insulation, heat pumps, solar, council building requirements etc).

2. Land Use and Planning Impacts

The Land Use and Planning Impacts of the proposed project will dramatically affect our business. Our land that will be affected by this power line is the biggest single holding within the 10 km subdivision ring of Tenterfield and it was acquired with this in mind. The parcel of land where the power line will go is a flat, cleared elevated block leading to a magnificent mountain range. This parcel of land was earmarked to provide for our retirement. The 360 degree views make it a highly sort after, saleable block. The power line will diagonally dissect the block from front to back eliminating all housing sites. The remaining land will be affected also due to the line following the boundary fence. As a result of this, the property will be saleable only to graziers which will significantly devalue the land (45%). Transgrid has no intention of remunerating the full loss to our business.

Tenterfield Shire Council has designated the north of the town for its growth area due to the geographical nature of the mountain ranges in the area. This line will have a significant impact on any growth in the town.

3. Hazards and Risk Impacts

We do not believe that the screening of potential hazards have been adequately addressed by Transgrid. More stringent weed seed contamination processes need to be put in place. Each area has different weed problems - coolatue grass in the west, lovegrass in the north (Tenterfield), and the deadly fireweed and carpet grass in the east. Landholders in each area spend significant amounts of money each year trying to stop the spread of these weeds. Vehicles and heavy earthmoving equipment are a major source of contamination. All vehicles moving from each area along the proposed power line would need to be decontaminated. Transgrid have not addressed this. The spreading of these weeds would result in a dramatic decline in grazing production costing the industry millions.

South East Queensland and Northern New South Wales have one of the highest incidents of lightning strike in Australia. Towers which are 35/40 metres high have the potential to become lightning rods which puts into question the reliability of this line.

The Tenterfield District is a fire prone area. In the event of a major bush fire, there is a risk of electrocution due to carbon being attracted to the magnetic field. If you do not understand the danger of high voltage power lines, a 60 metre cleared area could be considered a place to fight the fire from or to seek refuge.

This is a huge danger which has not been addressed.

4. Visual Amenty Impact

The proposed transmission line will have dramatic affects on our town as a whole. We are situated approximately three hours from Brisbane and the Gold Coast and have developed a tourist trade that includes our beautiful changing seasons, local wineries and picturesque golf course just to name a few. All of these depend on the pristine, unspoilt and natural landscape of our town and the construction of this transmission will have detrimental impacts on these.

In conclusion, we believe that the building of this proposed power line is unnecessary and flawed on some many levels.

21799 Jane l'Ons of Tenterfield, NSW

I object to the proposed Transgrid transmission line from Bonshaw to Lismore for the following reasons -

- the project justification is based upon faulty data which continues to change, namely population growth and energy usage (alternative supplies and non-network options),
- CO2 emissions from coal fired power have a significant environmental impact,
- coal fired power technology is outdated

21847 Paulene Brookes of Tenterfield , NSW

Attention Anna Timbrell,
Planning Officer - Infrastructure Projects (Energy)
NSW Department of Planning & Infrastructure
GPO Box 39
SYDNEY NSW 2001

Dear Madam,

Re: Submission - Notice of Opposition to Dumaresq to Lismore 330Kv Transmission Line

I am writing to express our objections to the proposed TransGrid project specifically centred around TransGrid's failure in terms of its EA to appropriately outline the Strategic Planning and Project Justification in relation to the Director General's Requirements of Section 75F of the Environmental and Assessment Act 1979. TransGrid has not fulfilled the following mandatory requirements:-

TransGrid did not take into any account the impact of non-network options prior to its initial proposal as mandated by section 5.6.6 of the National Electricity Rules.

Furthermore TransGrid's basis for project justification is based on faulty data. TransGrid's predicted energy demands are based upon population growth, rather than actual energy usage, which has according to TransGrid's own documentation actually declined or remained flat over the past three years despite increasing population growth on the North Coast. TransGrid's failure to take into account the growing trend of alternate energy sources is a direct breach of the National Electricity Rules. While the AER 2010 Report notes that TransGrid fixed this breach in May 2010, some two years after the April 2008 Application Notice, this does not alter the fact that TransGrid breached the Act and section 5.6.6, in not having completed this mandatory requirement of the Act prior to the 2008 application notice.

Nowhere in the TransGrid's proposal does it take into account the North Coast community's uptake in energy saving systems, such as energy efficient light bulbs, insulation, heat pumps and like in our case on our property solar hot water heating and solar and/or wind electricity generation. (photograph attached of our home) TransGrid has also failed at every stage to adhere to the recommendations and findings of the Eastlink Enquiry.

Based upon these fundamental errors in strategic planning and project justification, TransGrid's rationalization for the project is untenable.

The land use and planning impacts of this proposed transmission line is significant. We live in the area to the north of Tenterfield where there is a current trend of "Tree Changers" - people moving into smaller rural blocks for the country lifestyle. Traditionally it is an area of beef cattle raising and organic farming. The proposed line will cut through the best part of our property significantly impacting on our views and current rural lifestyle. This area is iconic Australian landscape with spectacular views. (Photograph attached of the view from our home to where the proposed line will be is attached) We are concerned about the impact this will have to our land value as our property like many around us is our superannuation.

Two of the five towers proposed to be built on our property will be located no more than 150 metres from our home which leads to grave concerns we have that TransGrid has not shown harm minimisation in terms of electromagnetic force associated with project. We are concerned that they are too close to our home as I have a pacemaker and Specialists have told me to avoid spending any time in the vicinity of towers - this will be difficult considering TransGrid's plans.

Our property also has historical and archaeological links to the past being part of the original Tenterfield Station and later owned by Dr Watt, a historical person of importance to the area. Located on our property close to the proposed line are remnants of a shepherds hut dating back to the years when Tenterfield was first settled. (photographs attached).

I also wish to object to the TransGrid proposed project on the basis of the Ecological Impacts on the ecology and landscape with our property being the home of lyrebirds and Koalas (photograph attached).

In summary, TransGrid has not only failed to justify the need for this project but has actively breached a number of the National Electricity Rules. TransGrid has failed utterly in its Environmental Assessment Requirements under part 3A of the Environmental Planning and Assessment Act 1979. And despite carrying out analysis of network and non-network options, only subsequent to TransGrid Action Group Inc. & Upper Dumaresq Action Groups made Federal Minister Mr Tony Windsor aware of the breach in 2010, TransGrid must be held accountable for the fact that it breached the Act.

Yours faithfully,

Paulene Brookes

ATT:

- Photo of a Koala
- Photo of a ruined shepherds hut
- Photo of a solar powered house
- Photo of the current view from the property in question

21892 Justyn Comer of Potts Point, NSW

I wish to register my objection in the strongest possible way to this proposal. With four separate reasons.

Firstly this is going to destroy one of the most extraordinary places where time has stood still and allowed fascinating flora and fauna to live and flourish!!!

Second, as an environmentalist whatever they may say about care they will take - everyone knows (you, them, us) that it is going to be a major degradation to environmentally protected communities

Thirdly this is such an environmentally unfriendly use of coal fired power when in fact all needs could be met by alternatives.

Finally this surely can't make sense [redacted] since it is so massively expensive and likely to force up the cost of electricity in NSW.

21908 (Name withheld) of Beerwah, NSW

1. the amount of network support required is not justified
2. the construction of the transmission line is not the least cost alternative
3. the URS Biodiversity report is inadequate for approval authorities to effectively assess the impact of the development
4. land use planning impacts
5. socio-economic impacts-The socio-economic impacts would be hugely negative as a result of land values diminishing. Rates would probably fall as a result. The compensation offered in no way reflects the value of the land. It will particularly affect landholders who wish in the future to sub-divide their landholdings. Those who are attempting to run a tourism related business will find it particularly difficult, since the visual amenity issues will affect their businesses
6. ecological impacts - soils, surface water, biodiversity - the easement passes over 2 EPBC's on Moorabinda which are listed as national significance, and which have not had the impact upon their fragmentation properly assessed
7. human amenity impacts (noise and vibration, air quality, traffic impacts)
8. heritage impacts - aboriginal sites and also non-indigenous
9. hazard and risk- bushfires EMF's
10. noise impacts
11. visual amenity the beautiful unspoiled landscape
12. construction related impacts (noise, water quality, weed management, soil and erosion)
13. traffic and roads - the state of our local roads is very poor now and would not stand up to heavy traffic
14. consultation process

21910 (Name withheld) of Corinda, QLD

I object to the project on my personal knowledge of the property known as "Moorabinda" and surrounding area. I believe the project will adversely affect the visual amenity of the area. I also believe that it will adversely affect the ecology of the area. Finally, I believe that it will have very adverse socio-economic impacts on multiple properties, businesses and people in the area.

21912 Colin Kilburn of colkilburn@gmail.com

Colin & Kay
1213 Mole River Road
Tenterfield
NSW 2372

21/10/2011

Dear Sir

We made the tree change some 8 years ago to the Mole River area, only to possibly have the pristine landscape changed forever with huge steel towers running through the shire! We are totally disappointed that an alternate solution to providing power needs to the coastal area's could not have been more thoroughly investigated.

We are amongst some 12 neighbors that all run on solar systems and are not connected to the grid, trying to do our bit towards the bigger picture to reduce carbon emissions

The visual look of the power line towers will not only impact on tourism to the township , but also to property sale values! We all have to be concerned for the long term effects on our Birth place of our Nation, "Tenterfield".

We were hoping the money could have been used to create, state of the art solar farms closer to power demand areas, thus moving towards a more positive solution in keeping with the worlds aim to go greener sooner!

Yours Faithfully
Colin & Kay Kilburn

21914 (Name withheld) of Potts Point, NSW

This proposal will deprive citizens of an area of great natural beauty and cause irreparable ecological damage. It will depend on coal-generated electricity which will be permanently environmentally harmful and will make Australia's ability to meet its carbon-reduction targets even less likely to be met.

It is not economically justifiable and once again causes dereliction of the countryside in order to serve the metropolises.

It is unfair and unnecessary.

21916 (Name withheld) of Potts Point, NSW

This proposal will utterly destroy the pleasure for citizens of one of the most beautiful natural areas in northern NSW and will cause irreparable environmental damage.

It is not needed and will greatly reduce the chance of Australia's reaching its carbon-reduction goals since it depends on the burning of fossil fuel.

It is an unfair imposition on a rural community for the benefit only of urban areas

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21918 Craig Rose of Elanora, QLD

I object strongly to the proposed power line project.

I have been a regular visitor to Moorabinda Station over the past 20+ years.

I as a younger person and then later with my own children and other family members and friends have enjoyed the beautiful and tranquil setting of the outback in its natural state.

The pleasure of being able to camp alongside Reedy Creek has been a remarkable experience we return to do often throughout the year.

I believe this area is where the new power lines are supposedly being constructed??

Not only will this scar the scenery and beauty of the area but there is NO WAY I will ever want my children playing under these disgusting looking and environmentally damaging dangerous high voltage wires.

I believe this will have a huge impact on the native flora and fauna but also the local economy for the area as people like myself will no longer want to return to this very special, unharmed part of the world.

This area is so special to me and my family and friends I married in Tenterfield and had our reception at Moorabinda Station with photos taken in the proposed area.

Family and friends travelled from New Zealand and from many States of Australia for the wedding to experience the beauty of this land.

All stated it was the perfect setting for a wedding and showing the awesome beauty of the outback.

Again I wish to express my complete and utter disgust and objection to this proposal and this is supported by my family and friends that have travelled out to the Station on many occasions.

21920 Marilyn Moballe of Tenterfield, NSW

My submission focuses on the Director-General's Key Assessment Requirement of Visual Amenity. TransGrid's visual assessment grossly minimises the impact of the transmission line on the visual amenity of northern New South Wales.

In the EA Executive Summary (page ES-8) there is the following statement:

Views of the Project structure from all roads are likely to be for a short duration and would be potentially screened by scattered tree cover along the road corridor.

The planning approval authorities are invited to, for example, drive from Wallangarra to Tenterfield along the New England Highway or west from the Bruxner Highway - New England Highway intersection. They would travel along the valley of Tenterfield Creek. The tree cover in this region is minimal; the towers and transmission wires would be visible from all locations over a long period of time. In particular the views to the Doctors Nose to the south and Sundown National Park to the north would be severely impacted by the line.

This is just one example of the enormous visual impact which the proposed line would have along its entire length. The visual impact section of the EA mentions 147 residential receptor locations. The fact is every location (not only residential), particularly in the area mentioned, will be affected by the presence of the proposed power line. Residents and visitors alike will have this permanent visual intrusion, as the line either transverses or runs parallel to the road.

The proposed corridor for the power line was moved north following public concerns. The 'new' proposed corridor is also unacceptable, particularly in terms of visual amenity. Near Tenterfield the proposed line would pass through, or in front, of the beautiful Boonoo Boonoo range, which for much of its length forms the border between NSW and Queensland. This range is a striking feature of the Tenterfield district and can be seen from many kilometres distant. It is absurd for TransGrid to maintain that any visual impact will be minimal. What we have here is structures which will have an enormous visual impact. The beautiful rural and wilderness outlook for residents, and tourists, will be dramatically changed. Land values will inevitably decline; there will be no compensation for this decline. This devaluation of land has not been included in TransGrid's estimation of the cost of the project. In short the line affects the whole community's visual amenity, but there is no compensation. The cost in the decline of tourism, especially ecotourism, across the entire project area has not been considered in the EA, and financial compensation has not been factored into the financial costing of the project. If tourism in the area of Tenterfield is reduced, many allied and supporting industries will also suffer, leading to loss of jobs and support services.

Regardless of the economic consequences, the effects on how the area is perceived are huge. I and many others chose to live in this area because of its rural and semi-wilderness outlook. People come here because it is not like our big cities; they enjoy the natural bushland and uninterrupted and spectacular views.

Finally I refer you to a report commissioned by TAG/UDAG by ISF of the University of Technology Sydney. This report clearly states that the construction of the transmission line is both unnecessary and the least economic alternative for providing energy for the far north coast of NSW. It is imperative that the NSW Minister for Planning and Infrastructure rejects the proposal and by doing so preserves the visual amenity of northern New South Wales.

Apart from the issue of Visual Amenity I urge the NSW Government to cease expanding the use of 19th Century technology and instead research and expand the use of alternative and sustainable sources of local power generation. I also cite the drastic change in society's use of water as a result of the education programs delivered by local, state and federal governments. If a similar program were delivered regarding the reduction in the use of electricity, I am confident that the demand for electrical power will reduce even further. In fact recent research indicates that power usage across Australia has reduced by 5 - 6%.

21922 Richard Harpham of Naremburn, NSW

The amount of network support is not justified; this project is not the least cost alternative; the biodiversity report is inadequate; the socio-economic impact is considerable and compensation inadequate; two EPBCs of natural significance are impacted; visual amenity badly affected.

21924 Susan Yeates of Cabarlah, QLD

I object on the grounds that the amount of network support required is not justified

The proposed project will particularly affect landholders who wish in the future to sub-divide their landholdings. Those who are attempting to run a tourism related business will find it particularly difficult, since the visual amenity issues will affect their businesses

The ecological impacts to soils, surface water will be significant as the easement passes over 2 EPBC's on Moorabinda which are listed as national significance, and which have not had the impact upon their fragmentation properly assessed.

21926 Donna Harpham of Roseville, NSW

I object on environmental grounds to the Project Application - Dumaresq to Lismore Transmission Line

21932 Mingoola Progress Association Inc. of Mingoola Progress Association Inc

The Mingoola Progress Association Inc is a group of dwellers and landholders living or having a connection to the Mole or Dumaresq Valleys, whose goals are to protect the interests of rate payers and further develop the socio-economic viability of the area. It was formed in June 2011 as a result of a perceived lack of action over the concerns of residents in relation to the Shires involved (Tenterfield, Inverell, Goondiwindi and Southern Downs), and meets once a month to discuss issues arising within the community and to lobby for action.

The Mingoola Progress Association Inc is a group of dwellers and landholders living or having a connection to the Mole or Dumaresq Valleys, whose goals are to protect the interests of rate payers and further develop the socio-economic viability of the area. It was formed in June 2011 as a result of a perceived lack of action over the concerns of residents in relation to the Shires involved (Tenterfield, Inverell, Goondiwindi and Southern Downs),

The Mingoola Progress Association Inc objects to the Bonshaw to Lismore High Voltage Power Line Proposal on the following points:

The proposal is full of errors, omissions and does not comply with regulations. It is also insufficient in its explanations of impacts in a number of areas, and does not take into account the real and negative impacts of this proposal on our group. Many people in the group do not own property on the line, but will still be negatively impacted.

THE SOCIO-ECONOMIC IMPACTS

Property values within the vicinity of the line have already been impacted by the proposal. We feel the diminishment to value of properties directly affected will also impact on neighbouring properties. This has already been the case in a property sale being unsuccessful because the buyer discovered the property was within site of the easement.

The line would be of no economic benefit to our area and would severely negatively impact those of us who are trying to establish or already have an existing established tourism business.

As taxpayers and electricity consumers we are very unhappy about such a large sum of money being spent on infrastructure that is not, at least for the foreseeable future, needed and particularly that it is only being proposed to satisfy peak demand for a few hours a year. There are several non-network options that could easily fill any shortfall in peak demand at considerably less cost.

HAZARD AND RISK

Transgrid accepts that there could be increased fire frequency and damage to the surrounding environment. The modelling of areas of high risk appears to be inadequate, and they gloss over the management of fires, an issue which has been one of our highest priorities since forming our Association. We have written to our local parliamentary members as a matter of grave concern that we do not have a local quick response to any crisis we may have, and we have to rely on police and SES from far away to manage our crises, and to make decisions which need to be made on the spot.

Transgrid also contends that there are no areas of flood plain affected by the line which we know to be untrue (Beardy, Reedy Creek and Mole Rivers). In the January 2011 floods large trees and power poles were picked up like match sticks. Transgrid has not properly planned for such a contingency.

The future effects of EMF's is of great concern to many residents, and has not been properly addressed. Transgrid tells us a policy of prudent avoidance is their answer but we would like to know how we can prudently avoid something whilst living and working on our properties, and going about our daily business.

They also tell us all fences, and gates are to be earthed to prevent the build-up of static electricity. What does that imply about electro-magnetic fields? Our concerns have not been adequately addressed, and whilst there is any concern we feel that the line should not go ahead.

Many of us have suffered from high levels of anxiety and stress as a result of the proposal.

We object on the grounds that the Proposal has already impacted on the health of some of our members, and there is a likelihood which is not adequately addressed of it impacting to a higher degree after it is built.

RADIO, TELEVISION AND MOBILE PHONE COVERAGE

Transgrid has admitted there are other uncompensated impacts such as disturbances to communications systems. At present there is rarely more than 1 bar on mobile phones, and our radio and TV reception is very poor. Many of us rely upon UHF or mobile phone coverage, and cannot afford to have our signals weakened any further, especially in a time when we rely upon them for disaster management.

Visitors to our area frequently complain as it is, that they have no communication system they can rely upon, and have to search for specific spots to use their phones. We fear that the mobile phone coverage may be completely disabled, and would like to point out that Transgrid has not addressed this problem.

We object on the grounds that our communication networks are vital to our safety as well as for our social well-being, and the line will disrupt these networks.

NOISE

The noise and dust from the machinery working to build the line will be extreme, and will affect not only those people living closer to it, but also on windy days many others as well. It will also upset animals grazing close to it.

The dust levels on the public roads used to access the building sites will also be very high, and people living close to those roads will be severely impacted. At present there would rarely be more than a few cars a day, which is manageable, but the huge volume expected in the building process would make living close to them untenable.

VISUAL AMENITY

The uglification of the landscape is one of the most pressing issues to our organisation. Views will be impacted and scars formed on the landscape as a result of the building of the line and access roads. Those of us who have moved here in order to escape urban landscapes are particularly distressed by the proposal.

The present line (Westlink) is clearly visible from over 10km, and our tourism businesses which heavily rely on the beautiful and untouched nature of our scenery will be negatively impacted by the line. Indeed, some of us report that our regular paying guests have expressed with regret that they would not be coming if the line were there.

We object to the URS assessment of visual amenity and levels of impact on the grounds that the methodology used is based on subjective assessment, and cannot accurately reflect the opinions of people looking at a line. For some people, a view with a line in it may not be distasteful. For others, including our members, any view with a line in it is unacceptable.

ROADS AND TRAFFIC

Bruxner Highway, Reedy Creek Road, Mole River Road, Gibraltar Road and others will be severely impacted. The line is estimated to take over 2.5 years to complete. The hours of work are between 7am and 6pm, so there will be many extra vehicle (up to 563% increase in traffic by their own reckoning). These vehicles, which will include many heavy vehicles, will pose a risk to us, since the

road is barely able to safely carry its load at present. There are 3 school buses using the roads at present (Bonshaw/Texas, Tenterfield and Mingoola) and we feel worried for the safety of the children on these buses.

Transgrid states in their proposal that the Bruxner Highway is a classified State Road owned and maintained by the NSW State Government. They state that the RTA has the responsibility to fund, prioritise and carry out works on the Bruxner Highway. We just wish that was true. The road has not been State owned for some years, and is now the responsibility of the shires across which it traverses – Tenterfield and Inverell. We have made representations from our Association to the Tenterfield Shire on the poor state of the road, and the inadequacy of the narrow diversions around the 2 bridges which were washed away in the January floods. We have clearly stated to the Shire that there is a real risk of serious accidents on the road in its present state and have documented specific places on the Bruxner Highway which have large potholes posing a threat to traffic. We feel that any extra traffic would seriously impact the poor state of the road, as well as posing an extra threat to us as users.

The state of the unsealed public roads (Reedy Creek Road, Mole River Road, Gibraltar Road as well as the roads on each side of the Beady) is dreadful. Reedy Creek Road was closed for months after the floods, and parts of the Mole River Road remained impassable as well. Whilst they are now open it is only with great care, and after every storm more erosion and wash outs occur again. The effect of heavy vehicle traffic on these roads, upon which we rely for access, would be horrific.

As it is, they have frequently been impossible to access with even a light truck.

The proposal has clearly not investigated these roads, the effects of more traffic upon them, or even the possibility that their own vehicles may not be able to access them for quite extended periods.

Who will be responsible for further damage to the Bruxner Hwy and these unsealed public roads? Our Shires are already stretched to the limit, and have been unable to spend the money required to do a decent job. Patching which has been done is only lasting for a few weeks, and we only see the grader once a year (if we are lucky) on the unsealed roads.

We object on the grounds that the building of the proposal will impose unnecessary extra risks of travel on already dangerous roads.

CONSULTATION PROCESS

The Planning Authority requires consultation with all affected parties, not just those who own land on the easement. This process has not taken place with members who own land adjacent, or with members who rent, live or work on a property affected.

Consultation with landowners has been perfunctory, and in some cases promises have been made which have not been kept about the siting of the line. Consultation has in many cases been accompanied by an implied threat that if landowners do not comply they will in some way be negatively impacted.

We object on the grounds of inadequate consultation according to the Director General's Requirements.

SUMMATION

In conclusion we ask that the proposal not be agreed to by the planning department, since it does not provide any positive or ongoing benefits to our members, and negatively impacts them in the ways described.

We contend that the project ought to be refused, and that on every count the negative impacts of the proposal far outweigh any intended benefits. It is the least cost-effective alternative to augment the electricity supply for Northern NSW.

21934 Christine Harpham of Blue Mountain Heights, QLD

I believe the impact study has not been rigorous. The area to be affect is sensitive and has national importance.

Also the cost to provide an outdated source of power is shameful to a country proposing a carbon tax.

The cost to the local people and the environment cannot be measured.

21936 (Name withheld) of Grabben Gullen, NSW

As a former resident of the district I must object to the planned transgrid infrastructure location on the environmentally protected land at 'Moorabinda'.

21940 Lynn Takayama of UDAG & Mingoola Progress Association

I make this submission on behalf of myself and my partner - Leigh Kelly. We are joint owners of "Bellanboe", RMB 1871 Mole River Road, Tenterfield, 2372. The proposed 330 kV transmission line between the Dumaresq substation and Lismore substation will cross our property with 6 towers situated throughout it.

We are members of the Upper Dumaresq Action Group and the Mingoola Progress Association. We wholeheartedly support the submissions of those two groups.

We have many concerns about the proposed transmission line, though we will outline the three that are at the forefront of our minds:

1. We do not believe that the demand for power on the Far North Coast of New South Wales has been accurately estimated. We believe that not only has demand peaked, but given the demographics of the area concerned, the demand for power will continue to diminish. Such that such an enormous transmission line as the one proposed will become, more or less, a white elephant - at a huge and wasteful cost to the taxpayer.

Also, given the serious nature of climate change and our need to lower our carbon footprint - and Australia's responsibility in this - we believe that power provision should be local and renewable. Investing such an enormous amount of money in outdated technology to meet a demand which we believe has been over-estimated is, in our opinion, dangerous folly.

2. The environmental destruction involved in building such an enormous (and as we have already observed) unnecessary piece of infrastructure has not been adequately considered. We refer you to the report prepared by Dr John Hunter (Botanist) and Wendy Hawes (Terrestrial Ecologist) at the request of the Environmental Defender's Office called "Review of the Biodiversity Report - Dumaresq to Lismore Transmission Line". The conclusion of that Report, you will note, states: "The assessment of the Dumaresq to Lismore 330kV Transmission Line as presented in the URS Biodiversity Report has in our opinion (a) variety of deficiencies which make it inadequate for approval authorities to effectively assess the impact of this development."

3. We purchased Bellanboe in 2005 as (a) a capital investment, and (b) as a "quality of life" investment insofar as we intended that Bellanboe would be our retirement destination. Since 2005 we have been improving the property not only to improve its capital worth but also to improve our quality of life when we retire permanently to the property (December 2011). All of our assets have been invested in this property, and will continue to be so. The devaluation of the property that has already occurred and will continue to occur (and escalate - in our opinion) is of grave concern to us in terms of our investment, both in the short term and in the long term.

If we believed that because the negative affect of the transmission line on our capital investment and on our quality of life were more than we were prepared to accommodate, it is too late for us. Even though the transmission line is still only a proposal, it has already severely impacted the value of property which is affected by it, and Bellanboe is now virtually impossible to sell.

As far as our quality of life is concerned: we will have to drive directly under two of the huge towers every time we go out of or come into our home. Being intrusive and unsightly are one concern, and being deleterious to our health is another concern.

In conclusion our submission is that the transmission line proposal is (a) faulty, (b) the need for it has been over-estimated, and (c) the cost to the community (environmentally and financially) is too great. The proposal, therefore, should not proceed.

21942 Julian Scantlebury of Burleigh Heads, QLD

After spending many years associated with the tourism industry and now as a constant traveller within Australia - including the area under dispute where we camp - I have concerns re the tourism impact of the transmission crossing proposals.

I also believe further investigation into the biodiversity and environmental impact is required.

I am further concerned about the social and economic impact on local landowners. But most specifically - as a regular visitor and leisure traveller, I would very much like to see far more consideration given to the long term effect on rural tourism brought about by a project which will so obviously be detrimental to the visual landscape and the natural environment.

21944 (Name withheld) of Kobble Creek, QLD

I regularly spend time with my family on Moorabinda Station. It holds great significance to our family both in terms of its history and the future. I am proud of the way the environment has been preserved and enjoy exploring the area with my children. I hope that my children's children will also be able to enjoy the beauty of Moorabinda and its surrounds. The area and our use of it would be spoilt by the proposed powerlines.

21946 Merlene Madge of Newstead, QLD

I stongly object to the proposal and have grave concerns for the environment, including the local wildlife.

I have spent time at Moorabinda and feel the tranquility would be spoiled by the proposed powerlines.

21948 Grant Johnston of TAG Inc.

Submission by TransGrid Action Group (TAG)

Proposed Dumaresq to Lismore 330 KV Transmission Line

TAG (Transgrid Action Group Tenterfield Inc.) is an incorporated body, listed with the Office of Fair Trading, whose purpose is to represent and act as a voice for the Tenterfield Community. TAG is made up of 98 financial members, roughly 50% being landholders directly affected by the proposed Dumaresq to Lismore 330 KV Transmission Line and 50% concerned local citizens. TAG's Statement of Objectives outlines the primary purpose of the group is to have TransGrid abandon the proposed Dumaresq to Lismore 330 KV Transmission Line.

Summary of submission points

No one would build an intrusive power line without good reason. Given the choice, we would all rather not have the line if it were not required. There are inevitable implications for land use planning, the ecology, heritage, human amenity, hazards and risks, noise, visual amenity, construction, traffic and transport as well as the general environment. The Director-General of the Department of Planning and Infrastructure in NSW (Director General) requires that these impacts are assessed. Overriding all of these considerations is the requirement for Strategic Planning and Project Justification. In short: the "why" of the proposal. The central question that must be asked by authorities (and the community and taxpayers) is: Why is this proposal being put forward? A proposal of such magnitude, intrusion and expense must be justified and those who justify it must present a rational case in line with the Director-General's requirements.

We submit that the evidence, much of it from TransGrid's own data, strongly suggests that the line must not be built. Even if all other requirements were ignored (and, of course, they must not be), the line is the worst economic alternative for New South Wales. (Submission point 1)

In addition, we have (and have had for some time) very serious concerns about the methodology and processes employed by TransGrid and the lack of compliance with regulatory procedures. (Submission point 2)

TransGrid's original proposed easement for the transmission line was altered following public concerns in 2009. The easement in Study Area West (Tenterfield to Dumaresq) was basically moved north on some sections. This was an attempt to address the "where" concerns of the community. These concerns were simply transferred. This submission will show that the proposed easement poses significant environmental concerns and that these concerns are not adequately addressed by the URS Biodiversity Report. Evidence will be presented that the URS report is deficient in several key areas and is not an appropriate document to assist in determining the impact of the proposed line. (Submission point 3)

Submission point 1

UDAG (Upper Dumaresq Action Group) and TAG (Transgrid Action Group), through the Environmental Defenders Office (EDO) commissioned an independent study by the Institute for Sustainable Futures (ISF) of the University of Technology Sydney into the transmission line proposal. The study focused on the need for the line (the why). A copy of the report is provided with this submission.

Rutovitz J, Harris S, and Dunstan D. 2011. TransGrid proposal for a new Dumaresq to Lismore transmission line: commentary on project need. Prepared for the Environmental Defenders Office by the Institute for Sustainable Futures, University of Technology, Sydney.

We will refer to this as the ISF report (document Dumaresq_Lismore_Transgrid_final_v3).

As part of our submission we ask that the planning authorities read this report in full.

Following is the ISF report summary of inadequacies in TransGrid's projections of network support required:

There is a need for much clearer explanation why TransGrid's reports indicate the amount of network support required at 2016/17 is 61 MW when on the basis of previous TransGrid reports the need would amount to between 22 MW and 49 MW, with the possibility that only 13 MW support is required.

More broadly, there should be clear explanation why the requirement for network support in the far north coast area apparently rises from nothing in 2015/16 to 61 MW in 2016/17, while peak demand is forecast to grow by less than 10MW in that year. ISF report page 7

We therefore submit that TransGrid has overestimated the level of network support required (for summer peak demand - the greater network constraint identified by TransGrid) and that there are inconsistencies in TransGrid's estimates among different TransGrid documents.

Following is a summary of the report's conclusions about least cost options:

Is the proposed power line the least cost option?

An examination of the cost of non-network options to provide network support at levels of 22 MW to 61 MW shows that these are considerably cheaper than the proposed new 330 kVA power line from Dumaresq to Lismore. This is primarily because the non-network options can be implemented incrementally up to the level of network support required.

ISF's calculations indicate that the annualised cost of constructing the power line may be between 9 and 20 times higher than non-network alternatives, depending on how much network support is actually required. This comparison did not seek the optimum (least cost) mix of non-network alternatives, which is likely to include more energy efficiency.

Furthermore, it should be noted that each of the above non-network options not only address the need for network capacity but have the additional benefit of also reducing the need for new centralised power station capacity elsewhere in NSW. Some of these non-network options also assist in reducing greenhouse gas emissions.

ISF report pages 12, 13 TRANSGRID'S PROPOSAL AND THE NATIONAL EL

We therefore submit that non-network options (solar PV, combined cycle gas, energy efficiency and peak load management) are the cheapest and cleanest options for network support. As we will show in Submission point 2, these options were not investigated by TransGrid (as required under National Energy Rules and Director-General's requirements), and the Australian Energy Regulator (AER) clearly points this out in its report.

Submission point 2

TransGrid is a large organisation with large responsibilities. Their proposal for the Dumaresq to Lismore transmission line necessarily has major effects on a large portion of New South Wales. It is therefore incumbent on TransGrid that its methodology and processes demonstrate best practice and that there is compliance with all regulatory requirements.

TransGrid has not fulfilled these requirements. This is not simply the opinion of those who oppose its proposal. This is the view of the Australian Energy Regulator (AER).

The AER began reviewing TransGrid's compliance with clause 5.6.6 of the National Energy Rules (NER) in October 2009. Around this time, UDAG and TAG notified the AER of two possible breaches by TransGrid of the NER in relation to the Dumaresq/Lismore project. The specific concerns were that TransGrid breached

clause 5.6.6 (c)(iii) by failing to provide a detailed description of all other reasonable network and non-network alternatives

 clause 5.6.6(h) by failing to summarise the submissions received from interested parties and Trans Grid's response to each submission.

In September 2010 the AER published its report titled: Investigation Report Compliance with the planning and network development provisions of the National Energy Rules TransGrid. We will refer to this as the AER report.

A copy of the report is provided with this submission.

As part of our submission we ask that the planning authorities read this report in full.

Objectively, it would be difficult to imagine a more negative report. The report must be read in full to get an overall picture of TransGrid's disregard for required methodology, processes and regulatory requirements. The following summary (AER report page 20) provides some insight into the AER view of TransGrid's behaviour:

This investigation into the process undertaken by TransGrid in its development of a new transmission line has identified a lack of transparent analysis and limited public disclosure of data underpinning key conclusions.

Clause 5.6.6 is designed to provide transparency and accountability in planning and consultation processes and to ensure competitive neutrality between network and non-network alternatives.

This investigation report has found shortcomings in the process conducted by TransGrid in reaching its decision to build the 330kV transmission line between Dumaresq and Lismore:

 the application notice did not contain an adequate analysis of all reasonable network and non-network options (clause 5.6.6(c)(iii))

 neither the application notice nor the final report adequately examined the potential for material inter-network impacts, (clauses 5.6.6(c)(5) and 5.6.6(d))

 the final report did not summarise or respond to submissions on the application notice (clause 5.6.6(h))

the decision to limit the analysis to a single reasonable scenario was inadequately justified (regulatory test version 3, paragraph 19) and thus did not meet the requirement for the application notice to set out a detailed analysis of why the regulatory test was satisfied or, alternatively, if the asset satisfied the regulatory test as a reliability augmentation, why the asset was a reliability augmentation (clause 5.6.6(6)).

It must be pointed out that the issuing by TransGrid of the Request for Proposals (RfP) in May 2010 in no way satisfies the NER. The RfP issued by TransGrid did not seek alternatives to the construction of the Dumaresq to Lismore line. It did not give potential providers of alternatives to the construction any opportunity to submit such alternatives.

As stated by TransGrid in information obtained by UDAG/TAG under FOI: the RfP was issued ... as an operational risk management procedure and to cater for the unexpected delay in project delivery.

On the basis alone of the AER report, TransGrid's application ought to be rejected by the NSW planning authorities. TransGrid has not complied with the most basic requirements of the NER. TransGrid has not satisfied the Director-General's requirements under Strategic Planning and Project Justification.

We have a situation where community groups (UDAG/TAG) were able to uncover the lack of compliance by TransGrid and refer the matter to the AER who produced a report which is extremely critical of TransGrid. This lends considerable credibility to UDAG/TAG as key participants in decisions about the proposed line.

In addition, evidence presented in Submission point 1 indicates that if TransGrid were required to issue an RfP that did seek alternatives to the construction of the line (as required by the NER and the Director-General), it would reveal many cheaper and cleaner options.

Submission point 3

TAG and UDAG, through the Environmental Defenders Office (EDO), commissioned an independent study by The Envirofactor into the Biodiversity Report prepared by URS Australia (the URS report) on behalf of TransGrid. We will refer to this as the URSReport_Review.

As part of our submission we ask that the planning authorities read this report in full.

Following is a summary of the URSReport_Review findings (page 4).

The assessment of the Dumaresq to Lismore 330kV Transmission Line as presented in the URS Biodiversity Report has in our opinion variety of deficiencies which make it inadequate for approval authorities to effectively assess the impact of this development.

In summary some of the more major deficiencies are:

inadequate vegetation mapping which has left large sections of the project area unmapped

inappropriate survey effort which has potentially underestimated the area of critically endangered and endangered ecological communities and threatened species present on the project area

unexplained paucity of survey findings

failure to identify a number of vegetation communities found on the project area as comprising endangered ecological communities

failure to identify *Bothriochloa biloba* found on the project area as a threatened species

omission of a significant number of ecological communities and threatened species from survey and assessment that potentially occur on the project area

a flawed assessment of the major impacts associated with the project including habitat loss and fragmentation and loss of essential habitat components (eg tree hollows, feed trees).

Much of the mitigation of the ecological impacts associated with the proposed transmission line is contingent upon procedures and methods detailed in various management plans and guidelines identified within the Biodiversity Report including:

Construction Environmental Management Plan

Flora Management Plan

Fauna Management Plan

Weed Management Plan

Biodiversity Offset Strategy

All of these plans and/or guidelines are yet to be developed. Until they are developed it will be impossible to adequately assess the efficacy of mitigation actions in regard to this development.

Consequently TAG submits that the URS report is not an appropriate document to assist in determining the impact of the proposed line. Here are some examples of findings from the URSReport_Review which support our submission.

* It doesn't appear that in determining stratification units URS have made use of existing and more appropriately scaled vegetation mapping of the western alignment or numerous NPWS reports in and around this area. In our opinion the use of such a broad system as Keith's has underestimated the degree of sampling required and indicates the likelihood that not all potential habitats and/or vegetation types along the transmission line have been adequately sampled.

* The flora survey undertaken consisted of 82 20m x 20m quadrats. Considering 49 vegetation communities were identified along the project area, this sampling effort equates to less than 2 sites per community and indicates little if any replication has occurred. This survey effort falls short of the requirements of the DEC 2004 survey guidelines and may go part way to explaining the very low number of flora species identified.

* While the use of a 20m x 20m (0.04ha) quadrat is acceptable for general vegetation survey, it is not consistent with DEH 2006 (now SEWPaC) guideline for the identification of the Critically Endangered Ecological Community (CEEC) - White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grasslands.

* The amount of time spent on the vegetation community mapping ie 5 hours aerial photograph interpretation (API) seems minimal given the length of the project area, and significant variation in terrain elements, elevation, geology and climate.

* An adequate assessment of the impact of this proposal can only be made when the impacted vegetation is identified and its landscape context understood. To do this all areas along the transmission line must be mapped, including areas of non-native vegetation - ie areas of cultivation and improved pasture. In the absence of this information no reliable assessment regarding the impact of the proposal can be made.

* A number of threatened ecological communities and species have been omitted from survey and/or assessment

* Dry Rainforest is a regionally significant vegetation community which is commonly found in disjunct patches in sheltered gullies along the western alignment. This regionally significant community should have been targeted in searches as it is habitat for a number of threatened flora species.

* Two RoTAP (Rare or Threatened Australian Plants) species were identified as present on the project area, *Eucalyptus youmanii* and *Discaria pubescens*. Although of conservation significance neither species are identified as such in the report and no assessment of the potential impact of the proposal on these species has been undertaken.

* There are a number of inconsistencies between the fauna survey effort as stated and the results presented.

* The poor survey results are of concern, as is the failure of the report to acknowledge the paucity of records. This along with the inconsistencies in the survey effort described and survey maps throw severe doubt on the effectiveness of the survey. It is our opinion the results of this survey are at best inadequate and at worst unreliable for effective impact assessment.

* A number of threatened species likely to occur or have habitat within the project area have been omitted from assessment

* Within the S5A (AOS in the report) and EPBC (SIC in the report) assessments many of the potentially serious and deleterious impacts of the proposed transmission line are simply overlooked

* For many species the focus of the assessments is along the eastern alignment even though they are equally as likely to occur along the western alignment.

* Key Threatening Processes (KTPs) are generally poorly dealt. Those relevant under the Fisheries Management Act have not been addressed even though the project involves the upgrade of 17 water crossings and the installation of 25 new crossings. KTP relevant to the project include:

Degradation of native riparian vegetation along NSW water courses, and

Removal of large woody debris.

* Swamp Sclerophyll Forest - is incorrectly assessed. The report states the reason the project will not be significant is that this is a widespread community within NSW. Not technically correct, while this community has a wide geographical distribution its occurrences are patchy and highly disjunct. Only 2,500ha of this community are believed to remain in the Clarence Valley. The report's reasoning is also inconsistent with DECC 2007 assessment guidelines which require the impact to be assessed at a local scale. The assessment gives no indication of the size of the local occurrence to be impacted.

Again, planning authorities are asked to read the whole URSReport_Review.

We believe that the URSReport_Review presents very strong evidence that the processes undertaken by TransGrid to assess impacts on flora and fauna from the proposed power line are inadequate. Consequently, the requirements of the Director-General and the Commonwealth Environment Minister (the project is a "controlled action" under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999) have not been met and the proposal ought to be rejected.

Conclusion

* There are certainly sound reasons for concern across the whole spectrum of the Director-General's eleven key issues. This submission has presented evidence that TransGrid has not met the Director-General's requirements for the key issue of Ecological Impacts.

* Ultimately, however, the proposal fails the very first test. This submission has presented evidence that TransGrid has not met the Director-General's requirements for the key issue of Strategic Planning and Project Justification. In short: the transmission line is unnecessary, a case for its construction has not been demonstrated and alternatives have not been genuinely sought.

It is imperative that public funds are invested wisely. The proposal would require a minimum of \$227 million (not including a new 330/132kV substation near Tenterfield; this was not part of the Application Notice or Regulatory Test) and possibly much more.

The Minister for Planning and Infrastructure is urged to reject the proposal for the Dumaresq to Lismore transmission line and to take the opportunity for New South Wales to lead the way through a 21st century approach to energy production and conservation.

ATT:

- TAG_Submission_211011.pdf
- AER_Final_Report.pdf [*Refer to AER Report attachment to earlier Submission 21715 John Rodwell*]
- Dumaresq_Lismore_Transgrid_final_v3.pdf
- URSReport_Review.pdf
- Questions of Clarification to the URS Report.pdf

Review of the Biodiversity Report

Dumaresq to Lismore Transmission Line

Environmental Defender's Office

October 2011

Prepared by:



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Table of Contents

Summary	4
1 Introduction	4
2 Background	5
3 Review of the Biodiversity Report	5
3.1 Stratification.....	5
3.2 Flora Survey	6
3.2.1 Methodology.....	6
3.2.2 Identification of threatened Box-Gum Woodland	6
3.2.3 Vegetation Mapping.....	7
3.2.4 Omission of threatened flora species and ecological communities	7
3.2.5 Omission of regionally significant and high conservation value species and communities	8
3.2.6 Noxious weeds.....	8
3.3 Fauna Survey	8
3.3.1 Methodology.....	8
3.3.2 Omission of threatened flora species and ecological communities	9
3.4 Threatened Species Assessment.....	10
3.4.1 Endangered Ecological Communities.....	11
4 Conclusion.....	11

Review of the Biodiversity Report

Summary

The assessment of the Dumaresq to Lismore 330kV Transmission Line as presented in the URS Biodiversity Report has in our opinion variety of deficiencies which make it inadequate for approval authorities to effectively assess the impact of this development.

In summary some of the more major deficiencies are:

- inadequate vegetation mapping which has left large sections of the project area unmapped
- inappropriate survey effort which has potentially underestimated the area of critically endangered and endangered ecological communities and threatened species present on the project area
- unexplained paucity of survey findings
- failure to identify a number of vegetation communities found on the project area as comprising endangered ecological communities
- failure to identify *Bothriochloa biloba* found on the project area as a threatened species
- omission of a significant number of ecological communities and threatened species from survey and assessment that potentially occur on the project area
- a flawed assessment of the major impacts associated with the project including habitat loss and fragmentation and loss of essential habitat components (eg tree hollows, feed trees).

Much of the mitigation of the ecological impacts associated with the proposed transmission line is contingent upon procedures and methods detailed in various management plans and guidelines identified within the Biodiversity Report including:

- Construction Environmental Management Plan
- Flora Management Plan
- Fauna Management Plan
- Weed Management Plan
- Biodiversity Offset Strategy

All of these plans and/or guidelines are yet to be developed. Until they are developed it will be impossible to adequately assess the efficacy of mitigation actions in regard to this development.

1 Introduction

This report has been prepared at the request of the Environmental Defender's Office acting on behalf of the Upper Dumaresq Action Group in regard to statutory matters that must be considered under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) and Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The purpose of this report is to review the Biodiversity Report prepared by URS Australia on behalf of TransGrid. In particular to;

- Assess the adequacy of the environmental assessment documentation as it relates to the impact on flora and fauna in the project area, particularly any impacts on threatened species and endangered ecological communities.
- Identify impacts that are likely to occur that have not been adequately addressed in the environmental assessment documentation

- Record the results of any field assessments, as required, to support your opinions as they relate to impacts on threatened species and endangered ecological communities.

In the preparation of this report the following resources/information were utilised:

- URS (2011) *Dumaresq to Lismore 330kV Transmission Line – Biodiversity Report*. Prepared for TransGrid by URS Australia
- DEC (2004) *Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities*. Working Draft. NSW Department of Environment and Conservation
- DECC (2007) *Threatened Species Assessment Guidelines. The assessment of significance*. Department of Environment and Climate Change
- DEH (2006) *White Box Yellow Box Blakely's Red Gum grassy woodlands and derived grasslands*. EPBC Act Policy Statement. Department of Environment and Heritage
- SPOT Satellite Imagery.

No field inspections of the project area were conducted in preparing this report.

2 Background

The Dumaresq to Lismore Transmission Line (DLTL) project proposes the construction of a 330kV transmission line from the Dumaresq substation near Bonshaw on the western slopes of NSW to the Lismore sub-station on the NSW coastal plains. The project includes associated upgrade works to the existing substation.

This project is being assessed under Part 3A of the EP&A Act and TransGrid is seeking planning approval of the NSW Minister for Planning. The project is also a 'controlled action' under the EPBC Act and therefore approval is also sought from the Commonwealth Environment Minister. As a consequence an Environmental Assessment of the project has been prepared.

The Upper Dumaresq Action Group is concerned about a range of issues associated with the project including the likely impacts (direct and indirect) the construction and maintenance of this transmission line will have on native flora and fauna, in particular threatened species and ecological communities, the focus of this report. This report has been prepared to provide specific ecological advice to assist this group in the preparation of a submission to the Department of Planning regarding the project.

3 Review of the Biodiversity Report

The Envirofactor has undertaken a review of the Biodiversity Report prepared by URS and we are concerned about a number of issues within the report which we believe severely limit its usefulness for decision making by approval authorities.

Due to the extensive number of problems not all the issues can be detailed in this review so we have limited our comments to some of the more major issues, and would suggest that this is an inadequately detailed report for this extensive development proposal. The large number of problems within the report does however highlight a general inadequacy or lack of quality control across the board.

As a result of the significant shortfalls, we did not consider field inspections of the project area necessary at this time.

3.1 Stratification

For any given area the degree of survey effort required to ensure the full range of habitats and vegetation types is systematically sampled is dependent upon adequate stratification of the area.

Initially, this should be based on biophysical aspects (landform, elevation, aspect, geology, slope, soil type, soil depth), followed by broad vegetation types (grassland, woodland, forest), then floristics and finally disturbance regime (grazing intensity, fire, flood, logging). In the case of the DLT project area stratification appears not to have been extended much beyond the broad vegetation types as outlined by Keith (2004). Although this does involve some biophysical aspects and floristics it is still a very broad classification system.

It doesn't appear that in determining stratification units URS have made use of existing and more appropriately scaled vegetation mapping of the western alignment or numerous NPWS reports in and around this area. In our opinion the use of such a broad system as Keith's has underestimated the degree of sampling required and indicates the likelihood that not all potential habitats and/or vegetation types along the transmission line have been adequately sampled.

Despite the inherent difficulties in surveying such a long and narrow corridor over such highly variable terrain, we believe the use of more refined stratification units may have identified a greater number of vegetation communities and flora and fauna species within the project area.

3.2 Flora Survey

3.2.1 Methodology

The flora survey undertaken consisted of 82 20m x 20m quadrats. Considering 49 vegetation communities were identified along the project area, this sampling effort equates to less than 2 sites per community and indicates little if any replication has occurred. This survey effort falls short of the requirements of the DEC 2004 survey guidelines and may go part way to explaining the very low number of flora species identified.

Three hundred and forty five flora species were identified on the project area. Given the length of the transmission line (some 200kms), the variable terrain and variety of vegetation communities (49 according to the report) and habitats present we find this a very low number of plant species.

We were surprised to note in the report the relative abundance of *Eucalyptus chloroclada* (Dirty Gum) and *Eucalyptus microcarpa* (Inland Grey Box) on the project area. In our experience *E. chloroclada* has a patchy distribution occurring as a dominant on outcroppings of sandy soils (locally known as 'sand monkeys') on the floodplain to the west of the project area. While it is not impossible very small areas of this community may occur near Bonshaw it is certainly unlikely to be as prevalent on the project area as indicated in the report. Similarly for *E. microcarpa*, although commonly forming extensive woodlands on the south-west and central slopes, on the north-western slopes and plains it tends to occur only as scattered individuals or very small patches within other woodland associations. Consequently, we believe the identification of significant areas of these communities on the project area is questionable and possibly the result of mis-identification. However, if the identification is correct, the occurrences of these associations would be of regional significance.

There is a very high prevalence of misspelt scientific names in the report, whether this is an indication of the lack of experience of the authors in writing technical reports or the haste in which this report was compiled is uncertain.

3.2.2 Identification of threatened Box-Gum Woodland

While the use of a 20m x 20m (0.04ha) quadrat is acceptable for general vegetation survey, it is not consistent with DEH 2006 (now SEWPaC) guideline for the identification of the Critically Endangered Ecological Community (CEEC) - *White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grasslands*. The DEH guideline specifies the use of a 20m x 50m quadrat (0.1ha). The use of this larger quadrat increases the number of groundcover species likely to be identified within any given area and therefore the likelihood an area will meet the minimum condition criteria of the listed CEEC ie 12 native species (other than grasses) and 1 important species (as listed). Consequently, it is possible the flora survey has underestimated the area of CEEC occurring on the project area.

Additionally, the area of CEEC and the NSW Endangered Ecological Community (EEC) – *White Box Yellow Box Blakely's Red Gum Woodland* is likely to have been further underestimated as a result of the exclusion of the *Inland Grey Box Grassy Woodland* and *Rough-barked Apple Riparian forb/grass open forest*. These communities were identified on the project area and both have co-dominants of White Box, Yellow Box and/or Blakely's Red Gum conforming to the definition of the NSW EEC and therefore may also meet the condition criteria for the Commonwealth CEEC. Consequently, the area of EEC and CEEC to be impacted by the proposed transmission line needs to be reassessed.

3.2.3 Vegetation Mapping

The amount of time spent on the vegetation community mapping ie 5 hours aerial photograph interpretation (API) seems minimal given the length of the project area, and significant variation in terrain elements, elevation, geology and climate. Even if the initial 10 hours of API is included it is still a short-timeframe time in which to identify and map what is a complex mosaic of vegetation communities. However, this may be reflected in the vegetation mapping which appears at best to be haphazard. Significant areas along the transmission line have not been mapped even though they appear to support native vegetation, trees and potentially native groundcover. Polygons at times inexplicably do not fully cover patches. This shortfall in mapping potentially has significant ramifications for the impact assessment of the proposal particularly for both the CEEC and EEC which include derived native grasslands (ie overstorey trees may be absent).

An adequate assessment of the impact of this proposal can only be made when the impacted vegetation is identified and its landscape context understood. To do this all areas along the transmission line must be mapped, including areas of non-native vegetation – ie areas of cultivation and improved pasture. In the absence of this information no reliable assessment regarding the impact of the proposal can be made.

3.2.4 Omission of threatened flora species and ecological communities

A number of threatened ecological communities and species have been omitted from survey and/or assessment these include:

- *Bothriochloa biloba*, a vulnerable species listed under the EPBC Act, has been identified on the project area and appears to be a dominant species within some areas of grasslands and grassy woodlands. However, within the report there is no recognition of its status as a threatened species, nor is there any indication of its distribution or abundance along the transmission line (as required by the DEC 2004 survey guidelines). No assessment of any potential impacts on this species has been undertaken in the report.
- Montane Peatlands – some of the most extensive areas of this community occur in the Tenterfield area. Our perusal of the SPOT imagery indicates the project area does potentially include areas of Montane Peatlands under the proposed transmission line. Inexplicably this community was not targeted during the survey and no assessment of any potential impacts has been undertaken in the report.
- Upland Wetlands – small scattered occurrences of this community occur across the tablelands and are predicted to occur within the target region therefore, as for the Montane Peatlands, this community should have been targeted in searches.
- *Carex* Sedgelands – at the time of the initial survey was not listed as a threatened ecological community (TEC) but was on public exhibition as a TEC during August 2010. Given field work for this development was still on-going in September 2010 this community should have been included in the survey and assessment. Further our perusal of the SPOT imagery indicates significant areas of *Carex* Sedgelands towards the north and east of Tenterfield, within the project area, and directly under the proposed transmission line in several locations.

- New England Peppermint Woodlands on Basalts and Sediments - the New England Peppermint / Fuzzy Box community identified as present on the project area is likely to constitute this Endangered Ecological Community (EEC), as it is dominated by *Eucalyptus nova-anglica* and this EEC includes degraded remnants. Clearing for roads and powerlines has been identified as a threat to this community, yet it has not been identified or assessed within the report.
- *Monotaxis macrophylla* – which has been found in the Tenterfield area has been excluded from survey and assessment although it is equally as likely to occur as a number of other species which have been included. Additionally, this is only one of a number of other threatened flora species that are as likely as those targeted to be found within the development area.
- *Boronia repanda* - has been excluded because of its occurrence on rock outcrops even though the report includes a number of rock outcrop endemics. Even so the largest known population of *Boronia repanda* occurs in a valley and is not associated with any rock outcropping or platforms, it should therefore be included in the assessment.
- *Pomaderris queenslandica* – occurs in moist eucalypt forest and sheltered woodlands and has a scattered distribution across the Northwest Slopes, New England Tablelands and North Coast. Although difficult to survey for it is likely to occur on the project area.
- *Capparis canescens* – although only known from one population near Bonshaw this species should have been targeted in searches as other populations may potentially occur within the project area.

3.2.5 Omission of regionally significant and high conservation value species and communities

Dry Rainforest is a regionally significant vegetation community which is commonly found in disjunct patches in sheltered gullies along the western alignment. This regionally significant community should have been targeted in searches as it is habitat for a number of threatened flora species.

Two RoTAP (Rare or Threatened Australian Plants) species were identified as present on the project area, *Eucalyptus youmanii* and *Discaria pubescens*. Although of conservation significance neither species are identified as such in the report and no assessment of the potential impact of the proposal on these species has been undertaken.

3.2.6 Noxious weeds

Coolatai Grass is wrongly identified as a noxious weed in Table 5.4 of the report. While a significant environmental weed this species is not listed as noxious under legislation.

3.3 Fauna Survey

3.3.1 Methodology

There are a number of inconsistencies between the fauna survey effort as stated and the results presented. These include:

- Anabat – 1008 hours over 8 nights– this is probably a typo but if not, and even presuming 12 hours of darkness, the maximum effort that could be achieved is 96 hours. Even so for 8 nights of Anabat survey over 200kms of habitat only 9 micro-bat species were identified and only one apparently in the grassy woodlands, a very poor result. The report states that 22 sites were surveyed but the maps appear to show only 6 sites and with only one survey site located along the western alignment.
- According to the report 10 hours were spent frogging but only two frog species appear to have been recorded in the species lists under Aves (Birds). No obvious frog sites appear on the survey location maps. No mention is made in the report of this obviously poor result given the project area lies within country known for its rivers, creeks wetlands and soaks.

- Call playback – only one site appears to have been surveyed along the western alignment near Tenterfield.
- Hair tubes – the report states 170 tubes over 10 days, but according to the methodology 20 tubes were laid per transect and 2 transects were positioned in each vegetation formation except for 1. Based on these figures the effort should have been 20 tubes x 2 transects x 6 formations = 240 tubes. In contrast the survey maps appear to indicate 16 hair tube transects which would equate to 320 tubes. Clarification is required.
- Habitat searches – according to the report 30 hours of habitat searches were undertaken, however, only seven reptile species (6 lizards and 1 snake) were recorded, and of these all except one are medium to large reptiles readily observed at a distance. Missing are any number of small terrestrial and fossorial lizards, snakes and geckoes commonly found under fallen logs, surface rock and bark during habitat searches in the type of country that occurs across the project area. Again a very poor result of which no mention is made in the report. No habitat search sites are recorded on the survey maps.

The poor survey results are of concern, as is the failure of the report to acknowledge the paucity of records. This along with the inconsistencies in the survey effort described and survey maps throw severe doubt on the effectiveness of the survey. It is our opinion the results of this survey are at best inadequate and at worst unreliable for effective impact assessment.

3.3.2 Omission of threatened flora species and ecological communities

A number of threatened species likely to occur or have habitat within the project area have been omitted from assessment, these include:

- *Anomalopus mackayi* – a fossorial lizard that lives in tunnels in the soil and under bark and fallen logs in grasslands and grassy woodlands on clay soils. Occurs from Ashford north onto the Darling Downs west to Mungindi so is likely to occur towards the west edge of the project area and should be assessed.
- *Chalinolobus picatus* – occurs in open woodland and forest communities on the western slopes and plains. Records exist within 10 kms of Bonshaw therefore this species is likely to occur towards the western edge of the project area and should be assessed.
- *Furina dunmalli* – occurs in Brigalow forest and woodland but is also found in eucalypt and Callitris woodland, from the Darling Downs in Queensland into north-east NSW. This species is therefore likely to occur towards the western edge of the project area and should be assessed.
- *Litoria booroolongensis* – has been recorded in a tributary of the Dumaresq River less than 10km west of Texas. Potentially may occur in other tributaries and should be assessed.
- *Oedura rhombifer* – an arboreal gecko which lives in woodland and open forest on the western slopes. Has been recorded west of the project area in similar habitat so potentially may occur on the project area and should be assessed.
- *Stripe-faced Dunnart* – lives in soil cracks, under fallen logs and in grass tussocks in grasslands and woodlands on the western slopes and plains therefore may potentially occur in the Bonshaw area and should be assessed.
- *Eastern Cod* – occurs in the Clarence catchment with records west of Lismore so should be included in the assessment.
- From our reading of the report it would appear a number of species (flora and fauna) have been excluded from assessment largely as a result of a lack of database records in the vicinity of the project area. This appears to be particularly true for the western alignment. However, it must be understood that unlike coastal regions the tablelands and slopes have generally been poorly surveyed, hence the lack of records. Consistent with the 'precautionary principle', if habitat for a particular species is present then the species should not be excluded from assessment simply because there are no nearby records.

3.4 Threatened Species Assessment

Although not required under Part 3A a threatened species assessment under Section 5A of the EP&A Act and the *Significant Impact Assessment Guidelines* for the EPBC Act has been undertaken in the report. These assessments have generally been poorly executed and are inconsistent in their findings. Given both tests require similar assessments as regards the impact of a proposed development on a threatened species, population or community, albeit with slightly different wording, it is difficult to see how for any one species (listed under both Acts) two opposing results can be achieved. Notwithstanding, that is the result of the threatened species assessment as presented in Tables 6.1, 6.2 and 6.4 in this report.

How to conduct a Section 5A EP&A Act assessment is detailed in DECC (2007) *Assessment of Significance Guideline*. This guideline details the methodology as to how each criterion should be considered for a species population or community, in order to determine whether or not a development will or will not have a significant impact on that species, population or community. Inconsistent with the DECC 2007 guideline is the scaling of impacts as used in this report ie None, Potential or Adverse. Under the DECC guideline the impact of any given development on a threatened species, community or population should be determined as significant or non-significant.

Within the S5A (AOS in the report) and EPBC (SIC in the report) assessments many of the potentially serious and deleterious impacts of the proposed transmission line are simply overlooked for example:

- No explanation is tendered as to why the loss of tree hollows as a result of this proposal will not impact on local populations of threatened species dependent upon hollows for breeding and roosting such as the Turquoise Parrot, *Nyctophilus timoriensis* and Little Lorikeet. Tree hollows are a critical resource that has largely been lost from the landscape. Recognized for their long-development time (up to 140 years) their availability, or lack of it, is known to limit populations of species dependent upon them for roosting and breeding.
- The impact of fragmentation is poorly dealt with. According to the Biodiversity Report clearing along the eastern alignment will not impact on populations of threatened species because the vegetation is already highly fragmented. This argument overlooks the serious deleterious impacts small areas of clearing can have in already fragmented landscapes. Impacts which include local species extinctions, as habitat blocks become too small to support populations and larger habitat gaps prevent species from moving across the landscape to access alternate habitat resources (food, breeding sites and mates).
- For example for Koalas and native mice the assessment acknowledges the likelihood that the project will fragment habitat, potentially creating two or more populations from what is now one. Why this is not considered significant in the report remains a mystery.

For many species the focus of the assessments is along the eastern alignment even though they are equally as likely to occur along the western alignment. In most cases no assessment of the potential impact along the western alignment has been undertaken. Examples of affected species and populations; Glossy Black Cockatoo, Squirrel Glider, Regent Honeyeater, Black-chinned Honeyeater, Painted Honeyeater, Tusked Frog and Bush-stone Curlew.

Key Threatening Processes (KTPs) are generally poorly dealt. Those relevant under the *Fisheries Management Act* have not been addressed even though the project involves the upgrade of 17 water crossings and the installation of 25 new crossings. KTP relevant to the project include:

- Degradation of native riparian vegetation along NSW water courses, and
- Removal of large woody debris.

Recovery Plans and Priorities Action Statements have been developed by the Office of Environment and Heritage and DPI (Fisheries) for threatened species. Most of these involve the protection and enhancement of existing species habitat.

There is confusion within the assessments examples include:

- In one section the document states that clearing for the transmission easement will increase the ability of foxes to access remnant areas currently inaccessible to them (eg AOS for woodland birds). Which is true, however, in the EPBC assessment (SIC) for the Quoll the report contradicts this when it contends the project won't contribute to the spread of foxes.
- Field survey results show that *V. troughtoni* (Eastern Cave Bat) was a 'possibly' recorded and the species is listed in the fauna survey results yet the S5A assessment states that this species was not identified during survey.
- The report states that *Dichanthium setosum* was 'detected during field surveys conducted within the broader study area' implying it was not found within the transmission line easement but contradicts this statement later with 'the species was found in fairly constricted locations within the easement and study area'.

3.4.1 Endangered Ecological Communities

- Swamp Sclerophyll Forest – is incorrectly assessed. The report states the reason the project will not be significant is that this is a widespread community within NSW. Not technically correct, while this community has a wide geographical distribution its occurrences are patchy and highly disjunct. Only 2,500ha of this community are believed to remain in the Clarence Valley. The report's reasoning is also inconsistent with DECC 2007 assessment guidelines which require the impact to be assessed at a local scale. The assessment gives no indication of the size of the local occurrence to be impacted.
- White Box Yellow Box Blakely's Red Gum Woodlands and Derived Grasslands – the area of this community to be impacted by the proposal is likely to have been underestimated for reasons outlined in sections 3.1.3 and 3.1.4 above.

4 Conclusion

The assessment of the Dumaresq to Lismore 330kV Transmission Line as presented in the URS Biodiversity Report has in our opinion variety of deficiencies which make it inadequate for approval authorities to effectively assess the impact of this development.



TRANSGRID PROPOSAL FOR A NEW DUMARESQ TO LISMORE TRANSMISSION LINE: COMMENTARY ON PROJECT NEED.

Prepared by

INSTITUTE FOR SUSTAINABLE FUTURES,
UTS

For

ENVIRONMENTAL DEFENDERS OFFICE

OCTOBER 2011

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TABLE OF CONTENTS

1	INTRODUCTION.....	2
2	PROJECTED DEMAND GROWTH AND THE NEED FOR NETWORK SUPPORT.....	3
2.1	CONCLUSION: TRANSGRID’S ASSESSMENT OF CAPACITY SHORTFALL	6
3	THE COST OF ALTERNATIVE STRATEGIES TO MEET A PROJECTED SHORTFALL	7
3.1	COMPARATIVE COST OF OPTIONS	8
3.2	POTENTIAL PROJECTS WHICH WOULD MATERIALLY AFFECT ANY SHORTFALL	10
3.3	CONCLUSION: IS THE PROPOSED POWER LINE THE LEAST COST OPTION?	12
4	TRANSGRID’S PROPOSAL AND THE NATIONAL ELECTRICITY RULES	13
4.1	TRANSGRID’S REQUEST FOR PROPOSALS	14
4.2	COMPLIANCE WITH THE REGULATORY TEST	14
4.3	CONCLUSION: TRANSGRID’S COMPLIANCE WITH THE REGULATORY TEST.....	16
5	CONCLUSION.....	17
6	REFERENCES.....	18
7	APPENDICES.....	19
7.1	APPENDIX A – TRANSGRID DEMAND PROJECTION CLARIFICATION.....	19

TABLE 1 FORECAST INCREASE IN MAXIMUM DEMAND AND CONSTRAINTS FROM TRANSGRID REPORTS	6

TABLE 2 INSTALLED PV CAPACITY IN FAR NORTH COAST AREAS.....	12

TABLE 3 ISF COMMENTARY ON TRANSGRID PRESENTATION OF OPTIONS UNDER THE REGULATORY TEST.....	15

FIGURE 1 SUMMER PEAK DEMAND FORECASTS FROM TRANSGRID, 2009 AND 2011.....	4

FIGURE 2 COMPARATIVE COSTS FOR NON-NETWORK SUPPORT OPTIONS AND THE PROPOSED POWER LINE	9

FIGURE 3 ANNUALISED COST COMPARISON OF 330KV LINE UPGRADE AND ALTERNATIVE NETWORK SUPPORT OPTIONS.....	10

1 INTRODUCTION

TransGrid is proposing to build a new 330kVA transmission line from Lismore to Dumaresq, and argue that this is the least cost option to avoid an identified inability to meet reliability standards and a potential shortfall in transmission capacity in the NSW Far North Coast area, of 61 MW by 2016/17 (TransGrid 2011c, pg 2-9)

Under the National Electricity Rules (NER) TransGrid is required to describe all reasonable network and non-network options to meet an identified constraint, and under the Regulatory Test TransGrid is required to demonstrate that the option chosen is the least cost in a majority of reasonable scenarios.

This report examines the case put forward by TransGrid, specifically:

- Is the amount of required network support identified justified, considering current demand projections and previously identified constraints?
- Is the construction of a new transmissions line likely to be the least cost alternative to meet the identified network constraint?
- Has TransGrid met the requirements of the Regulatory Test to demonstrate that the proposed option is the least cost alternative?

Four key TransGrid reports are considered, which put forward various projections for both demand growth and potential network support required. These are:

- TransGrid and Country Energy (2009) Final report – Development of supply to the NSW Far North Coast.
- TransGrid Supplementary Report (2011a) Supplementary Report. Development of electricity supply to the NSW Far North Coast.
- TransGrid (2011b) Annual Planning Report.
- TransGrid (2011c) Environmental Assessment Chapter 2, Project Needs and Assessment.

This report examines the projected increase in demand put forward by TransGrid in these documents, the potential options for meeting the shortfall, and examines whether TransGrid has met the requirements of the National Electricity Rules to examine reasonable options for both network and non-network solutions, and selected the least cost option.

This report only discusses the summer peak demand, as this is the greater constraint identified by TransGrid in each of the above reports.

2 PROJECTED DEMAND GROWTH AND THE NEED FOR NETWORK SUPPORT

TransGrid makes forecasts of peak demand annually, in order to ensure that they and the Distribution Network Service Providers they supply can meet their respective reliability standards. The projection of peak demand is a key determinant of whether there is a network constraint, and what the requirement for network support might be.

Different demand projections and requirements for network support are given in each of the TransGrid reports reviewed (TransGrid and Country Energy 2009, TransGrid 2011a, 2011c), as would be expected. A projection of network demand is also given in TransGrid's Annual Planning Report (TransGrid 2011b), which could reasonably be expected to correspond with the Environmental Assessment projection of the same year.

The projections for demand have been revised substantially since the 2009 report, although the identified need for network support has not been correspondingly revised. The projected demand increase and the identified needs for network support in each report are:

- TransGrid and Country Energy (2009) Final report – Development of supply to the NSW Far North Coast. The report identified a potential requirement for network support of 62 MW by 2012/13 to meet the summer peak loads and meet reliability standards (Table 7, p18). At this point, TransGrid was projecting a 97 MW increase in demand over the five year planning horizon (2006/07¹ to 2012/13).
- TransGrid (2011a) Supplementary Report. Development of electricity supply to the NSW Far North Coast. This reported on TransGrid's 2010 request for proposals for up to 70 MW network support for 2014/15.
- TransGrid (2011b) Annual Planning Report. This report describes expected growth and potential limitations and constraints in the TransGrid network. The projected demand growth in the summer peak for the Far North Coast area over a five year planning horizon is 22 MW between the 2010/11 actual and the 2016/17² forecast.
- TransGrid (2011c) Environmental Assessment Chapter 2, Project Needs and Assessment. This chapter addresses the fundamental questions of whether the project is needed. A potential need for network support of 61 MW is identified for 2016/17 (page 2-9); the projected increase in demand between 2010/11 and 2016/17 is 49 MW.

¹ The actual demand for 2006/07 (338 MW) has been used rather than the actual demand for 2007/08, as this seemed anomalously low (287 MW).

² Projection taken from TransGrid Annual Planning Report 2011, Table A3.10 – Essential Energy (North) Connection Point Summer Peak Demand, for the Boambee South, Coffs Harbour, Dorrigo, Koolkhan, Lismore, Macksville, Nambucca, Raleigh, and Tenterfield connection points. These are the connection points identified in the TransGrid Final Report (2009), Table 4, page 13; actual taken from Figure 2.3 in TransGrid 2011c.

Figure 1 shows the forecasts for peak summer demand in successive TransGrid reports, and the actual demand between 2001/02 and 2010/11. It also shows a “best fit” trend line to project peak demand forward. As may be seen, the steep growth in demand that occurred between 2001 and 2004 has not continued, and TransGrid’s growth projections have been revised downwards several times.

There are several drivers for the reduction in growth: firstly, there is downward pressure on energy consumption from the increases in electricity prices. Secondly, the general economic slowdown is likely to have contributed to lower demand growth. Thirdly, energy efficiency policies of the NSW and Federal Government are likely to have had an impact. Fourthly, the Far North Coast area has seen relatively high penetrations of solar PV as a result of the NSW Solar Bonus scheme, with approximately 22 MW installed to May 2011 (see Section 3.2; note that this equates to approximately 8 MW of firm summer peak capacity).

The current Environmental Assessment identifies a need for 61 MW of network support in 2016/17. The red squares indicate the projected peak demand in each of the reports for 2016/17. It is not explained why the Environmental Assessment projects a significantly higher growth in demand than the current TransGrid Annual Planning report (TransGrid 2011b).

Figure 1 Summer peak demand forecasts from TransGrid, 2009 and 2011

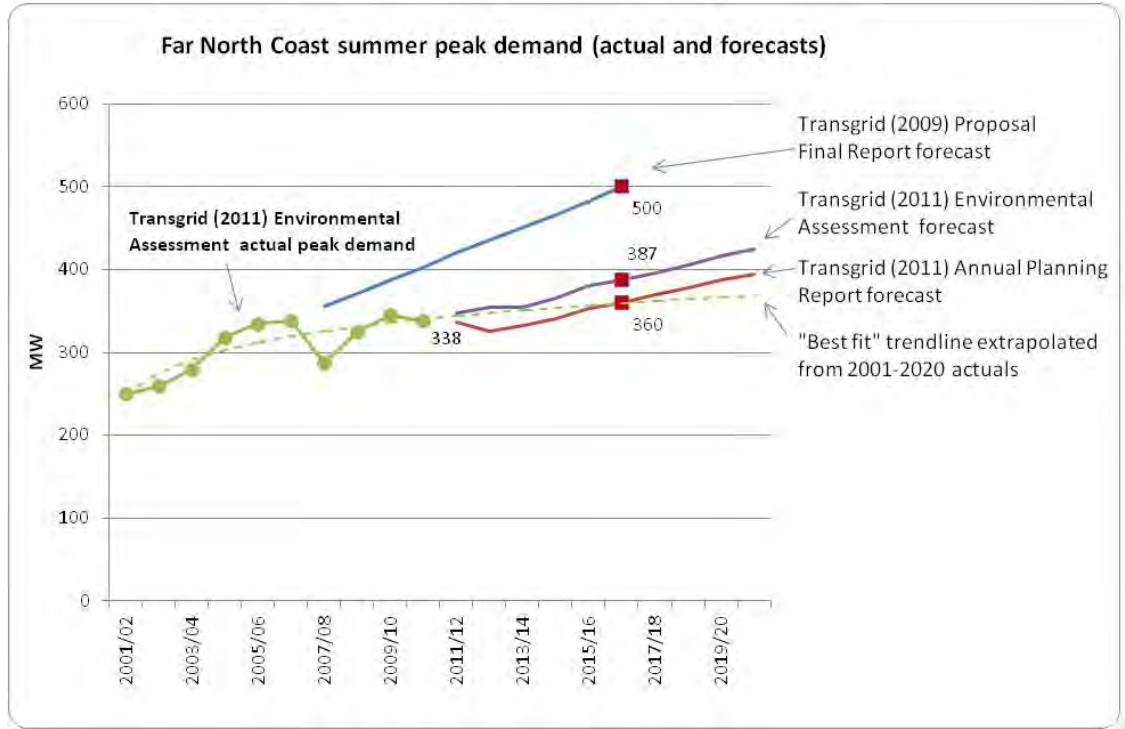


Table 1 shows the need for network support identified in successive TransGrid reports, the projected demand at the constraint year, and the increase in demand from the latest year at the time of publication to the constraint year.

The 2009 Final Report (TransGrid 2009) identified a potential need for 62 MW network support by 2012/13, compared to a projected increase in demand of 97 MW over the five year planning horizon. The current Environmental Assessment (TransGrid 2011c) identifies a potential need for network support of 61 MW in 2016/17, although the projected increase in demand from 2010/11 to 2016/17 is only 49 MW. The Environmental Assessment does not explain why the need for network support relative to demand increase would have changed so substantially since 2009, especially as peak demand in 2010/11 was 338 MW, no higher than peak demand in 2006/07.

It can be seen that the reduction in the demand projection for 2016/17 between the 2009 Final Report (TransGrid 2009) and the current Environmental Assessment (TransGrid 2011c) is 113 MW. Of course, the identified constraint year in the 2009 report was earlier than the constraint year identified in the current Environmental Assessment, 2012/13 rather than 2016/17. The demand forecast for the constraint years are 435 MW in 2012/13 (TransGrid 2009) and 387 MW in 2016/17 (TransGrid 2011). It is unclear why a forecast peak demand of 387 MW would require the same amount of network support as a forecast peak of 435 MW. This change in forecast demand implies a potential need for 13 MW network support in 2016/17, rather than 61 MW as identified in the Environmental Assessment.

Provided both TransGrid and Essential Energy are currently meeting their reliability standards in the Far North coast area, it is unclear why the need for network support would be greater than TransGrid's (2011c) projected demand increase of 49 MW³ between 2010/11 and 2016/17. .

The EDO contacted TransGrid on 10 October 2011 seeking clarification of the scenario that results in a potential need for network support of 61 MW in the Far North coast in 2016/17. A response was received from TransGrid on 14 October 2011 and is included here as Appendix A. In his response, TransGrid's solicitor states, , "the amount of network support required on the Far North Coast is not solely determined by peak demand on the Far North Coast."

"TransGrid's network is meshed and therefore power flows in particular elements can be affected by conditions in other parts of the network."

"For example, the loading on the Armidale to Coffs Harbour 132kV transmission line (which is a major factor in determining the amount of network support required for the Far North Coast) is influenced by loads and network developments outside the Far North Coast region."

Given TransGrid's (2011c) projected demand increase in the Far North coast of 49 MW, it is unclear what specific "conditions" are required in regions connected to the Far North Coast

³ TransGrid had overall reliability of 99.999% in 2009/10. They did not meet their availability targets, but did not mention the Far North Coast area in the explanation, stating that the main reasons for failure was a longer than anticipated planned outage between Yass and Wagga (TransGrid, 2010).

to create a potential need for network support in the Far North coast of 61 MW. Clarification of the scenario that generates this outcome is required.

If the need for additional capacity in the Far North coast area “is influenced by loads and network developments outside the Far North Coast region”, this suggests that using demand management and energy efficiency to reduce load in these connected regions could also help to mitigate a potential supply shortfall in the Far North coast region. However, these broader opportunities do not appear to have been investigated and further analysis therefore seems warranted.

At the core of this assessment is this question:

If, according to TransGrid, forecast supply conditions in the far north coast area are acceptable in 2015/16 and no network support is required in that year, then why is 61 MW of network support required one year later when peak load is forecast to have grown by less than 10 MW? If the answer is due to supply conditions outside the far north coast area, then why have non-network alternatives outside this area not been assessed?

Table 1 Forecast increase in maximum demand and constraints from TransGrid reports

TransGrid report	5 year Increase in demand up to constraint year	Constraint year	Demand at constraint year	Projected need for network support
TransGrid and Country Energy (2009) Final report	97 MW (increase from 2006/7)	2012/13	435 MW	62 MW
TransGrid Supplementary Report (2011a)	-	2014/15	-	70 MW
TransGrid (2011b) Annual planning Report	22 MW (increase from 2010/11)	2016/17	360 MW	-
TransGrid (2011c) Environmental Assessment	49 MW (increase from 2010/11)	2016/17	387 MW	61 MW

2.1 CONCLUSION: TRANSGRID’S ASSESSMENT OF CAPACITY SHORTFALL

Annual demand growth has fallen significantly since TransGrid submitted their final report on their proposal to build a power line from Lismore to Dumaresq (TransGrid 2009). In the 2009 report, TransGrid projected an increase of 97 MW in peak demand over the five year planning horizon, and identified a need for network support of 62 MW.

TransGrid has not revised their estimates of the network support to correspond to the reduction in demand growth. While the five year projected growth in peak demand has fallen to 49 MW, the identified need for network support at the five year planning horizon is essentially the same, namely 61 MW.

If TransGrid is currently providing an appropriate level of reliability, then it is unclear why the need for network support would be greater than the projected increase in demand in the next five year planning horizon, namely either 49 MW (TransGrid 2011c) or 22 MW (TransGrid 2011b).

The 2009 Final Report projected a need for 62 MW of network support when demand reached 435 MW. The current Environmental Assessment projects a potential need for network support of 62 MW when peak summer demand reaches 378 MW (48 MW lower than the previous constraint year demand). No explanation is offered for why greater network support is required compared to the peak demand expected; the difference in forecast peak demand would seem to imply a need for only 13 MW support in 2016/17.

The actual projection for peak summer demand in the Far North Coast area in the Environmental Assessment is also higher than the projection for peak summer demand in the TransGrid 2011 Annual Planning Report (387 MW compared to 360 MW). The difference of 27 MW is significant, relative to the potential need for network support of somewhere between 22 MW and 61 MW, and is not addressed in the Environmental Assessment.

There is a need for clearer explanation why TransGrid's Environmental Assessment report (2011c) indicates the amount of network support required at 2016/17 is 61 MW when on the basis of previous TransGrid reports the need would amount to between 22 MW and 49 MW, or possibly as little as 13 MW.

More broadly, there should be clear explanation why the requirement for network support in the far north coast area apparently rises from nothing in 2015/16 to 61 MW in 2016/17, while peak demand is forecast to grow by less than 10 MW in that year.

3 THE COST OF ALTERNATIVE STRATEGIES TO MEET A PROJECTED SHORTFALL

There are many options to meet an identified network constraint, including:

- appropriately located distributed supply (for example gas generation or photovoltaic generation),
- energy efficiency, targeted at reducing the peak load on the network, and/or
- peak load management or shifting loads away from times of peak use.

There are a number of considerations regarding non-network options. Generation options must be located in the area of constraint, and only the reliable capacity can be included. For example, in an area with a winter peak constraint, solar PV installation would be ineffective,

and even in summer only a proportion of PV capacity can be relied upon to be operating at times of peak use.

Peak load management includes a number of options. It may be achieved by greater use of time of use pricing, which sends a price signal to consumers to switch usage from times of high tariff. It also includes formal demand response arrangements, in which customers are paid to reduce load or switch on stand by generators. It also includes direct load management by the DNSP, for example off peak water heating or cycling of air-conditioning. A trial in Queensland showed that a reduction of 1 kW per home in the peak air-conditioning load was achieved by remote cycling of compressors (Effenev, 2009). This is particularly appropriate where summer load growth is associated with new developments and increasing air-conditioner penetration.

The next section examines costs for these options, and compares them to the cost of the proposed transmission line.

3.1 COMPARATIVE COST OF OPTIONS

The Institute for Sustainable Futures has developed a model of the Description and Costs of Distributed Energy (DCODE) as part of the CSIRO Intelligent Grid Project. The model includes costs of a wide range of distributed energy options, the proportion of reliable peak capacity attributable to each form of distributed energy, and calculates the annualised marginal cost of implementing these options in \$/MW/year.

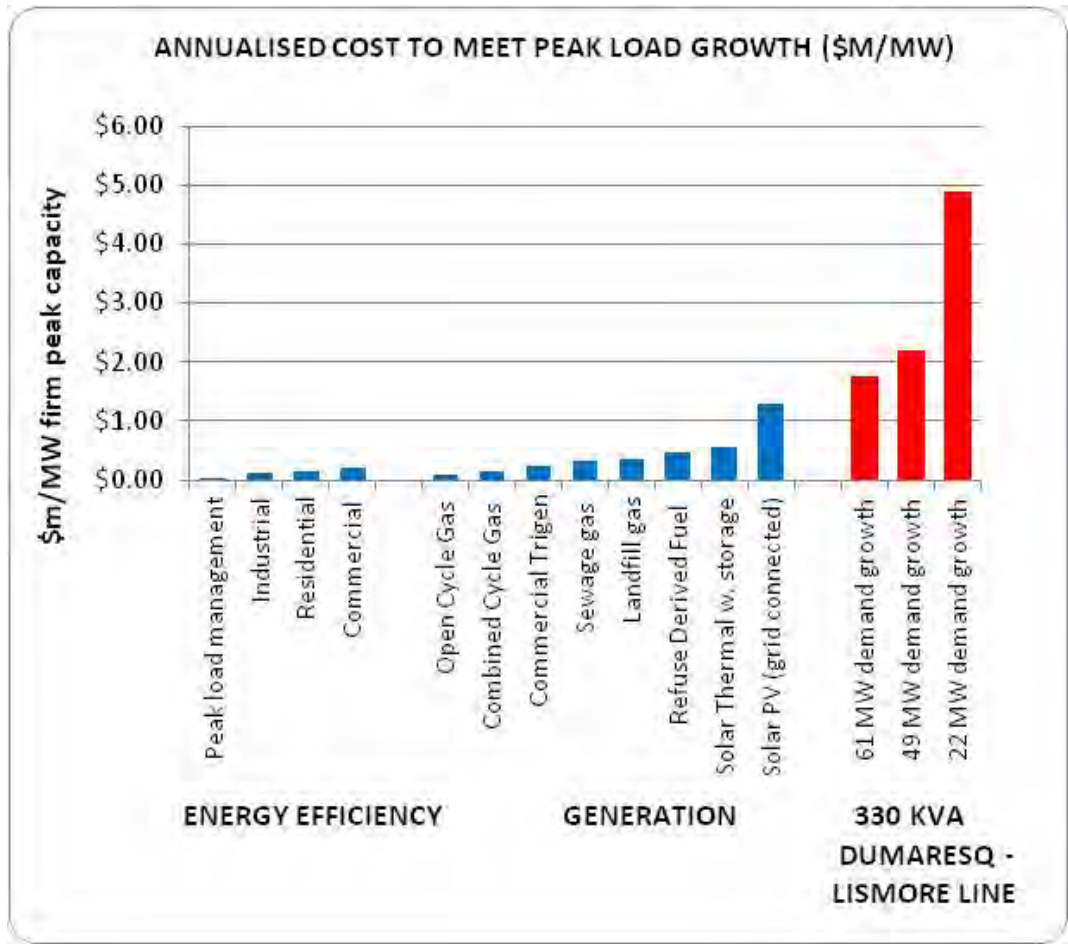
The generic costs of alternative options to address network constraints are compared to the cost of building the proposed Dumaresq Lismore 330KVA power line in Figure 2. All the costs for the options considered below have been taken from the DCODE data compendium (Cooper et al, 2011).

The new power line has a capital cost of \$227 million (TransGrid 2009). This has been annualised and converted to a cost per MW per year in order to compare to alternative network support solutions. The incurred expenditure is to supply a relatively small network capacity shortfall of between 22 MW and 61 MW, as described in Section 2.1. As the power line cannot be built incrementally, unlike other network support options, the cost per MW per year is very high for this option.

Comparative costs for energy efficiency, local generation, peak load management, and construction of the Lismore Dumaresq power line are given in Figure 2. All three cases of network support requirement are shown, as the cost per MW per year varies with the size of the support requirement. In the case that only 22 MW is needed, the annualised cost per MW per year is extremely high at more than \$5 million per MW per year, compared to less than \$2 million per MW per year for all the non-network options. However, even if the maximum identified network support is required (61 MW), the cost per MW needed to build the power line is higher than all the non-network options. This indicates that the scale of the

solution proposed is not proportional to the identified shortfall, and that incremental non-network solutions are likely more cost effective.

Figure 2 Comparative costs for non-network support options and the proposed power line



It is beyond the scope of this brief commentary to undertake a full options study for meeting network constraints in the Far North Coast area. However, ISF has made estimates of the cost of deferring or meeting the potential network constraints at the identified levels of 22 MW, 49 MW, and 61 MW.

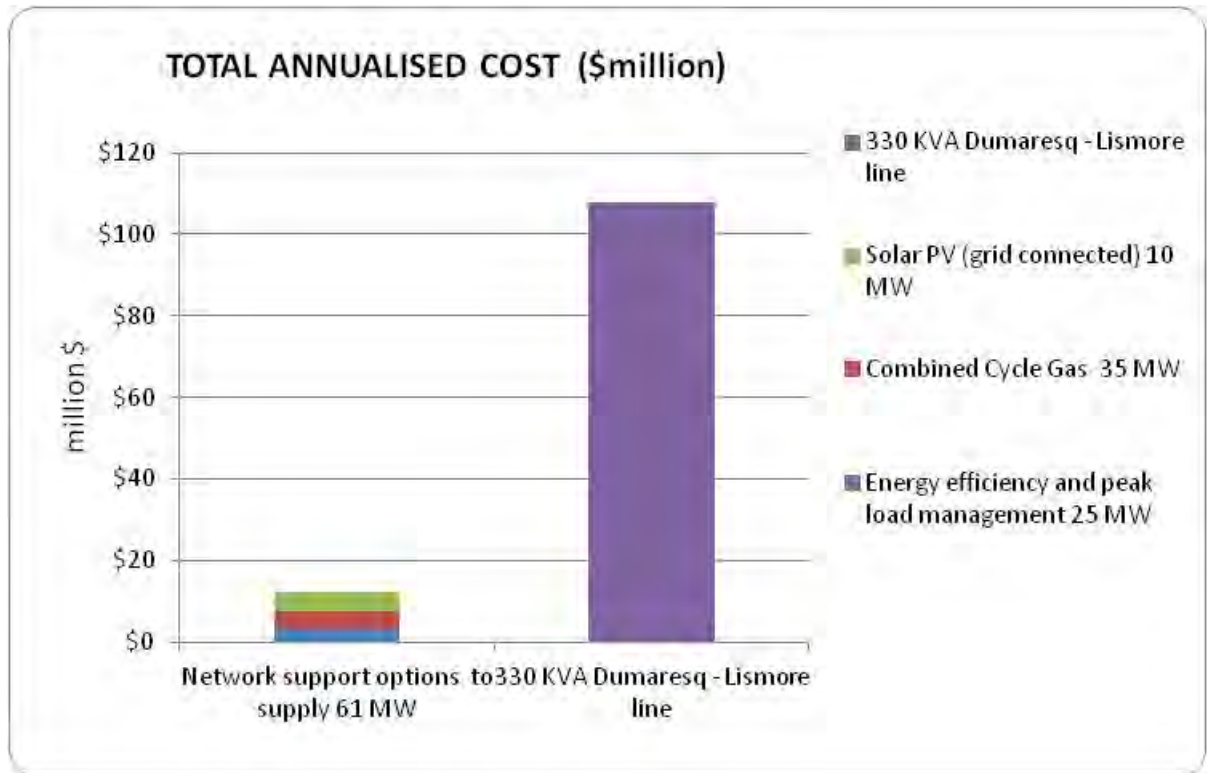
Figure 3 shows an annualised cost comparison of non-network options to provide 61 MW of network support, and construction of the proposed power line. The non-network solution shown includes 10 MW PV, 35 MW gas generation, and 25 MW of energy efficiency and load management. This combination is not put forward as the optimum solution, and is merely an indicative illustration of the comparative cost.

As can be seen, the construction of the power line would be about nine times more expensive, even at the highest requirement for network support put forward (61 MW). If only 22 MW is required, construction of the new power line would be more than 20 times more expensive than the non-network options.

The difference is primarily because the non-network options can be implemented in small increments, to match the shortfall, and adjusted according to the actual demand growth which occurs. By contrast, the power line construction cannot be economically scaled down to give small amounts of network support.

The next section outlines some actual project proposals in the constraint area.

Figure 3 Annualised Cost Comparison of 330kV line upgrade and Alternative Network Support Options



3.2 POTENTIAL PROJECTS WHICH WOULD MATERIALLY AFFECT ANY SHORTFALL

There are a number of proposals and potential installations which are in the public domain which would materially affect the projected requirements for network support. The most advanced is the Metgasco proposal for a 30 MW gas fired power station near to Casino. There is another gas generation proposal from Red Sky, for capacity of 27 MW to 200 MW. There is also the potential for further increases in solar PV capacity, from the current 22 MW. Assuming only the lower figure for Red Sky Energy, there is at least 57 MW of potential supply projects within the constraint area which may come on line in the next five years, compared to a potential need for network support of between 22 MW and 61 MW by 2016/17.

Metgasco 30 MW gas power station, Casino

Metgasco Ltd is planning to build the Richmond Valley Power Station (RVPS), a 30 MW gas fired generator. The project is located approximately 3 km south east of Casino. Metgasco gained approval for the power station project under the Environmental Planning and Assessment Act 1079 on 3 June 2010⁴.

The project involves incremental construction of a 30 MW gas-fired power station (ten 3MW reciprocating gas engines) and development of the Casino Gas Project including approximately 40 wells to extract conventional gas and coal seam methane. The estimated total project cost is \$50M⁵. Metgasco Ltd currently holds an exploration license only, although they have begun the process to obtain a production license. The electricity produced will be fed to the nearby Essential Energy Casino substation, which is 800 m from the proposed site. The power station will operate as a registered, non-scheduled, non-market generator under the national electricity rules. Following receipt of all necessary approvals the construction of the RVPS is anticipated to take 12 to 15 months.⁶

Red Sky Energy 27 MW gas power station

Red Sky Energy Ltd has a proposal for a 27 MW gas power station, the Summerland Way Power Project. The project is a 27 MW gas engine to be run on from a large conventional gas reservoir located between Casino and Grafton⁷. The company has completed a “pre-feasibility” study investigating power station grid connection, costings and site selection close to Kangaroo Creek gas resource⁸. Red Sky Energy estimates the project has a \$30m net present value and is targeting the project go-ahead by mid 2013. Phase one of the project aims for 10 – 15 MW of generation to feed into the adjacent 66 kV⁹ line, but owing to the close proximity of the 132kV and 330 kV transmission lines the company is considering scaling generation to 200MW¹⁰.

Installation of Solar PV

Under the NSW Solar Bonus Scheme a relatively large amount of photovoltaic (PV) generation was installed in the Northern NSW area. In fact, the Lismore area (postcode 2480) achieved the second highest number of PV connections in NSW as at June 2010. More recent figures on PV connections¹¹ (May 2011) and average connected PV system size data

⁴ http://www.metgasco.com.au/files/2772_001.pdf

⁵ http://www.planning.nsw.gov.au/asp/pdf/mp_06_0217_major_project_application.pdf

⁶ Information on the Metgasco power station is sourced from

www.planning.nsw.gov.au/asp/pdf/mp_06_0217_preliminary_ea.pdf

⁷ <http://www.echonews.com.au/story/2011/06/23/red-skys-power-plant-plan-more-gas-fired-power-for/>

⁸ <http://www.aspecthantley.com.au/asxdata/20110503/pdf/01176946.pdf>

⁹ <http://203.15.147.66/asxpdf/20110822/pdf/420j9gpvdf12cf.pdf>

¹⁰ <http://www.pennenergy.com/index/articles/newsdisplay/1463192141.html>

¹¹ http://www.trade.nsw.gov.au/_data/assets/pdf_file/0004/393664/AECOM-NSW-PV-connection-postcode-analysis.pdf

(Oct 2010)¹² shows PV installed capacity of between 22 MW and 26 MW in the Far North Coast Area, as shown in Table 2. This increase in grid connected PV is likely to be responsible in part for the levelling of peak summer electricity demand in the area, with a moderate assumed peak load contribution of 7 MW – 9 MW¹³.

Notwithstanding the scale of installations, there is considerable scope for an increase in installed PV capacity. Installations correspond to 25% or less of suitable dwellings in most of the area around Lismore, and considerably less in the areas further south. The highest take up rate is 32% of suitable dwellings in the Brunswick Heads area (postcode 2483).

While the Solar Bonus Scheme has come to an end, the cost of PV continues to drop and electricity prices are still rising sharply. If net metering arrangements are offered it is possible that the installed capacity could double over the next five years, offering further network support of up to 9 MW.

Table 2 Installed PV Capacity in Far North Coast areas

Area	Postcode	Number of Connections (as at May 2011)
Ballina and surrounds	2477-78	1912
Byron Bay and surrounds	2479, 2481-82	1207
Casino	2470, 2471	478
Coffs Harbour and surrounds	2450 - 56	2253
Dorrigo	2453	92
Grafton	2460	776
Lismore and surrounds	2480, 2483, 2473	2700
	Total	9418
Average Country Energy System Size (Oct 2010)		
Connections	2.3 kW	
Connection and applications on hand	2.8 kW	
Installed MW PV Capacity	21.6 (using 2.3 Av)	26.3 (using 2.8 Av)

Source: AECOM 2011 Table 1 page 2, I&I NSW 2010 (Table 1 p.10)

3.3 CONCLUSION: IS THE PROPOSED POWER LINE THE LEAST COST OPTION?

An examination of the cost of non-network options to provide network support at levels of 22 MW to 61 MW shows that these are considerably cheaper than the proposed new 330 kVA power line from Dumaresq to Lismore. This is primarily because the non-network options can be implemented incrementally up to the level of network support required.

¹² (Table 1 p.10) http://www.trade.nsw.gov.au/_data/assets/pdf_file/0015/360141/Solar-Bonus-Scheme-Review-Report.pdf

¹³ Peak capacity contribution from solar PV has been taken as 35% of the peak rating (Cooper et al, 2011).

ISF's calculations indicate that the annualised cost of constructing the power line may be between 9 and 20 times higher than non-network alternatives, depending on how much network support is actually required. This comparison did not seek the optimum (least cost) mix of non-network alternatives, which is likely to include more energy efficiency.

Furthermore, it should be noted that each of the above non-network options not only address the need for network capacity but have the additional benefit of also reduce the need for new centralised power station capacity elsewhere in NSW. Some of these non-network options also assist in reducing greenhouse gas emissions.

4 TRANSGRID'S PROPOSAL AND THE NATIONAL ELECTRICITY RULES

Under the National Electricity Rules (NER) any proposal for network investment by transmission businesses in the National Electricity Market (NEM) are subject to a consultation process including application of an economic cost-benefit test, in this case the Australian Energy Regulator (AER) Regulatory Test.

Compliance with the Regulatory Test and the NER requirements means that prior to pursuance of a large new transmission network asset TransGrid must (among other things):

- Establish the potential network constraints or inability to meet network performance standards,
- Describe all reasonable network and non-network options to address constraints,
- Rank the options in accordance with AER's regulatory test (defined below), including detailed analysis of why the Project satisfies the regulatory test

The AER regulatory test may be applied in either one of two ways¹⁴:

(a) In the event the option is necessitated principally by inability to meet the service standards requirements, then the option must minimise the cost of meeting those requirements, compared with alternative option/s **in a majority of reasonable scenarios**;

(b) In all other cases the option must maximise the expected net economic benefit to all those who produce, consume and transport electricity in the NEM compared to the likely alternative option/s in a majority of reasonable scenarios.

Thus it is required that TransGrid demonstrate that the option they put forward, namely construction of the Dumaresq-Lismore 330 KVA power line, is the least cost option, or gives the greatest net economic benefit to consumers and producers, compared to most reasonable alternative scenarios to meet the identified constraint.

¹⁴ For reliability augmentation (a) must be used

4.1 TRANSGRID'S REQUEST FOR PROPOSALS

As part of the process to satisfy the Regulatory Test requirement, TransGrid issued a Request for Proposals (RFP) in May 2010 seeking network support in Far North NSW. The RFP closed on 13 July 2010.

Following completion of the RFP TransGrid reported that six responses were received, but that only one option, for 23.5 MW of support, contained enough information to enable it to be evaluated. This option was assessed as not offering enough support, as up to 70 MW was sought, so TransGrid considered the Project could not be delayed, and this option is not included in the Regulatory Test option assessment. However, TransGrid undertook to negotiate with the proponent to establish a network support contract to mitigate risks of supply interruptions prior to commissioning of the Project.

4.2 COMPLIANCE WITH THE REGULATORY TEST

The Regulatory Test requires TransGrid to demonstrate that their proposed option is the least cost of most reasonable scenarios. ISF does not consider that this test has been met.

There are a number of reasonable scenarios which could reduce or entirely meet the identified network support, including, for example:

- 1) The two proposed gas fired generators within the constraint area, of 30 MW (Metagasco) and 27 MW (Red Sky).
- 2) The potential for energy efficiency and peak load management to offset demand growth, and potentially reduce growth.
- 3) The potential for further installation of solar PV within the constraint area
- 4) Actions to improve the availability of Direct Link.

An examination of the TransGrid reports implies that the most likely potential network support required in 2016/17 is between 22 MW and 49 MW (see Section 2.1).

Either of the proposed gas generators would significantly reduce or completely avert the identified capacity shortfall. At least one of these projects is at a reasonably advanced stage. TransGrid mentions the proposal for a 30 MW power station, but considers that it cannot be relied on to meet the network limitations because it is not currently committed. However, given the cost of the proposed solution (the power line), and the fact that either of these generators are likely to avert need for further network support, there is a strong argument for this option to be included in the detailed presentation of options. For example, would the proponent of the gas generator commit to the project if TransGrid offered a network payment of some sort?

A combination of energy efficiency, peak load management, and further installation of solar PV is likely to be able to meet the network support requirement at much lower cost than construction of the proposed power line, as shown in Figure 2. It appears that TransGrid's only investigation of these options is the publication of the Request for Proposals in 2010.

Given that cost information on alternatives is widely available the requirement for network support is relatively small, and the potential expenditure on the transmission asset is very large, TransGrid could reasonably be expected to consider a more proactive approach to non-network options, for example contracting directly with a demand response provider, or contracting for installation of targeted energy efficiency measures, or sharing the cost of time of use metering with the DNSP, or contracting directly with the proponent of one of the gas generators.

The availability of Directlink is discussed in the TransGrid reports (2009, 2011a, 2011c). The Environmental Assessment (2011c) raises concerns about relying on even one link, although Directlink has been part of the regulated transmission network since 2006¹⁵. If the availability of the Directlink is a key determinant of the requirement for network support, the option of strengthening Directlink would seem to be a material consideration. While TransGrid may have negotiated with the owner of Directlink (Energy Infrastructure Investments Group), they do not present any information on this option, the outcome of any negotiations, or how much it would cost. Given that the Directlink is 59 km and already exists, compared to 205 km for the proposed new power line, it is likely that this option could be cheaper, and that it is a 'reasonable' scenario which warrants consideration.

TransGrid address the regulatory test in Chapter 2, Section 2 of their Environmental Assessment. ISF has reviewed their presentation of options, and comments below:

Table 3 ISF commentary on TransGrid presentation of options under the Regulatory Test

TransGrid option	ISF comment
The do nothing option (section 2.4.1)	TransGrid state that this would be unacceptable to customers in the region because increasing demand would mean TransGrid and Essential Energy could not meet their reliability standards. However, the scale of the requirement for network support has not been sufficiently established. If current proposals for gas generation go ahead, a do nothing option would certainly be an option.
Demand management (2.4.2)	TransGrid assert that there are no feasible cost effective non-network options. This is based only on the response to their 2010 Request for Proposals. This does not appear to have been an adequate or effective exploration of the opportunities for demand management and energy efficiency.

¹⁵ AER final decision approves Directlink conversion <http://www.aer.gov.au/content/index.phtml/itemId/692529>

TransGrid option	ISF comment
New generation	TransGrid states that the proposed 30 MW gas generator cannot be relied on, so it is not an alternative to building new transmission infrastructure. However, Metgasco has environmental approval for the generator, and has applied for a production license for the gas wells. This project could completely remove the need for network support, so should be a material consideration in the need for this project. Similarly, the Red Sky proposal to build a 27 MW gas generator would virtually remove the need for network support. Given the small scale of support required it is incumbent on TransGrid to consider both these generators. In the event that neither power station goes ahead, the provision of solar PV capacity would still be a cheaper option than construction of the transmission line, and could be achieved incrementally in line with actual demand growth.
New transmission options	TransGrid puts forward two preferred alternatives for transmission infrastructure, a new 205 km 330 KVA power line from Armidale to Lismore, or a 300 km 330 KVA line from Dumaresq to Lismore. TransGrid does not discuss the option of contracting with EPI to strengthen Directlink, although this is a material consideration in the need for network support.

4.3 CONCLUSION: TRANSGRID'S COMPLIANCE WITH THE REGULATORY TEST

The Institute for Sustainable Futures has reviewed TransGrid's presentation of options to meet the identified need for network support within the five year planning horizon (2016/17). In our opinion, TransGrid does not fulfil the requirements of the regulatory test because:

- 1) Most reasonable options to meet the identified need for network support are not adequately explored. The only options for which costs are given are two alternative transmission network options.
- 2) A further transmission network option is not explored, namely the strengthening of Directlink.
- 3) The two options put forward, for construction of 200 – 300 km of 330 KVA powerlines are likely to be the highest cost options to meet the identified need for network support of between 22 MW and 49 MW (which ISF finds to be the most likely requirement from examination of TransGrid's documents), and also the highest cost option for the stated requirement of 61 MW. The proposal seems out of proportion to the identified shortfall.
- 4) Non network options to meet the need for network support are likely to be much lower cost than the construction of the power line.

Is the amount of required network support identified (62 MW by 2016/17) justified, considering current demand projections and previously identified constraints?

Annual demand growth has fallen significantly since TransGrid submitted their final report on their proposal to build a power line from Lismore to Dumaresq (TransGrid 2009), in which they projected an increase of 97 MW in peak demand over a five year planning horizon, and identified a need for network support of 62 MW. TransGrid has not revised their estimates of the network support to correspond to the reduction in demand growth. While the five year projected growth in peak demand has fallen to 49 MW, the identified need for network support at the five year planning horizon is essentially the same, namely 61 MW.

Assuming TransGrid is currently meeting reliability standards, there is no apparent reason why the need for network support would be greater than the projected increase in demand in the next five year planning horizon, namely either the 49 MW projection for growth in the Environmental Assessment, (TransGrid 2011c) or the 22 MW identified in the 2011 Annual Planning Report (TransGrid 2011b).

Is the construction of a new transmissions line likely to be the least cost alternative to meet the identified network constraint?

ISF examined the non-network options to provide network support at levels of 22 MW to 61 MW, and found that the cost of non-network options is considerably lower than the proposed new 330 kVA power line from Dumaresq to Lismore. This is primarily because the non-network options can be implemented incrementally up to the level of network support required. ISF's calculations found the annualised cost of constructing the power line may be between 9 and 20 times higher than non-network alternatives, depending on how much network support is actually required. This comparison did not seek the optimum (least cost) mix of non-network alternatives, which is likely to include more energy efficiency.

Has TransGrid has met the requirements of the Regulatory Test to demonstrate that the proposed option is the least cost alternative?

The Institute for Sustainable Futures reviewed TransGrid's presentation of options to meet the identified need for network support within the five year planning horizon (2016/17). on the basis of this review, it appears that, TransGrid does not fulfil the requirements of the regulatory test because:

- Most reasonable options to meet the identified need for network support are not properly explored, with costs only proposed for construction of two alternative transmission lines.
- The strengthening of Directlink is not explored as a transmission network option.
- The two options put forward, for construction of 200 – 300 km of 330 KVA powerlines are likely to be the highest cost options to meet the identified need for network support of between 22 MW and 61 MW.
- Non network options to meet the need for network support are likely to be between 9 times and 20 times cheaper than the construction of the power line.

6 REFERENCES

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7 APPENDICES

7.1 APPENDIX A – TRANSGRID DEMAND PROJECTION CLARIFICATION



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Dear Sue

RE: TransGrid Far North NSW Project – Dumaresq to Lismore Clarification of Environmental Assessment Document

I refer to your letter of 10 October 2011 to Melissa Lyons, your email addendum of 11 October 2011 to Hannah Dunn and subsequent telephone conversation with Hannah Dunn on 12 October 2011. I act for TransGrid in this matter.

I am instructed by my client that the amount of network support required on the Far North Coast is not solely determined by peak demand on the Far North Coast.

TransGrid's network is meshed and therefore power flows in particular elements can be affected by conditions in other parts of the network. "Meshed" refers to the NSW transmission network having multiple transmission line connections between substations or switching stations. "Conditions" can include (but are not limited to) factors such as load, network augmentations and generation patterns.

For example, the loading on the Armidale to Coffs Harbour 132kV transmission line (which is a major factor in determining the amount of network support required for the Far North Coast) is influenced by loads and network developments outside the Far North Coast region.

Please don't hesitate to contact me if you have any further questions in relation to this matter. Please direct all future correspondence you may have to me.

Yours sincerely

A handwritten signature in blue ink, appearing to read "David Fayyad", with a stylized flourish at the end.

David Fayyad
Senior Solicitor

Questions of Clarification to the URS Report Review

By authors Wendy Hawes & Dr John Hunter

These questions were provided to the Report authors after a first reading of the commissioned Report by members of TAG Inc. and UDAG. The questions and responses are included in full.

1. Our clients would like to be able to identify the authors of the report as part of their submission. Are you willing to include your names (as opposed to the company name) within your report and subsequently within the client's submission? Assessment under the EPBC Act

Both John and I are willing for our names to be used (Wendy Hawes & Dr John Hunter). I have inserted a suitable paragraph into the report.

2. Based on your reading of the documentation, and considering the limitations you have identified, it is possible for you to form an opinion on whether the scale of the impact of the proposed project identified in the project proposal is likely to be an accurate reflection of the true impact of the project should it proceed as proposed?

It is difficult to assess the impact of the proposal given the significant shortfalls in the URS Report. This difficulty is further exacerbated by the absence of the various environmental management plans upon which mitigation of the proposal impacts are contingent. This notwithstanding and based on our knowledge and expertise, it is our opinion that the scale of the impact of the proposed project has been underestimated within the report. It is therefore not an accurate reflection of the true impact of the project should it proceed.

3. Can you provide comment on the quality of the existing patches of critically endangered ecological communities within the proposed project area?

As discussed in our report we believe the species lists for a number of communities are somewhat depauperate, this includes many of the various communities which comprises the CEEC. We understand the UDAC would like more direct measures of impact but for us to properly assess the quality of the remnants would require site inspections, mapping and survey quadrats to quantify the answers i.e. basically another EIS, which is beyond the scope of what can be achieved given the time, resources and money. However, we believe the deficiencies in the report should be enough to suggest as a minimum a new round of surveys.

Despite these limitations, the fact that according to the report many of the areas conform to the minimum condition criteria, using a quadrat 60% smaller than that than required by SEWPaC for identification of the CEEC (ie 0.04ha instead of 0.1ha), indicates the condition is likely to be good to very good. This conclusion is supported by the community descriptions (Section 5) which lists dominant groundcover species in a number of these communities as; *Themeda australis* (Kangaroo Grass), *Poa* spp (Tussock Poa), *Cymbopogon refractus* (Barbed Wiregrass), *Bothriochloa biloba* (Lobed Redgrass) and *Microlaena stipoides* (Weeping Rice Grass). Additionally these descriptions indicate the presence of a number of forbs including; *Wurmbea biglandulosa* (Early Nancy), *Bulbine bulbosa* (Native Leek), *Glycine clandestina* (Twining Glycine) and *Ranunculus lappaceus* (Common Buttercup). Generally speaking these are grazing sensitive species which are quickly lost from good condition remnants under inappropriate management.

4. Given your comments on the Swamp Sclerophyll Forest and White Box Yellow Box Blakely's Red Gum Woodlands and Derived Grasslands in section 3.4.1, are you able to provide further comment on the likely impact of the proposed project on these endangered ecological communities?

Difficult to comment further on the Swamp Sclerophyll Forest without any indication of the extent of the local occurrence and given the proposal will at maximum remove 0.82ha (according to URS report).

For Box Gum Woodland the probable underestimation of the area of this community, for the reasons outlined in our report, make it likely this proposal will have a greater impact on the extent and condition of this EEC and CEEC than indicated in the URS report. The underestimation of this community is an important shortfall in this report.

5. Our client notes that the current project proposal includes an offset community for impacts on biodiversity. Can you provide comment on the appropriateness of the use of offsets on the EECs and CEECs identified in the documentation?

The report from our reading acknowledges the need for a biodiversity offset strategy to compensate for vegetation and habitat losses however this strategy is yet to be developed. It is therefore impossible to assess whether any proposed offset will adequately compensate for the biodiversity losses that will be accrued from this proposal. It is our opinion until a Biodiversity Offset Strategy is developed no effective assessment of this proposal can be made by an approval authority.

This notwithstanding, there are questions regarding how effective any offset will be for EEC and CEECs. Given that these communities are generally listed under legislation because they have suffered significant declines in extent and condition. In the case of Box-Gum Woodland less than 10% is estimated to remain nationally in all its various conditions. It is therefore questionable whether the removal of any further areas of this community can be adequately offset.

Generally offset strategies propose the acquisition of good quality or degraded areas of the community and a subsequent change in management from production to conservation outcomes. Often when degraded areas are acquired the strategy will include replanting/rehabilitation. In both cases the theory is that at some future date (usually unspecified), there will be an increase in the extent and condition of the community. However, the reality is that in the short to medium term, under either scenario, there is a net loss ie areas of the EEC / CEEC are cleared. It is also likely that in the time lag between the clearing and when the offset area finally achieves similar habitat values to those lost (for hollow-bearing trees 140 years or more) local species extinctions will occur, particularly in fragmented habitats.

Additionally, species which live in the habitat to be cleared can't simply move into what habitat remains, as the habitat that remains will already be occupied. It is also highly unlikely that the resident fauna will readily share limited feeding and breeding resources with the clearing refugees.

In summary there are significant risks in any offset strategy for biodiversity.

6. During their reading of the report, the client noted a number of spelling and grammatical errors

The errors identified have been rectified.

Submission by TransGrid Action Group (TAG)

Proposed Dumaresq to Lismore 330 KV Transmission Line

TAG (Transgrid Action Group Tenterfield Inc.) is an incorporated body, listed with the Office of Fair Trading, whose purpose is to represent and act as a voice for the Tenterfield Community. TAG is made up of 98 financial members, roughly 50% being landholders directly affected by the proposed Dumaresq to Lismore 330 KV Transmission Line and 50% concerned local citizens. TAG's Statement of Objectives outlines the primary purpose of the group is to have TransGrid abandon the proposed Dumaresq to Lismore 330 KV Transmission Line.

Summary of submission points

No one would build an intrusive power line without good reason. Given the choice, we would all rather not have the line if it were not required. There are inevitable implications for land use planning, the ecology, heritage, human amenity, hazards and risks, noise, visual amenity, construction, traffic and transport as well as the general environment. The Director-General of the Department of Planning and Infrastructure in NSW (Director General) requires that these impacts are assessed. Overriding all of these considerations is the requirement for **Strategic Planning and Project Justification**. In short: the “**why**” of the proposal. The central question that must be asked by authorities (and the community and taxpayers) is: **Why is this proposal being put forward?** A proposal of such magnitude, intrusion and expense must be justified and those who justify it must present a rational case in line with the Director-General's requirements.

We submit that the evidence, much of it from TransGrid's own data, strongly suggests that the line must not be built. Even if all other requirements were ignored (and, of course, they must not be), the line is the worst economic alternative for New South Wales. (Submission point 1)

In addition, we have (and have had for some time) very serious concerns about the methodology and processes employed by TransGrid and the lack of compliance with regulatory procedures. (Submission point 2)

TransGrid's original proposed easement for the transmission line was altered following public concerns in 2009. The easement in Study Area West (Tenterfield to Dumaresq) was basically moved north on some sections. This was an attempt to address the “**where**” concerns of the community. These concerns were simply transferred. This submission will show that the proposed easement poses **significant environmental concerns** and that these concerns are not adequately addressed by the URS Biodiversity Report. **Evidence will be presented that the URS report is deficient in several key areas and is not an appropriate document to assist in determining the impact of the proposed line. (Submission point 3)**

Submission point 1

UDAG (Upper Dumaresq Action Group) and TAG (Transgrid Action Group), through the Environmental Defenders Office (EDO) commissioned an independent study by the Institute for Sustainable Futures (ISF) of the University of Technology Sydney into the transmission line proposal. The study focused on the **need** for the line (the **why**). A copy of the report is provided with this submission.

Rutovitz J, Harris S, and Dunstan D. 2011. TransGrid proposal for a new Dumaresq to Lismore transmission line: commentary on project need. Prepared for the Environmental Defenders Office by the Institute for Sustainable Futures, University of Technology, Sydney.

We will refer to this as the *ISF report (document Dumaresq_Lismore_Transgrid_final_v3)*.

As part of our submission we ask that the planning authorities read this report in full. Following is the ISF report summary of inadequacies in TransGrid's projections of network support required:

There is a need for much clearer explanation why TransGrid's reports indicate the amount of network support required at 2016/17 is 61 MW when on the basis of previous TransGrid reports the need would amount to between 22 MW and 49 MW, with the possibility that only 13 MW support is required.

More broadly, there should be clear explanation why the requirement for network support in the far north coast area apparently rises from nothing in 2015/16 to 61 MW in 2016/17, while peak demand is forecast to grow by less than 10MW in that year. ISF report page 7

We therefore submit that TransGrid has overestimated the level of network support required (for summer peak demand - the greater network constraint identified by TransGrid) and that there are inconsistencies in TransGrid's estimates among different TransGrid documents.

Following is a summary of the report's conclusions about least cost options:

Is the proposed power line the least cost option?

An examination of the cost of non-network options to provide network support at levels of 22 MW to 61 MW shows that these are considerably cheaper than the proposed new 330 kVA power line from Dumaresq to Lismore. This is primarily because the non-network options can be implemented incrementally up to the level of network support required.

ISF's calculations indicate that the annualised cost of constructing the power line may be between 9 and 20 times higher than non-network alternatives, depending on how much network support is actually required. This comparison did not seek the optimum (least cost) mix of non-network alternatives, which is likely to include more energy efficiency.

Furthermore, it should be noted that each of the above non-network options not only address the need for network capacity but have the additional benefit of also reduc(ing) the need for new centralised power station capacity elsewhere in NSW. Some of these non-network options also assist in reducing greenhouse gas emissions.

ISF report pages 12, 13

We therefore submit that non-network options (solar PV, combined cycle gas, energy efficiency and peak load management) are the cheapest and cleanest options for network

support. As we will show in Submission point 2, these options were not investigated by TransGrid (as required under National Energy Rules and Director-General's requirements), and the Australian Energy Regulator (AER) clearly points this out in its report.

Submission point 2

TransGrid is a large organisation with large responsibilities. Their proposal for the Dumaresq to Lismore transmission line necessarily has major effects on a large portion of New South Wales. It is therefore incumbent on TransGrid that its methodology and processes demonstrate best practice and that there is compliance with all regulatory requirements.

TransGrid has not fulfilled these requirements. This is not simply the opinion of those who oppose its proposal. This is the view of the Australian Energy Regulator (AER).

The AER began reviewing TransGrid's compliance with clause 5.6.6 of the National Energy Rules (NER) in October 2009. Around this time, UDAG and TAG notified the AER of two possible breaches by TransGrid of the NER in relation to the Dumaresq/Lismore project. The specific concerns were that TransGrid breached

- clause 5.6.6 (c)(iii) by failing to provide a detailed description of all other reasonable network and non-network alternatives
- clause 5.6.6(h) by failing to summarise the submissions received from interested parties and Trans Grid's response to each submission.

In September 2010 the AER published its report titled:

Investigation Report Compliance with the planning and network development provisions of the National Energy Rules TransGrid.

We will refer to this as the *AER report*.

A copy of the report is provided with this submission.

As part of our submission we ask that the planning authorities read this report in full. Objectively, it would be difficult to imagine a more negative report. The report must be read in full to get an overall picture of TransGrid's disregard for required methodology, processes and regulatory requirements. The following summary (*AER report* page 20) provides some insight into the AER view of TransGrid's behaviour:

This investigation into the process undertaken by TransGrid in its development of a new transmission line has identified a lack of transparent analysis and limited public disclosure of data underpinning key conclusions.

Clause 5.6.6 is designed to provide transparency and accountability in planning and consultation processes and to ensure competitive neutrality between network and non-network alternatives.

This investigation report has found shortcomings in the process conducted by TransGrid in reaching its decision to build the 330kV transmission line between Dumaresq and Lismore:

- the application notice did not contain an adequate analysis of all reasonable network and non-network options (clause 5.6.6(c)(iii))
- neither the application notice nor the final report adequately examined the potential for material inter-network impacts, (clauses 5.6.6(c)(5) and 5.6.6(d))
- the final report did not summarise or respond to submissions on the application notice (clause 5.6.6(h))
- the decision to limit the analysis to a single reasonable scenario was inadequately justified (regulatory test version 3, paragraph 19) and thus did not meet the requirement for the application notice to set out a detailed analysis of why the regulatory test was satisfied or, alternatively, if the asset satisfied the regulatory test as a reliability augmentation, why the asset was a reliability augmentation (clause 5.6.6(6)).

It must be pointed out that the issuing by TransGrid of the Request for Proposals (RfP) in May 2010 in no way satisfies the NER. The RfP issued by TransGrid did not seek alternatives to the construction of the Dumaresq to Lismore line. It did not give potential providers of alternatives to the construction any opportunity to submit such alternatives. As stated by TransGrid in information obtained by UDAG/TAG under FOI: *the RfP was issued ... as an operational risk management procedure and to cater for the unexpected delay in project delivery.*

On the basis alone of the *AER report*, TransGrid's application ought to be rejected by the NSW planning authorities. TransGrid has not complied with the most basic requirements of the NER. TransGrid has not satisfied the Director-General's requirements under Strategic Planning and Project Justification.

We have a situation where community groups (UDAG/TAG) were able to uncover the lack of compliance by TransGrid and refer the matter to the AER who produced a report which is extremely critical of TransGrid. This lends considerable credibility to UDAG/TAG as key participants in decisions about the proposed line.

In addition, evidence presented in Submission point 1 indicates that if TransGrid were required to issue an RfP that did seek **alternatives** to the construction of the line (as required by the NER and the Director-General), it would reveal many cheaper and cleaner options.

Submission point 3

TAG and UDAG, through the Environmental Defenders Office (EDO), commissioned an independent study by The Envirofactor into the Biodiversity Report prepared by URS Australia (the *URS report*) on behalf of TransGrid. We will refer to this as the *URSReport_Review*.

As part of our submission we ask that the planning authorities read this report in full. Following is a summary of the *URSReport_Review* findings (page 4).

The assessment of the Dumaresq to Lismore 330kV Transmission Line as presented in the URS Biodiversity Report has in our opinion variety of deficiencies which make it inadequate for approval authorities to effectively assess the impact of this development.

In summary some of the more major deficiencies are:

inadequate vegetation mapping which has left large sections of the project area unmapped

inappropriate survey effort which has potentially underestimated the area of critically endangered and endangered ecological communities and threatened species present on the project area

unexplained paucity of survey findings

failure to identify a number of vegetation communities found on the project area as comprising endangered ecological communities

failure to identify *Bothriochloa biloba* found on the project area as a threatened species

omission of a significant number of ecological communities and threatened species from survey and assessment that potentially occur on the project area

a flawed assessment of the major impacts associated with the project including habitat loss and fragmentation and loss of essential habitat components (eg tree hollows, feed trees).

Much of the mitigation of the ecological impacts associated with the proposed transmission line is contingent upon procedures and methods detailed in various management plans and guidelines identified within the Biodiversity Report including:
Construction Environmental Management Plan

Flora Management Plan

Fauna Management Plan

Weed Management Plan

Biodiversity Offset Strategy

All of these plans and/or guidelines are yet to be developed. Until they are developed it will be impossible to adequately assess the efficacy of mitigation actions in regard to this development.

Consequently TAG submits that the *URS report* is not an appropriate document to assist in determining the impact of the proposed line. Here are some examples of findings from the *URSReport_Review* which support our submission.

- **It doesn't appear that in determining stratification units URS have made use of existing and more appropriately scaled vegetation mapping of the western alignment or numerous NPWS reports in and around this area. In our opinion the use of such a broad system as Keith's has underestimated the degree of sampling required and indicates the likelihood that not all potential habitats and/or vegetation types along the transmission line have been adequately sampled.**

- The flora survey undertaken consisted of 82 20m x 20m quadrats. Considering 49 vegetation communities were identified along the project area, this sampling effort equates to less than 2 sites per community and indicates little if any replication has occurred. This survey effort falls short of the requirements of the DEC 2004 survey guidelines and may go part way to explaining the very low number of flora species identified.
- While the use of a 20m x 20m (0.04ha) quadrat is acceptable for general vegetation survey, it is not consistent with DEH 2006 (now SEWPaC) guideline for the identification of the Critically Endangered Ecological Community (CEEC) - *White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grasslands*.
- The amount of time spent on the vegetation community mapping ie 5 hours aerial photograph interpretation (API) seems minimal given the length of the project area, and significant variation in terrain elements, elevation, geology and climate.
- An adequate assessment of the impact of this proposal can only be made when the impacted vegetation is identified and its landscape context understood. To do this all areas along the transmission line must be mapped, including areas of non-native vegetation – ie areas of cultivation and improved pasture. In the absence of this information no reliable assessment regarding the impact of the proposal can be made.
- A number of threatened ecological communities and species have been omitted from survey and/or assessment
- Dry Rainforest is a regionally significant vegetation community which is commonly found in disjunct patches in sheltered gullies along the western alignment. This regionally significant community should have been targeted in searches as it is habitat for a number of threatened flora species.
- Two RoTAP (Rare or Threatened Australian Plants) species were identified as present on the project area, *Eucalyptus youmanii* and *Discaria pubescens*. Although of conservation significance neither species are identified as such in the report and no assessment of the potential impact of the proposal on these species has been undertaken.
- There are a number of inconsistencies between the fauna survey effort as stated and the results presented.
- The poor survey results are of concern, as is the failure of the report to acknowledge the paucity of records. This along with the inconsistencies in the survey effort described and survey maps throw severe doubt on the effectiveness of the survey. It is our opinion the results of this survey are at best inadequate and at worst unreliable for effective impact assessment.
- A number of threatened species likely to occur or have habitat within the project area have been omitted from assessment
- Within the S5A (AOS in the report) and EPBC (SIC in the report) assessments many of the potentially serious and deleterious impacts of the proposed transmission line are simply overlooked
- For many species the focus of the assessments is along the eastern alignment even though they are equally as likely to occur along the western alignment.
- Key Threatening Processes (KTPs) are generally poorly dealt. Those relevant under the *Fisheries Management Act* have not been addressed even though the

project involves the upgrade of 17 water crossings and the installation of 25 new crossings. KTP relevant to the project include:
**Degradation of native riparian vegetation along NSW water courses, and
Removal of large woody debris.**

- **Swamp Sclerophyll Forest – is incorrectly assessed. The report states the reason the project will not be significant is that this is a widespread community within NSW. Not technically correct, while this community has a wide geographical distribution its occurrences are patchy and highly disjunct. Only 2,500ha of this community are believed to remain in the Clarence Valley. The report's reasoning is also inconsistent with DECC 2007 assessment guidelines which require the impact to be assessed at a local scale. The assessment gives no indication of the size of the local occurrence to be impacted.**

Again, planning authorities are asked to read the whole *URSReport_Review*.

We believe that the *URSReport_Review* presents very strong evidence that the processes undertaken by TransGrid to assess impacts on flora and fauna from the proposed power line are inadequate. Consequently, the requirements of the Director-General and the Commonwealth Environment Minister (the project is a “controlled action” under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999) have not been met and the proposal ought to be rejected.

Conclusion

- There are certainly sound reasons for concern across the whole spectrum of the Director-General's eleven key issues. This submission has presented evidence that TransGrid has not met the Director-General's requirements for the key issue of **Ecological Impacts**.
- Ultimately, however, the proposal fails the very first test. This submission has presented evidence that TransGrid has not met the Director-General's requirements for the key issue of **Strategic Planning and Project Justification**. In short: the transmission line is unnecessary, a case for its construction has not been demonstrated and alternatives have not been genuinely sought.

It is imperative that public funds are invested wisely. The proposal would require a minimum of \$227 million (not including a new 330/132kV substation near Tenterfield; this was not part of the Application Notice or Regulatory Test) and possibly much more.

The Minister for Planning and Infrastructure is urged to reject the proposal for the Dumaresq to Lismore transmission line and to take the opportunity for New South Wales to lead the way through a 21st century approach to energy production and conservation.

List of attached Appendices

TAG_Submission_211011.pdf

AER_Final_Report.pdf

Dumaresq_Lismore_Transgrid_final_v3.pdf

URSReport_Review.pdf

Questions of Clarification to the URS Report.pdf

21951 (Name withheld) of Tenterfield, NSW

I object to the construction of the 330kw high voltage power line from Bonshaw to Lismore on the following grounds.

1. TransGrid did not investigate alternatives to the line as required by the national electricity rules, claiming that even if they had done an investigation, there would not have been any alternatives. There are alternatives, and they are greener, cleaner and less expensive than the proposed line. TG's claim is insupportable and the company should be compelled to abide by the rules, to genuinely investigate alternatives.
2. TransGrid used highly inflated figures when predicting future energy use on the Far North Coast to justify the construction of this power line. These figures were shown to be incorrect and it is evident now, that according to the latest predictions this line is not needed.

Considering that this power line is carbon-heavy outdated technology and that furthermore it is not needed, additional reasons arguing against the construction of the line are secondary but need to be stated none the less.

3. The permanent destruction of native endangered habitat due to the unnecessary construction of this line, plus the destruction and disturbance to the native ecology during the construction process is particularly galling.
4. Increased risk of bush fires due to high voltage power lines is a concern validated by the findings of the Royal Commission into the devastating fires in Victoria.
5. Health risks are also well and truly documented.
6. High voltage towers permanently despoiling an iconic Australian landscape is aesthetically insupportable and will damage the tourist industry and seriously depress land values.

21953 Susan Bailey of Tenterfield, NSW

Submission – Notice of Opposition to Dumaresq to Lismore 330Kv Transmission line

Attention - Anna Timbrell|

Planning Officer - Infrastructure Projects (Energy)

NSW Department of Planning & Infrastructure GPO Box 39 SYDNEY NSW 2001

Dear Sir/Madam,

We wish to express our opposition to TransGrid's proposed Dumaresq to Lismore Proposal.

We object because TransGrid has failed in terms of its EA to adequately outline the Strategic Planning and Project Justification in relation to the Director general's Requirements of Section 75F of the Environmental and Assessment Act 1979. Specifically Transgrid has not fulfilled the following mandatory requirements; TransGrid did not taken any account of the impact of non-network options prior to its initial proposal as mandated by section 5.6.6. the National Electricity Rules.

The information used to justify this project, by Trans Grid was faulty. TransGrid has predicted energy demands on projected population growth, rather than actual energy usage, which has according to TransGrid's own documentation declined or remained flat over the last 3 years despite increasing population growth on the North Coast. TransGrid has also failed to take into account for alternate energy sources is a direct breach of the National Electricity Rules. While the AER 2010 Report notes that TransGrid fixed this breach in May 2010, some 2 years after the April 2008 Application Notice, this does not alter the fact that TransGrid breached the Act and section 5.6.6, in not having completed this mandatory requirement of the Act prior to the 2008 application notice. Based upon these fundamental errors in strategic planning and project justification, TransGrid's rationalization for the project is untenable.

Furthermore, TransGrid's basis for project justification is based on faulty data. TransGrid's predicted energy demands are based upon population growth, rather than actual energy usage, which has according to TransGrid's own documentation declined or remained flat (2011 Annual Planning Report Forecast Demand North Coast) over the last three years and will continue to do so for the foreseeable future (2011 Annual Planning Report Forecast Demand North Coast).

Nowhere in the TransGrid's proposal takes into account the North Coast community's uptake energy saving systems, such as light bulbs, insulation, heat pumps, solar water heating and solar and wind electricity generation. TransGrid has also failed at every stage to adhere to the recommendations and findings of the Eastlink Enquiry.

The Land Use and Planning Impacts of the proposed transmission line are also significant. Tenterfield's current growth in smallholder blocks is to it north, in the very same region as the proposed lines. The proposed project will devalue the acreage of current landholders, even more significantly it will deter new purchasers from entering into the town. The proposal also places in danger the traditional land usage in the area, beef cattle and organic farming.

We also wish to object to the TransGrid's proposed project on the basis of its Ecological Impacts on the local ecology and landscape. The proposed route for the transmission lines through the Tenterfield region will impact dramatically on a number of indigenous fauna and flora listed as environmentally significant. In particular the proposed route will impact on the Conservation of EPBC Act listed communities White Box, Blakely's Red Gums, Orange Gums, Lyrebirds and Koalas.

Historically, the proposed route for the power line also impacts on prime tourist sites in the Tenterfield district, namely Thunderbolts hideout, the World War Two Tank Traps and the World War Two London Bridge army camp site. Tourism is a very important and growing source of economic development in the Tenterfield district and to destroy these popular tourist destinations, either by the visual pollution of

power lines or by transgressing in the vicinity of these areas is economically, historically and environmentally irresponsible.

The Tenterfield district is also one of the few remaining locations in NSW where it is possible to experience and enjoy laconic Australian bushland, the proposed powerline will impact unfavourably on the countryside – flora, fauna and landscape - and effectively destroy a very beautiful part of our state and country.

In summary, TransGrid has not only failed to justify the need for this project but has actively breached a number of the National Electricity Rules. TransGrid has failed utterly in its Environmental Assessment

Requirements under part 3A of the Environmental Planning and Assessment Act 1979. And despite carrying out analysis of network and non-network options, only subsequent to TransGrid Action Group Inc. & Upper Dumaresq Action Groups made Federal Minister Mr Tony Windsor aware of the breach in 2010, TransGrid must be held accountable for the fact that it breached the Act.

Yours faithfully,

Adrian and Susan Bailey

33 Naas Street,
Tenterfield, 2372

Objection from Jerome & Susan Hayden

We are the owners of "Black Creek" 1891 Bruxner Highway .

We are objecting to the building of the Bonshaw to Lismore High Voltage Power Line on the following points

1. Land Use – we purchased "Black Creek" in 2008 with the intention to subdivide the blocks where the power line goes through. We would not have bought the property if we were unable to subdivide this land. Now with the proposed power line, the possibility of being able to sell this land will be either impossible, or at a significant reduction to the value of the land pre-high voltage power line. The compensation offered is a joke and will not cover the decrease in the land value.
2. Visual amenity – the line will be clearly visible at all times from our house. The view from our house will be very ugly.
3. Health effects – we are very concerned about the effect of EMF's, and there has not been sufficient research to justify the safety issues regarding the line.
4. Roads and Traffic – the Bruxner Highway runs straight past our front gate. There will be a massive increase in traffic on the roads (over 500%) during the building of the line. Even before the floods in January the road was poorly maintained. Transgrid says the road is an RTA road which it has not been for some time. It is maintained by the Tenterfield and Inverell Shires. Since the floods there are 2 bridges missing which have very narrow diversions over culverts. The road itself is dangerous and full of potholes. In order to avoid the potholes in the bitumen you have to drive on the wrong side of the road from place to place. There are 3 school buses (Texas/Bonshaw, Tenterfield and Mingoola) using the road. The bus drivers have already voiced concerns over the condition and dangerous nature of the road.
5. Disruption to Production – "Black Creek" is currently run as a cattle/beef production property. As there will be vehicles driving in and out of the property continuously we are very concerned that gates will be left opened and cattle will get on the road, or go into paddocks that we don't want them in. We will therefore be forced to leave the paddocks vacant so that access can be provided to Transgrid without the concern that gates may be left opened.

Unfortunately, our dealings with Transgrid have been unsatisfactory, without genuine appreciation of our concerns.

We object to its being built at all.

Regards,

Jerome & Susan Hayden

23/10/2011

21957 Julia Harpham of Tenterfield, NSW

We, Philip and Julia Harpham, object to the building of the line. We support the submissions of UDAG, UDEN and MPA (all from our local area), and we respectfully submit that not only is this project not needed, and has not complied with regulations, but also it will severely impact EPBC on our property. We also contend the Environmental Surveys done here were inadequate. This project were it to be implemented would also impact upon us negatively in many other ways (see attached).

We therefore request that the project be not approved.

http://www.aph.gov.au/senate/committee/economics_ctte/complete_d_inquiries/pre1996/elec/report/b05.htm

On 30 March 1995, the Senate referred the matter of the Eastlink High Voltage Power Line to the Economics References Committee. The Terms of Reference were then advertised in national newspapers and submissions called for by 2 June 1995. The Committee received 274 submissions from a range of individuals and organisations (Appendix 1). Many of the submissions were from areas most affected by the proposed line. Almost all of the submissions received from private individuals and community groups opposed Eastlink. Those few submissions in favour of Eastlink were from the two power authorities and from several individuals.

Eastlink: The Interconnection of NSW and Queensland Electricity Grids with a High Voltage Powerlink

December 1995

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ISBN 0642235627

In this summation I shall attempt to briefly sum up whether or not Transgrid has followed any of the recommendations of the Senate Economics References Committee. In brief, it is quite obvious that they have not followed any of them.

Chapter 1

The benefits of interconnection are clearly out of date and do not take into account the advances in renewable energy. If Transgrid is basing its proposal on the benefits of interconnection, then it is clear they are also basing their proposal on coal fired power. This policy, whilst at the time may have been apposite, is now no longer one which would benefit Australians.

Chapter 2

Health and Electro-Magnetic fields

The findings made it clear that there was such conflicting evidence that the Committee could not make a finding either way as to the effects of high voltage lines on health. However, it is clear that prudent avoidance is not an option for landholders and their stock working under them, because they have no choice. Transgrid's

insistence (in the new proposal) that it is no different to normal household emissions is like comparing apples with oranges – as well as the fact that there is choice within a household what appliances one will use. Graziers working in the paddock for long periods (as we must) will be exposed to a far higher risk, and do not have any choice.

There is no recognition of the detrimental effects from fear and the impact this new proposal is clearly having upon individuals within our own valley, let alone the rest of the line. Mental health issues are quite high since the proposal was first instigated. The extra pressure from severe floods and bush fires, and the subsequent damage sustained, has only served to heighten anxiety.

As with human health, the Committee accepts that evidence line impact on the health of stock and crops grown within the vicinity of the line is equivocal. In the absence of extensive field studies on livestock, the Committee is not able to conclude that high voltage power lines affect the health of livestock and crops, nor is it able to conclude that they do not. The Committee therefore recommends that scientific studies should be carried out in Australia on the possible effects of high voltage powerlines on stock and crops. (Paragraph 2.72).

No study to my knowledge has taken place, but there is anecdotal evidence of still born calves, and other health problems. One issue unresolved is whether the lines will affect the price of cattle and other livestock grazing under the lines, especially if research shows that there are definitely health issues for animals in proximity. In any case, there is likely to be a consumer backlash towards our products, since consumers are increasingly wishing to buy organically grown products (which in our own case we currently supply). We can well do without another threat to our beef industry ... we must have a written assurance from Transgrid that we will be satisfactorily compensated for losses of income should it subsequently happen that stock that have been subject to Electro-Magnetic Radiation become unsaleable.

The Committee therefore concludes that compensation by power authorities should be extended to those property owners who suffer an economic loss as a result of the construction of Eastlink, regardless of how that loss is brought about. (Paragraph 2.74). There may well be an economic impact on stock and crops, if in the future it is proven that there is a detrimental effect.

There is no mention of any compensation for anyone suffering an economic loss as a result of construction in the new proposal.

Chapter 3 - Environmental Impact

The Committee accepts that there will be some direct environmental impact associated with the construction of this high voltage powerline. The primary impact will be loss of trees through clearing of casement and resultant fragmentation of habitat. Other potential environmental impacts include soil erosion, the introduction of noxious weeds during construction and maintenance activities, the use of herbicides to control vegetation regrowth along casements, the unfavourable visual impact of the line, and impact on special heritage areas.

Of greater concern to the Committee is, however, the actions of the power authorities in determining the preferred corridor, then carrying out the Environmental Impact Statement. While the final impact statement is not due to be completed until mid-1996, it is clear that the power authorities have already chosen a specific route.

The Committee questions the practice of carrying out an environmental impact assessment of a proposal when alternatives have not been included in the detailed Environmental Impact Statement and when siting of the line is clearly going ahead before the Environmental Impact Statement is complete. (Paragraph 3.75).

Transgrid Proposal:

Clearly, in the case of the Bonshaw to Lismore Line, Transgrid drew a line on the map and had no idea what it actually crossed across. On the original proposal, it went over houses, sheds and of course it still crosses areas of national environmental significance falling under the EPBC Act. They have not changed their practices here either, in that the siting of the line took place well before any EIS. Their choice of easement was clearly on economic grounds, and as engineers, what would be the easiest and cheapest for them.

We as landholders are very concerned about the impact of noxious weeds, fragmentation of habitat, erosion, and loss of trees will have, and fear the building of access tracks will give easier access for shooters and hunters who have no permission to be there. We also strongly object to its crossing areas falling under the EPBC act.

The power authorities have acknowledged that some environmental damage will occur during construction but they believe that minimal impact construction practices will prevent any serious damage and that, after the construction phase is complete, rehabilitation of disturbed areas will ensure that the impact doesn't continue. On our soil types, any disturbance, however minimal, requires ongoing work for years to remove the damage. Our fear is, that any rehabilitation work will be slipshod and not on-going, and we will be left with the expense of rehabilitation, working underneath the power lines

(and where is the prudent avoidance there?) We would probably have to spend months on literally hand weeding along the line.

Indeed, for many landholders, the droughts, floods and bush fires have highlighted the fragility of the environment in which we live. We have struggled to retain ground cover, to reduce the potential for erosion, and to protect our farm from the vagaries of the weather. But while we can accept the impact of these weather events, because we have no control over the weather, we are at a loss to understand why anyone would intentionally place stress on the environment in which we live, when there appears to be many more benign and globally desirable alternatives.

As practisers of environmentally sustainable farm management practices, we are appalled at the thought of having this line foisted upon us.

The sampling methods used during the flora and fauna survey were very inadequate, and in some cases done from a plane. The young ladies who came to our place spent a couple of hours here, when the line will cross several kilometres. Any thorough environmental impact study would have spent a considerable time looking at what was known to be a significant area. The Transgrid employee accompanying them, was rushing them, and did not give them time. The young ladies were not experts in this kind of landscape, and I personally showed them several species which they were unable to identify, since they did not know what to look for.

As an example of sloppy research, or compliance, no Aboriginal people were invited to inspect the site on our property, even though it is known to be a site of considerable importance. A student from a University came to do the survey, and I felt that my knowledge of aboriginal customs and places might have been far superior. In any case she failed to identify anything, even though she was standing under a marked tree at one point.

Chapter 4 - Social and Local Economic Impact

The Eastlink proposal, perhaps more than any other high voltage power line in Australia's history, has resulted in high levels of community opposition. The large number of critical submissions received was a strong indication to the Committee that the communities affected do not want Eastlink to proceed.

Impact on Agricultural Land

*Property owners were concerned that the position of the line would have a detrimental impact on the efficient operation of their businesses through interference with facilities and with aerial agriculture. **The Committee recommends that any detrimental impact on farm operations should be the subject of compensation. (Paragraph 4.97).***

Local Economic Impact

Eastlink has already had an impact on the real estate market for properties along the Western corridor. In addition, the value of properties along the corridor may well be

reduced by the advent of the powerline. It is clear that some people are currently being economically disadvantaged by the proposal.

Regional economics may feel a flow-on effect from the stagnation of the rural real estate market and the unwillingness of property owners in general to make any further capital investment in the properties. The visual impact of the power line may also affect regional tourism.

The power authorities involved have noted that real estate devaluations sometimes occur when a power line is first proposed, but suggested that the market will regain its previous level at some stage after the power line has been completed. The Committee notes, however, that this information does not help property owners who want to sell now, or who are planning to sell in the near future.

The Committee holds the view that, if the power authorities are so sure that the property market will return to normal after Eastlink is completed, they should buy now, at pre-Eastlink valuation, any property that has been on the market and that has not achieved a sale because of speculation about Eastlink. (Paragraph 4.101).

Transgrid proposal:

Again, Transgrid, has not followed any recommendations. Furthermore, we have already experienced a down turn in markets and an inability to sell properties along the route. There is also no sign that property markets on the Westlink project have in fact returned to normal, and clearly since many people in our area would be thinking in the future of making subdivisions and selling lifestyle blocks, it would cause a real devaluation of previous land values.

This would also cause the local shire to lose income from rates in the long term. In the new proposal, Transgrid outlines a minor positive economic impact for the areas it passes through, based on some spurious reasoning.

Transgrid points out that there would be some temporary flow-on benefits to the local community during power line construction through expenditure by work crews and subcontractors. Expenditure would include purchase of fuel, equipment, services, haulage, and construction camp supplies. This is hardly likely to benefit any rural landholder over whom the line passes

Such benefits (to the local town) would be outweighed by a detrimental impact, especially by heavy construction vehicles which would use local roads and farm access tracks. Who is going to repair and maintain our existing minor roads after heavy Transgrid vehicles and trucks loaded with steel materials and machinery, travelling on them have worn them away? We can't see the local shire council doing a great lot as we've contacted them on several occasions, asking for a grader to repair our road, but have hardly seen them at all. Roads are already a disaster after the January floods and we have made many complaints to the local shires. We are currently missing 3 bridges between the Beardy River and Tenterfield, and potholes in the road make driving extremely dangerous.

In the case of our own property, Moorabinda, the future value of the property

will be greatly affected by issues such as visual impact, the loss of the EPBC areas. That community presently existing on our property will no longer fall under the act, since it will have been disturbed. We regard the value of our property is greatly enhanced by its natural beauty and the many rare and endangered species which exist here. This value would be seriously diminished if this increasingly rare habitat was destroyed.

Transgrid has recognised that there would be other, uncompensated impacts such as disturbances to communications systems (2-way radios and mobile phones, essential during emergencies such as bushfires) and to TV and radio reception; increased fire frequency, and damage to the surrounding natural environment. After the recent floods and bushfires, our local community has formed the Mingoola Progress Association, and one of the issues of highest priority is our lack of a recognised, localised disaster management plan. The admission that there could be increased fire frequency is especially worrying after the fires in the Torrington Reserve which border our country. The Transgrid proposal brushes over the issue of fires, and appears to think that any fires could easily be managed, something which is completely laughable, given our past experience.

We also have little or no mobile reception and poor radio and TV reception. It would be quite inequitable that these imposts be imposed upon us.

Compensation

It is the usual practice of power authorities to offer compensation for the use of easements and to offset any losses associated with reduced amenity of facilities on individual farms. However, there is a general community belief that in the case of Eastlink, the level of compensation would be inadequate.

The Committee is concerned that the practise of negotiating compensation arrangements on a one-by-one basis, without any requirement for public disclosure of the total amount, or the factors included in the summation, favours the power authorities and enables them to achieve minimum levels of compensation. Were public disclosure compulsory and if landowners had access to a simpler and cheaper avenue of conciliation than the courts, the level of compensation paid may appear more equitable to those seeking compensation for the intrusion of Eastlink.

The Committee recommends wider and more comprehensive compensation provisions, which may include provision for an independent conciliation process for individuals or groups affected. (Paragraph 4.105).

Transgrid proposal:

Transgrid is still following the practice of one-by-one basis negotiations, and making landowners sign a privacy agreement with them to not disclose the amounts being offered to each landholder. The compensation provisions say they are fair, but the only side to which they favour is obviously Transgrid itself. Perhaps the ACCC could look into this, or the Dept of Fair Trading.

Transgrid uses harassment and bullying techniques, and landowners are not made aware of their rights.

If the costing of the Transgrid proposal included proper compensation, the cost would be more than double its advertised cost.

Community Consultation & Social Impact

While the power authorities made every effort to consult the people directly affected by the proposal, both those individuals and the broader community have rejected the consultation process as completely inadequate. People believe that because they were never given the choice of 'no Eastlink' the consultation process was intrinsically flawed.

It appears to the Committee that a significant cause of community disharmony and rancour has been the practice of holding discussions with individual property owners who were disadvantaged by the fact that they were ignorant of what had been said to neighbouring property owners, while the power authority officers had the advantage of knowing what offers had been made to other landholders.

More significantly the fact that the power authorities made changes to the proposed route led to suspicion that improper influence had been brought to bear. This created antagonism between neighbours and in some instances rifts have formed within rural areas that will take a long time to heal.

The Committee concludes that while the power authorities put a large effort into public consultation, the methods used were not accepted by many of those people affected by the proposed power line. The cumulative effect has been considerable social disquiet and stress. (Paragraph 4.108).

Transgrid proposal:

All I can say is, that in our experience, nothing has changed. They continue in their tactics of divide and secrecy, and the consultation process is quite lacking. Furthermore, landholders were never given a chance to object to the original proposal since they were simply not aware of the proposal until it had already passed the objection date. Our first knowledge was when they contacted us as individual landowners that we were on the path of the easement. I cannot see that it is fair to put up a proposal when those on the path have no idea that it exists. The proposal was on their website, and we were naturally unaware of it until it was too late.

State Parliamentary Review Procedures

This Committee and its predecessor, the Standing Committee on Industry, Science and Technology, has over the last few years noted a lack of informed and detailed debate on matters relating to power generation developments. In particular, the Committee has noted that state governments could play a stronger role in meshing policy with community needs and opinions.

The Committee suggests to all state governments that there would be merit in establishing a process whereby communities and professionals could be more

directly involved in debate on energy matters. Through such a process, parliaments could monitor community reaction to energy projects, as well as provide a more accessible and flexible grievance mechanism. (Paragraph 4.111)

Again, it would appear that this advice has not been followed. Transgrid has clearly made all the decisions prior to the proposal's publication.

Chapter 5 - Economic Considerations

The Senate Standing Committee on Industry Science and Technology recommended in its report on Gas and Electricity that any interconnection between NSW and Queensland should not go ahead until it was proven to be economic. While opponents of Eastlink have argued that this has still not been proven, the fact that two State Governments, with the support of the Federal Government, are going ahead indicates that it is considered by them to be economic.

The Committee accepts that the analysis carried out by the Australian Bureau of Agricultural and Resource Economics examined the general economics of interconnection through a high voltage power line, and was not sufficiently detailed to draw conclusions about the specific case of Eastlink. The Committee further accepts that the model demonstrated, in general terms, that electricity interconnection through a high voltage power line would be economic. (Paragraph 5.20).

However, because a specific cost/benefit analysis for Eastlink was not available, the Committee is unable to comment on the specific case of this proposal. (Paragraph 5.21).

The total cost of Eastlink has been stated by the power authorities to be in the region of \$300 million. However, information given by the authorities does not include a breakdown of what expenses have been included. Lack of detailed information has contributed to public confusion and misunderstanding about the relative costs and benefits of Eastlink and therefore to a lack of understanding of the full economic impact.

The Committee believes that, in the interests of good public relations, the power authorities involved should make available to the public a more detailed cost/benefit analysis of Eastlink. (Paragraph 5.23).

Transgrid Proposal:

In our complaint to the AER we have made it clear that not only did they not comply with the regulations, but also that their economic modelling was incorrect. We have detailed how this proposal is not viable in that there are far more economically sustainable avenues to follow than building a power line. As we have many times pointed out, Transgrid's argument that the proposal is necessary because of a "need" is quite ridiculous in the light of changes in renewable energy suppliers, and energy efficiency. The UTS report clearly supports that electricity does not have to be supplied over long lines carrying coal fired power, which lose up to 15% of their power in being transported,

Not only that, but we have demonstrated the statistics and maths used in the proposal to be incorrect. If anything the need is reducing. The original proposal was based upon spurious statistics and incorrect mathematical modelling.

They (Transgrid) have, since having pointed this out to them, started to talk about “peak demand” as the reason for building. It does seem incongruous that a government would spend such a huge sum on a **possibility** of need for 3 days of the year – this possibility being exactly that.

Also, as the cost of electricity climbs, the use of electricity will decline because consumers are more careful with their usage. While TransGrid forecast an increase in peak demand of 46% between 2008 and 2017, demand has actually decreased for the past 3 years.

The building of such infrastructure requires at least a 25 – to 50 year life for it to be viable, and there is no forward planning which could guarantee that life span for this infrastructure. In 20 years time, experts agree that the sources and infrastructure supplying households could look very different from today’s models. We are concerned that even within 5 years, this proposal could be a massive waste of money. It is worthwhile to remember that Transgrid exists to carry power, and would probably not exist if smart grids and local supply solutions were developed. They clearly have a vested interest as a Corporation to continue to operate in the way they were originally set up.

Chapter 6 - Electricity Consumption and Greenhouse

The question of impact on greenhouse gas emissions hinges on whether Eastlink will increase the use of coal fired power stations. Because there is almost no data available which relates specifically to Eastlink, the Committee is unable to make a decision as to which is the more likely outcome. However, the Committee notes that the potential does exist for greenhouse gas emissions to increase. The Committee therefore recommends that the Commonwealth Government investigate in detail the likely impact of Eastlink on coal consumption and the implications of any change in that consumption for greenhouse gas emissions having regard to its international obligations. (Paragraph 6.29).

Transgrid proposal: We have not seen any sign that Transgrid has followed this recommendation in any way. Our own work on the proposal makes it clear that in fact they have ignored it. They insist that the best way to provide electricity to the Far North is through high voltage transmission lines carrying coal fired electricity.

Chapter 7 - Renewable Alternatives

Throughout the current inquiry, the Committee was impressed by the knowledge and enthusiasm that community groups and individuals hold for alternative renewable forms of electricity generation.

The Senate Standing Committee on Industry, Science and Technology in its 1992 report, Gas & Electricity - Combining Efficiency and Greenhouse, stated that Queensland would be an ideal place to further research on renewables and recommended that the development of a national grid must not preclude the further development of options such as demand management, co-generation and new technologies.

Despite the outcome of the Eastlink interconnection, the Committee reiterates the opinion expressed in the Report on Gas and Electricity that Queensland would be an ideal place for increased research and development of renewable energy options. (Paragraph 7.33).

Transgrid proposal:

From our complaint to the NER (see below) one can see that the above recommendation for the development of options in demand management, co-generation and new technologies was ignored by Transgrid.

I see no recognition of the inaccuracy of their demand forecasts for the last 3 years in forecasting future demand. In other words, the project justification remains dubious.

NON COMPLIANCE COMPLAINT

We as a group made a complaint to the AER about Transgrid's non-compliance with mandatory procedures, and the AER published a deeply critical report of the proposal. We are at present (through the ACCC) pursuing the reasons why they did not demand the proposal to be withdrawn completely, and are still hopeful that the proposal will be withdrawn. **Surely the legislation which protects electricity supply and gives Transgrid the right to build could not be held up if the proposal was not satisfactory according to its own legislation?**

The AER's letter of 22 December 2010 states that the AER's decision not to require TransGrid to comply with clause 5.6.6 is based on the belief that "a fundamentally different outcome was unlikely" and that **this conclusion was reached because the RFP "contained sufficient information to enable prospective providers of non-network (and network) solutions to formulate alternative options."**

Since the RFP did NOT seek proposals for alternatives to the construction of the 330kV line, how can the AER possibly maintain the RFP enabled prospective providers of non-network (and network) solutions to formulate and submit alternatives to the construction of the 330 kV line? This is simply and plainly not true!

i.e. the AER have based their conclusion (about the unlikelihood of a fundamentally different outcome) on an understanding about the RFP that was totally incorrect.

Note: the purpose of clause 5.6.6 is *to ensure that consultation to elicit alternative proposals is effective*. As explained by the AEMC:

the objective of achieving efficient investment outcomes would require an obligation on NSPs to assess all investment alternatives, irrespective of whether these are network or non-network options or undertaken by an NSP or market participant ... **In the absence of such a requirement, NSPs may give preference to an investment option that would increase their asset base or otherwise suit their commercial interests, rather than reflect the public interest in an option that is most efficient.**⁵

Benefits of Interconnection

1.6 Connection of Queensland to the already connected electricity grids of southern Australia is an important element in the establishment of a competitive national electricity market. The specific benefits expected to be gained from interconnection through Eastlink are that:

- ✧ it will offer operational efficiencies as it will allow lower cost power generation in one system to replace higher cost generation in others;***
- ✧ it will allow the deferral of new power station construction through increased reserve sharing across four states;***
- ✧ and it will lead to greater efficiencies by increasing competition between power generators through trading in electricity between states (power interchange).***

The cost of power since this report was written has risen massively, so one really can't say that there has been greater efficiency at all. As well, the only beneficiaries of the scheme appear in the long term to be the coal mines, the power generator suppliers, and the carriers – notably Transgrid! And, as far as a competitive national electricity market is concerned, Transgrid has no competition at all, which leads it to make arrangements with the power generator suppliers for its own interests. Clearly this must be the reason why the requests for RFP's are on such a low priority, and are not properly investigated. The monopoly situation Transgrid enjoys as the carrier has created a situation which may have forced prices up.

SUMMATION:

Issues of Greatest Concern

4.5 Of the 274 submissions sent to the Committee, the vast majority were

letters from individuals or families directly affected by the Eastlink proposal. The points most commonly raised were:

- ✧ that there were perceived dangers to health from exposure to ENTE particularly for children living in close proximity to the power line;
- ✧ that the money spent on Eastlink would be better spent on alternative renewable energy generating systems, or on research on such systems;
- ✧ that interconnection through Eastlink would continue the use of large generating systems and in particular large coal fired power stations, which would not only not reduce greenhouse gas emissions but may increase them;
- ✧ that the visual impact would detract greatly from the natural beauty of the areas through which it passed;
- ✧ that the impact on land values would not be properly recognised by the power authorities and that therefore compensation would be inadequate;
- ✧ that already the proposal was having a detrimental impact on landholders trying to sell their properties, on the mental and physical health of landholders along the proposed route and on their marital relationship and
- ✧ that there would be other, uncompensated impacts such as disturbances to communications systems (2-way radios and mobile phones, essential during emergencies such as bushfires) and to TV reception; increased fire frequency, and damage to the surrounding natural environment.

4.63 The Northern Rivers Energy Action Network submitted that a comprehensive social impact statement for Eastlink was essential before any decision could be made as to the desirability of the project and that a social impact statement should have preceded the decision to build the Eastlink power line. The submission argued that a comprehensive social impact assessment would:

- ✧ assist in improving the social well-being of the community by moving away from the 'lip-service' consultation currently practiced;
- ✧ acknowledge the community belief that the need for Eastlink has not been proved;
- ✧ enable the true cost of the Eastlink project to the community to be assessed; **(especially to future values)**
- ✧ allow an assessment of the relative levels of employment generated by alternative renewable energy sources and demand side management programs as opposed to that generated by Eastlink;
- ✧ assist in deciding the best way for Australia to meet its greenhouse gas emission targets;
- ✧ allow an energy strategy to be devised which would resolve the issues of equity, sustainability efficiency and environmental quality;
- ✧ allow a true assessment of the alternative options for supplying energy needs for both NSW and Queensland;
- ✧ look at the social barriers to increased energy efficiency; and
- ✧ look at the impact of today's energy decision on future generations.

All of the above apply equally to this proposal. The EIS recently published is sloppy, full of motherhood statements and inadequacies, and in no way follows any of the Senate recommendations from the Eastlink report.

This power line is not needed, not wanted, a huge cost to taxpayers and consumers, and I suspect, harbouring a hidden agenda to privatise the national grid to the detriment to small consumers, the environment, and our carbon emissions. **Given the enormous amount of money which will be expended on this Far North Bonshaw to Lismore High voltage Power line, we believe the governments involved should reconsider their commitment to the proposal until such time as the concerns outlined in this been adequately investigated. Such investigations must be open to public input and scrutiny.**

Transgrid has **not followed** any of the recommendations of the Senate Committee, and must be called to account for continuing to do business in a way which our Senate was clearly critical of.

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OBJECTIONS TO BONSHAW TO LISMORE TRANSGRID LINE PROPOSAL

PROJECT JUSTIFICATION:

Having studied the Project Application Dumaresq to Lismore Transmission Line we submit our objections to the proposal.

We are the property owners of Moorabinda, which Transgrid proposes to diagonally cross nearly 6 km with at least 9 structures on it, as well as 2 bridges on the access track. The easement with the power line on it will be clearly visible from most of the rest of the property. We have strong objections to the building of this transmission line. We are members of UDAG (Upper Dumaresq Action Group), UDEN (Upper Dumaresq Environment Network) and the Mingoola Progress Association. We fully endorse the submissions put forward by these groups as additions to our individual submission.

In the light of the current political climate, it seems extraordinary that any government could be considering a proposal which is clearly against current thinking (focussed on reducing demand and upon energy efficiency and the use of renewable energy). To quote from the Government leaflet *What a carbon price means to you*, "the world is moving to a clean energy future". Surely the independent body the Government will create, the Climate Change Authority, would advise strongly against such a project.

It seems ridiculous that monies raised from a Carbon Tax would be offsetting a massively expensive proposal which would be responsible for the release of a massive amount of carbon, both in the production of power, and the carrying of it, to say nothing of the cutting down of huge numbers of trees and bushes in its construction.

With the enormous amount of money focussing on the research and development of geo thermal and solar power, as well as wind power and wave power, one can only wonder if the future of the coal powered electricity industry is very safe at all. Taking the carbon out of energy production will be the technological challenge of our time. One cannot turn on any form of media without hearing

eminent scientists agreeing on how Australia ought to be heading on energy supply and consumption. The recent publication of the Flannery Report makes it clear that as a nation we must do something about reducing carbon emissions. The cost of electricity is currently being driven upward not by a carbon tax, but by the cost of infrastructure. The potential cost of carbon taxing may well bankrupt the coal fired energy producers in the future, which would in turn render this line unnecessary. Transgrid has confirmed that the project will have no further impact on consumers' price increases outside the increases already confirmed by the AER. However, it has not confirmed that the cost of the project has already driven up the cost to consumers. In other words, we are already paying for infrastructure we do not want and have not agreed to. Furthermore, it has not been deemed acceptable to the Planning Department.

The building of such infrastructure requires at least a 25 year life for it to be viable, and there is no forward planning which could guarantee that life span for this infrastructure. Transgrid's proposal says it will have a 50 year life. In 20 years time, experts agree that the sources and infrastructure supplying households could look very different from today's models.

Not only that; but the millions of dollars which Transgrid is proposing to spend, could be better spent on building and encouraging more environmentally friendly electricity supplies. The network system favoured by Transgrid is totally outdated. Clearly, also, the stated cost which was based on finishing the project by 2011, is now much higher than the original costing (although Transgrid provides no figures on this). Not only that, but with the advent of the Carbon Tax, materials used to build the line will be more expensive. Transgrid has made no effort to update their costing of the project, or if they have, they certainly have not made it public.

1. We contend that there are much cheaper alternatives available to the NSW Government, the tax payer, and at the end, the consumer. The amount of network support required is not justified
2. the construction of the transmission line is not the least cost alternative

(See expert report from Sustainable Futures submitted by UDAG)

NON COMPLIANCE

We are members of a group (UDAG) which made a complaint to the NER about Transgrid's non-compliance with mandatory procedures, and the NER published a deeply critical report of the proposal. We are at present (through the Information Commissioner) pursuing the reasons why they did not demand the proposal to be withdrawn completely. We have some of the reasoning as a result of our submitting an FOI request, but some was not available.

Surely the legislation which protects electricity supply and gives Transgrid the right to build could not be held up if the proposal was not satisfactory according to its own legislation?

The AER's letter of 22 December 2010 states that the AER's decision not to require TransGrid to comply with clause 5.6.6 is based on the belief that "a fundamentally different outcome was unlikely" and that this conclusion was reached because the RFP "contained sufficient information to enable prospective providers of non-network (and network) solutions to formulate alternative options."

Since the RFP did NOT seek proposals for alternatives to the construction of the 330kV line, how can the AER possibly maintain the RFP enabled prospective providers of non-network (and network) solutions to formulate and submit alternatives to the construction of the 330 kV line? This is simply and plainly not true!

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give preference to an investment option that would increase their asset base or otherwise suit their commercial interests, rather than reflect the public interest in an option that is most efficient.⁵

NEED

As we have many times pointed out, Transgrid's argument that the proposal is necessary because of a "need" is quite ridiculous in the light of changes in renewable energy suppliers, and energy efficiency. The UTS report clearly supports that electricity does not have to be supplied over long lines carrying coal fired power, which lose up to 15% of their power in being transported,

Not only that, but we have demonstrated the statistics and maths used in the proposal to be incorrect, and did not prove that the need exists. If anything the need is reducing.

They have then started to talk about "peak demand" as the reason for building. It does seem incongruous that a government would spend such a huge sum on a possibility of need for 3 days of the year – this possibility being exactly that.

Also, as the cost of electricity climbs, the use of electricity will decline because consumers are more careful with their usage.

While TransGrid forecast an increase in peak demand of 46% between 2008 and 2017, demand has actually decreased for the past 3 years. We object on the grounds that the need by Transgrid has been exaggerated, and that in fact a do nothing approach would be the best option. (See expert report from Sustainable Futures submitted by UDAG)

NORTH COAST ENERGY FORUM

The inaugural North Coast Energy Forum was held in Bellingen in 2010. It was an interactive event that sought to lay the foundations for a regional approach to meeting stationary energy needs, which make up 40% of Australia's greenhouse emissions.

In 2011 the NCEF was held in Mullumbimby on 3 June. About 100

people explored how the NSW north coast could meet more of its stationary energy needs through a mix of reducing and managing demand, improving energy efficiency and increasing the local generation of renewable energy. It was very popular, and received a lot of local and media interest. More information on it can be found at <http://www.ncenergyforum.org> .

It was organised for the benefit of dwellers in the very area which the Transgrid proposal is meant to “benefit”. Dwellers in the area are traditionally very environmentally conscious, and are likely to not condone building something which transports coal-fired power at such a huge cost to the environment.

As well, the North Coast Energy Forum: the Sustain Northern Rivers collaboration (www.sustainnorthernrivers.org) is currently investigating funding opportunities to develop a regional energy strategy to transition to a low carbon energy economy in this region.

We object to the proposal because it clearly does not express the regional objectives.

COAL SEAM GAS FIND AT CASINO

The needs of the near north coast could be supplied by coal seam gas from Casino, which apparently has enough to supply the area for a long time into the future. Very little has been said about using a cleaner source of energy at the place where it is needed. Transgrid clearly is supporting coal fired energy sources at the expense of the environment. The shift towards localised and centralised power supply in other countries has been lacking in Australia.

Enough gas has been found by Metgasco and Red Sky Energy to power the whole of Australia for 6 months (based on the companies' 2P/2C figures, ie 50% probability), and far more than enough to account for any increase in demand on the North Coast by 2017. It would be extraordinary if the coal seam gas at Casino were exported (which would require the building of a pipeline across areas of EPBC, and in an area where the residents are very aware of environmental concerns and would no doubt object

furiously.) As far as we are aware, however, this power station will be built.

The cost of power since the Eastlink Senate Report was written (1995) has risen massively, so one really can't say that there has been greater efficiency at all as a result of interconnection. As well, the only beneficiaries of the scheme appear in the long term to be the coal mines, the power generator suppliers, and the carriers – notably Transgrid! And, as far as a competitive national electricity market is concerned, Transgrid has no competition at all, which leads it to make arrangements with the power generator suppliers for its own interests. Clearly this must be the reason why the requests for RFP's are on such a low priority, and are not properly investigated. The monopoly situation Transgrid enjoys as the carrier has created a situation which may well have forced prices up.

Transgrid's primary business is the building and carrying of coal fired electricity, and their proposal reflects their main interests. They have a conflict of interest in that they cannot propose a project and weigh up the benefits of alternative supplies and demand management adequately.

One would have to ask the question why a planning proposal from Transgrid completely ignores cheaper and more cost effective, and equally reliable methods of supply, thereby not complying (see objection and commissioned report from UDAG), in order to build an ugly and expensive power line at the expense of landowners who have spent their lives trying to protect the land they live on.

LAND USE PLANNING IMPACTS

It glosses over the current use of land, as something that won't change. Access tracks will be an ongoing burden since we are already experiencing difficulty with unauthorised persons entering our properties. It does not adequately address the issue of health effects – farmers will have to work close to the line, and will have no choice. The effect of EMF's on cow and sheep fertility, and to crops grown in proximity to the line has not been properly researched. Future agriculture restrictions (centre pivots etc) are well known. It does not take into account any future subdivisions and land use and the lines effect on these.

Access tracks have not properly been consulted on with affected landowners; indeed for many of us our first knowledge of new tracks into our properties came with the recent publication of the Far North NSW Transgrid URS Project.

We have recently restored the shearing quarters on our property and were beginning to set up an eco-tourism business, which included using as a camp site the very beautiful area which the proposed easement line passes over. Many people already use that area to camp with their families – next to water, safe and has many varieties of bird and animal life, many of which are rare or endangered. Bird watchers in particular are drawn to that site.

That business will be impacted severely by the power lines overhead.

THE SOCIO-ECONOMIC IMPACTS

RUR AL LANDHOLDERS

It is unfair and inequitable that the proposal involving supply of electricity to the near North Coast should be at the expense of rural landholders, for whom the supply will never be of any practical use since it will not supply to any of the landholders. The worst of it is, electricity prices have already risen, and will in all likelihood rise more. As Allan Jones has said (2010) rural landholders should not be sacrificed by these sorts of infrastructure proposals. The damage and impact on our community (already struggling) after years of drought, bushfires and now floods will be catastrophic.

We personally have faced economic hardships over many years, and the development of an eco-tourism business was an idea for which we had high hopes of success, and which is now severely impacted. Many of those who have already stayed on Moorabinda have told us they may not return if the lines were there.

Transgrid points out that there would be some temporary flow-on benefits to the local community during power line construction through expenditure by work crews and subcontractors. Expenditure would include purchase of fuel, equipment, services, haulage, and construction camp supplies. This is hardly likely to benefit our local community – we do not supply any of those.

Such temporary benefits (to the local town 70 km away) would be outweighed by a detrimental impact, especially by heavy construction vehicles which would use our local road and farm access tracks. Who is going to repair and maintain our existing minor road (Reedy Creek Road) after heavy Transgrid vehicles and trucks loaded with steel materials and machinery, travelling on them has worn them away? We can't see the local shire council doing a great lot as we've contacted them on several occasions, asking for a grader to repair our road, but have hardly seen them at all. Roads are already a disaster after the January floods and we have made many complaints to the local shires. We are currently missing 3 bridges between the Beardy River and Tenterfield, and potholes in the road make driving extremely dangerous.

Our own property access roads would be badly affected also, and it is unclear as to whether Transgrid would maintain our property access tracks after building, let alone during it.

ECONOMIC INEQUALITY

Recent protests around the world have highlighted the impact of economic inequality on society. This proposal would certainly highlight this issue in our valley. Rural and urban dwellers are very tired of the effects of big business decisions which impact negatively on their socio economic and life well being.

To comply with the NER the line must be built with the greatest net economic benefit to consumers and producers. I believe this implies also the least negative impact upon those it directly impacts on its line. The economic benefit to us as land holders is nil, with a prolonged negative impact on our economic viability, and it is inequitable that we should have to suffer to benefit the sale of coal fired electricity.

We object on the grounds of economic inequality.

LAND VALUES

Transgrid undertakes to compensate landholders with a monetary amount. However, this monetary amount IN NO WAY reflects the loss of value to landholders, or the future saleability of their

landholdings. Already many sales have fallen through as a result of the proposal as well as one of our immediate neighbours. We have had to suffer bushfire and serious flooding cannot afford to have the value of our property seriously diminished.

Not only that, but land valuations done by Transgrid do not reflect future land valuations should properties be subdivided.

Whereas, in past times, land values perhaps did not diminish as much as a result of power lines being built over them, there is now much more public antipathy, which makes the land far less valuable. Many landowners are relying on their land values as their superannuation, and cannot afford a drop in value of any kind, let alone the dramatic one from this, or in fact the possibility of being unable to sell at all.

In North Queensland I understand that land valuations dropped by as much as 2/3 after the line was built.

Once built, the value of the land can never be regained, nor can the environmental damage be undone.

We object because proper compensation is not being offered to our neighbours, and we assume it will not be offered to us either.

ANIMAL HEALTH EFFECTS

No study to my knowledge has taken place, but there is anecdotal evidence of still born calves, and other health problems occurring in paddocks where cattle graze under lines. One issue unresolved is whether the lines will affect the price of cattle and other livestock grazing under the lines, especially if research shows that there are definitely health issues for animals in proximity. In any case, there is likely to be a consumer backlash towards our products, since consumers are increasingly wishing to buy organically grown products (which in our own case we currently supply). We can well do without another threat to our beef industry ... we must have a written assurance from Transgrid that we will be satisfactorily compensated for losses of income should it subsequently happen that stock that have been subject to Electro-Magnetic Radiation become unsaleable. There may also be an economic impact on crops grown close to lines in the future.

There is also no research on the health effects on the rare and endangered species living across the proposed easement.

We object because it may impinge on our income, and the proposal offers no evaluation of our future economic losses.

TENTERFIELD AND INVERELL SHIRES

As far as our shires are concerned the line offers no net gain to the shires as a whole, not even improved supply, and in fact will be detrimental in terms of land values dropping, and rates therefore falling. It will also impact upon our blossoming tourism business.

ECOLOGICAL IMPACTS

Reliance upon previous knowledge of an area rather than actually assessing what is present, is evident in the Biodiversity Report published by URS. Moorabinda has never been mapped by expert flora and fauna experts, and the proposal relies on poor methodology in its assessments.

EPBC

All of the area over which the line is currently meant to pass are areas of Environmentally Protected Bio-Diversity Communities, with, as the name by definition, critically endangered wild life and plants. This will require signing off by the Federal Government, and the current government will find themselves under pressure from environmentalists to preserve these unique areas.

ALL of the area affected in our property is covered by EPBC, in fact 3 different types, although Transgrid only identifies 2. *White Box Yellow Box Blakely's Red Gum Grassy Woodland* and *Derived Native Grasslands*. The third, *Dry Rainforest* also occurs on the easement in our property, (within and adjacent to the creek beds) but was not identified.

Box Gum Woodland occurs, and there is probable underestimation of the area of this community, for the reasons outlined in the expert report, making it likely this proposal will have a greater impact on the extent and condition of this EEC and CEEC than indicated in

the URS report. The underestimation of this community is an important shortfall in this report.

Of no fault of the EIS but since this draft has been in the making some other threatened communities that could occur have been listed on the TSC Act such as *Ribbon Gum - Mountain Gum - Snow Gum and Inland Grey Box*.

New England Peppermint and Fuzzy Box may occur but was not searched for as a community. From advice available to us, it would certainly occur closer to Tenterfield.

The proposal's environmental impact survey is very inadequate and does not follow proper sampling methods. The sampling methods used during the flora and fauna survey were very inadequate, and we think sometimes done from a plane, which flew low over our area. *Dry Rainforest* is one threatened community found in our region, but is missed out. Departmental guidelines for threatened species surveys were not followed adequately. It has not identified several species of flora and fauna protected under the Act which appear within the proposal's easement.

On Moorabinda, we know for a fact that Woodland Birds such Brown Tree Creepers, Grey Crowned Babblers, Squatter Pigeons and Diamond Firetails have communities within the easement. Birds of Prey such as the Red Goshawk, Spotted Harrier, Little Eagle and Square Tailed Kite are in the easement as well. We see bitterns near the creek, and there is a community of Black tailed Cockatoos as well. The Tenterfield Birdwatching Guide has been compiled with observations on Reedy Creek (Moorabinda) and Roseneath, and lists many bird species listed under the Act as rare and vulnerable, as found here. Naturally this list is not exhaustive, and is constantly being updated.

The Spotted Tailed Quoll being nocturnal is not often seen, but we have seen them several times. Of more importance, we have found scats and tracks which belong to them. Bush Stone Curlews can be seen and heard frequently. There are several varieties of honeyeaters, all protected. Frogs are not mentioned much at all in surveys, but there are many different varieties in the creek. Koalas are seen infrequently (but are present), and scratchings can be

found along the easement area. Various varieties of bats and flying foxes exist in the study area but were not investigated. Various different native mice are found in the study area. We have at least 3 different types of owls (all protected). We have many varieties of small parrots, gliders, wallabies small and large, kangaroos, and snakes. I could go on listing, but my point is that the survey of the area was very inadequate. We regard the area of our property over which the easement will run as an area of potential National Heritage, because so many rare and vulnerable species exist within it. Almost every species expected to be found in the area is there, as a result of its never having been disturbed by the landholders who have owned it for the past 150 years. **One option would be to gift the entire area to National Parks in order to protect it.**

Despite these limitations, the fact that according to the report many of the areas conform to the minimum condition criteria, using a quadrat 60% smaller than that than required by SEWPaC for identification of the CEEC (ie 0.04ha instead of 0.1ha), indicates the condition is likely to be good to very good. This conclusion is supported by the community descriptions (Section 5) which lists dominant groundcover species in a number of these communities as; *Themeda australis* (Kangaroo Grass), *Poa* spp (Tussock Poa), *Cymbopogon refractus* (Barbed Wiregrass), *Bothriochloa biloba* (Lobed Redgrass) and *Microlaena stipoides* (Weeping Rice Grass). Additionally these descriptions indicate the presence of a number of forbs including; *Wurmbea biglandulosa* (Early Nancy), *Bulbine bulbosa* (Native Leek), *Glycine clandestina* (Twining Glycine) and *Ranunculus lappaceus* (Common Buttercup). Generally speaking these are grazing sensitive species which are quickly lost from good condition remnants under inappropriate management, which supports the careful management practices which we and previous owners have practised.

The health effects on native wildlife from EMF's, many of whom are rare and endangered, have never been studied. The proposal does not identify this as an issue at all. Indeed, at a public meeting in Tenterfield, a Transgrid employee said birds were known to nest on the line. Naturally, he would not provide an answer when asked how many live fledglings hatched.

Weeds and future erosion on our properties has been identified as a future problem by them, but the proposal does not adequately

address how much future work will be done over the easements life, and it is likely that landholders will have ongoing issues with faults which occur and Transgrid's obligations being fulfilled.

Clearly, in the case of the Bonshaw to Lismore Line, Transgrid drew a line on the map and had no idea what it actually crossed over. On the original proposal, it went over houses, sheds and of course it still crosses areas of national environmental significance falling under the EPBC Act. They have not changed their practices here either, in that the siting of the position of the line took place well before any EIS (see Senate recommendations into the EASTLINK project attached). Their choice of easement was clearly on economic grounds, and as engineers, what would be the easiest and cheapest for them. The choice of easement is another example of sloppy planning with disregard for areas of national significance.

We as landholders are very concerned about the impact of noxious weeds, fragmentation of habitat, erosion, and loss of trees will have, and fear the building of access tracks will give easier access for shooters and hunters who have no permission to be there. We also strongly object to its crossing areas falling under the EPBC act.

The power authorities have acknowledged that some environmental damage will occur during construction but they believe that minimal impact construction practices will prevent any serious damage and that, after the construction phase is complete, rehabilitation of disturbed areas will ensure that the impact doesn't continue. On our soil types, any disturbance, however minimal, requires ongoing work for years to remove the damage. Our fear is, that any rehabilitation work will be slipshod and not on-going, and we will be left with the expense of rehabilitation, working underneath the power lines (and where is the prudent avoidance there?) We would probably have to spend months on literally hand weeding along the line (and what would be the effects of EMF's on us then?)

Indeed, for many landholders, the droughts, floods and bush fires have highlighted the fragility of the environment in which we live. We have struggled to retain ground cover, to reduce the potential

for erosion, and to protect our farm from the vagaries of the weather. We have protected the EPBC areas to the best of our ability, and are proud of the many and varied rare species of flora and fauna found here. But while we can accept the impact of these weather events, because we have no control over the weather, we are at a loss to understand why anyone would intentionally place stress on the environment in which we live, when there appears to be many more benign and globally desirable alternatives.

As practitioners of environmentally sustainable farm management practices, we are appalled at the thought of having this line foisted upon us.

As stated, the sampling methods used during the flora and fauna survey were very inadequate. The young ladies who came to our place spent a couple of hours here, in the middle of a hot March day. On our property the line is mapped to cross several kilometres. The whole of the proposed easement was not studied due to time constraints enforced by the Transgrid official who came with them. Any thorough environmental impact study would have spent a considerable time looking at what was known to be a significant area. The Transgrid employee accompanying them, was rushing them, and did not give them time. He scoffed when they found koala scratchings (which we know exist in the corridor). The young ladies were not experts in this kind of landscape, and I personally showed them several species which they were unable to identify, since they did not know what to look for. I also lent them a reference book (which they were unaware existed) on flora species found in the area (*Native plants of the NW Slopes of NSW Traprock Country* by Lyn Lacey).

We are also concerned that that the areas of EPBC will no longer be regarded as EPBC simply because of the building of the line. These areas need protection since there are so few of them left which can be classified as EPBC's. It is a Catch 22 that these communities exist because they have not been damaged. This would also impact on the value of our property, which is in part because of its environmental classification.

However, Transgrid recognises that removal of some vegetation will be unavoidable in order to ensure the safety of the community and the reliability of the electricity supplied. Transgrid will also offset this project by developing an offset strategy in consultation with State and Federal government departments. Transgrid will also source biodiversity credits through a market

mechanism to offset any biodiversity lost as a result of the project. These offset actions will help protect threatened species and promote biodiversity. (The Hon Duncan Gay Hansard 13 October)

I note that they will “develop” the strategy – what they don’t say is that this is a government policy as yet unwritten.

I fail to see how you can offset actions when the habitats lost are irreplaceable. As for credits, what comfort is that when you’ve lost the irreplaceable?

In 2010 we were flattered by a visit from two eminent botanists from the Sydney Botanical Gardens collecting seeds for the Millenium Project in London. They laughingly said they could have collected everything they were looking for from the region from our property if they had come here first! Not only that they were fascinated in their quite brief visit by the flora, and they said that it was an area of great interest because not only do we have our own species which has developed *Eucalyptus caleyi* subsp. *ovendenii* (Ovenden’s Ironbark) on Moorabinda with a few trees on adjoining properties, but also it was very likely that there were other species yet to be identified due to the interesting geographical changes in land, and the protective land forms. The Ovenden’s Ironbarks were listed as vulnerable and we understand may be raised to endangered. Some were identified on the proposed easement.

I quote from a letter from the experts, John Hunter and Wendy

The report from our reading acknowledges the need for a biodiversity offset strategy to compensate for vegetation and habitat losses however this strategy is yet to be developed. It is therefore impossible to assess whether any proposed offset will adequately compensate for the biodiversity losses that will be accrued from this proposal. It is our opinion until a Biodiversity Offset Strategy is developed no effective assessment of this proposal can be made by an approval authority.

This notwithstanding, there are questions regarding how effective any offset will be for EEC and CEECs. Given that these communities are generally listed under legislation because they have suffered significant declines in extent and condition. In the case of Box-Gum Woodland less than 10% is estimated to remain nationally in all its various conditions. It is therefore questionable whether the removal of any further areas of this community can be adequately offset.

Generally offset strategies propose the acquisition of good quality or degraded areas of the community and a subsequent change in management from production to conservation outcomes. Often when degraded areas are acquired the strategy will include replanting/rehabilitation. In both cases the theory is that at some future date (usually unspecified), there will be an increase in the extent and condition of the community. However, the reality is that in the short to medium term, under either

scenario, there is a net loss ie areas of the EEC / CEEC are cleared. It is also likely that in the time lag between the clearing and when the offset area finally achieves similar habitat values to those lost (for hollow-bearing trees 140 years or more) local species extinctions will occur, particularly in fragmented habitats.

Additionally, species which live in the habitat to be cleared can't simply move into what habitat remains, as the habitat that remains will already be occupied. It is also highly unlikely that the resident fauna will readily share limited feeding and breeding resources with the clearing refugees.

In summary there are significant risks in any offset strategy for biodiversity.

A major complaint with the URS report is that it relies on old surveys of flora from like areas. The people doing the surveys for this proposal were simply too inexperienced to identify what was here, let alone what might be here and has never been identified.

I would like to make it clear that I do not blame the environmental surveyors at all for their survey. The Consulting firm which sent them (URS) should have been far more aware of the regulations governing such surveys, and the type of expertise necessary in order to do it properly.

We therefore object to the proposal on the grounds that the URS Biodiversity report is inadequate for approval authorities to effectively assess the impact of the development. We further contend that the state of the protected communities on the property Moorabinda and that of our neighbours is in very good condition, which would render it impossible to compensate for loss.

GREAT DIVIDING RANGE

The line passes over the Border Ranges which has been designated as a wildlife corridor and a World Heritage listed area, in order to protect species along it. The line would greatly impact upon this.

We object on the grounds that as a World Heritage Area it should not be impacted by this proposal.

EA

The Publication of the report and the Planning Department's permission to publish because of its acceptability is known to us. The Planning Department must have serious misgivings of it own.

We feel strongly critical of assessments done just on our own property which were not thorough, done on a time constraint, done under the supervision of a Transgrid official making it difficult for the assessment to be done freely and fairly, nor done by experts in the field. On our property the entire corridor passes over areas of EPBC and areas of heritage significance, and it has not identified many threatened species or Dry Rainforest EPBC which occurs in the creeks.

HERITAGE IMPACTS

We do not believe the line was adequately surveyed for aboriginal heritage, and Kamilaroi people were not consulted. The area we live on is Kamilaroi, and this is not indicated in the report.

As an example of sloppy research, or compliance, no Aboriginal people were invited to inspect the site on our property, even though it is traditionally known to be a site of considerable importance. A student from a University (not Aboriginal) came to do the survey (for a couple of hours), and I felt that my knowledge of aboriginal customs and places might have been far superior. In any case she failed to identify anything, even though she was standing under a marked tree at one point.

Aboriginal elders from the Kamilaroi have been contacted, and will be making an objection at a later date. They have been unable to bring their group since one of the members has been ill. However, they are grateful for our offer to give them access to the site affected which is one of significance to them. We have further invited them to make use of the area at any time in the future.

My family has had a long connection with this property since 1928. The area was known as a Women's Place – a birthing place, and there are marked trees and scatterings both on the easement and very close to it as well as on a proposed access track. Aboriginal elders have since verified this as a held belief, even though it has not been verified, either by themselves or by URS. We as a family have always respected the "secret" aspect of this and respected

aboriginal custom in not making it public. I told URS this information because I felt I should protect the sensitive nature of this area, and yet, for a significant aboriginal site, they only sent a student who was hardly expert and definitely being influenced by the Transgrid employee who brought her. How could anyone make a decision without a conflict of interest in that situation?

We object on the grounds that a proper assessment has not been made of the Indigenous Heritage issues.

HAZARD AND RISK

HEALTH

The effects of power lines on human and animal health are increasingly considered a danger. As more studies are completed, scientists are increasingly aware of the dangers. Some studies are fairly conclusive in linking health problems with high voltage power lines (childhood cancers, Alzheimers Disease) and researchers surmise that as more statistics become available, there will be no doubt . In the future, the NSW Government is running a huge risk of lawsuits claiming negligence. Legal advice obtained by us suggests that the building of anything which is known to pose a threat to human health in the future is a huge gamble to be undertaken by any government. (see below).

Future Class Actions for taking the Environmental or Toxic Risk

Corporations, Public Authorities (Governments), and individuals may in future face a potential liability for running the risk of environmental or toxic harm.

Statements such as “the jury is still out”, “the evidence is inconclusive”, “there is some evidence that it could be harmful” are often used by scientists and other experts and repeated by lay persons to describe the current state of knowledge on a particular environmental or toxic risk.

Where the evidence is inconclusive or there is some evidence of risk (even in the face of general expert opinion denying the risk) courts may decide in future that it was negligent to ignore that risk where the consequences could be horrendous and affect the health of many. This is especially so where there were reasonable alternatives available which would avoid the risk.

Courts would be likely to require those responsible for the risk to have taken a long term view of the potential harm, rather than a short term economically efficient decision to incur the risk.

Whether to permit or place power lines near houses or the establishment of residential housing near existing power lines (or rubbish dumps); the drinking of recycled water; the use of mobile telephones; smoking while pregnant, may raise issues of potential risk. This is not an exhaustive list.

Where clusters of cancers or other ailments are discovered and statistics would negate the likelihood of mere coincidence, courts may readily find negligence if the risk of environmental or toxic causes of the cluster is ignored, even if the test results provide no evidence of an environmental or toxic cause. The relocation and removal of ABC staff from the Toowong studios in Brisbane where a cluster of breast cancers was evident, while maybe not an economically sound decision, was legally advisable and responsible.

(Dr Norman Katter is a lawyer and academic and specialises in negligence law)

Dr Norman Katter's mobile no is 0408185586 and he is available for further comment

The findings of the Senate Committee investigation into Eastlink 1995 made it clear that there was such conflicting evidence that the Committee could not make a finding either way as to the effects of high voltage lines on health. However, it is clear that prudent avoidance is not an option for landholders and their stock working under them, because they have no choice. Transgrid's insistence (in the new proposal) that it is no different to normal household emissions is like comparing apples with oranges – as well as the fact that there is choice within a household what appliances one will use. Graziers working in the paddock for long periods (as we must) will be exposed to a far higher risk, and do not have any choice.

In terms of health effects, there has been a real increase in anxiety and stress related syndromes to many people living on the proposed line. Mental health issues have become an increasing problem since the proposal was instigated. There is no recognition of the detrimental effects from fear and the impact this new proposal is clearly having upon individuals within our own valley, let alone the rest of the line. The extra pressure from severe floods and bush fires, and the subsequent damage sustained, has only served to heighten anxiety. We ourselves have suffered and had to seek medical advice as a result of the increased anxiety and stress of the threat of the line. Since the publication of the report and the request for objections, I personally have hardly slept and am extremely anxious. I find it difficult to about my daily business and work as a result of the increased stress and worry.

According to the Transgrid officials, to prevent build up of static charges, fences and gates in the vicinity of the transmissions line would have to be earthed. Does this mean when it's wet we can't fence? Does it mean we will be electrocuted if the earths are inefficient or removed by flood or bushfire? These are concerns which have not been addressed. We object on the grounds that we have not had a clear explanation of the impacts of static electricity, or even if this will cause bushfires.

We object on the grounds that health effects from EMF's have not been properly accounted for, and that our continuing good health is the subject of prudent avoidance, even though we have no clear definition of what that is.

We also object to the Project on the grounds that the proposal has severely impacted our health and is likely to impact more in the future.

LYSSAVIRUS

In 9.17 (D.16) it states only vaccinated ecologists with lyssavirus inoculation would handle microbats. **There is no such thing as a dedicated lyssavirus inoculation**, it is actually a rabies virus anti-toxin usually administered as an anti-dote. In any case the increase in Hendra virus is potentially thought to be a result of increased stress amongst the flying fox population, which exists in quite high numbers in this area. Obviously removal of habitat would greatly increase stress amongst the species, thereby increasing the risk of Hendra virus.

This is yet another example of an incorrect statement in the Proposal, and a threat which was not identified in the URS report.

BUSHFIRE THREAT

The recent findings in Victoria re the bushfires there indicated that power lines should not be built in areas known to be threatened by bushfires. This corridor passes through areas next to the Torrington Reserve in which bushfires raged out of control for weeks in December 2009.

The Transgrid proposal plays down the real threat of bushfires, places the likelihood as quite low, and does not take in to account the lack of a localized Crisis Management Plan for us as residents and landholders to access in the event of a crisis. In the December bushfires, the areas which were burnt out resembled those in Victoria – total annihilation of everything in its path. We have no local SES, and whilst we have formed a local fire brigade, we are hampered in that without a telecommunications tower we risk losing communications. As mentioned elsewhere, the line will adversely affect Radio, TV and mobile phone coverage (which is already poor). Since without a local SES to make decisions we are at the mercy of people making decisions without knowing what is happening, and too much of a time lapse.

Eucalyptus caleyi subsp. *ovendenii* (Ovenden's Ironbark) has bushfires as a listed threat to it on the Department's guidelines

We simply cannot risk a higher risk of bushfire from that which we already have. We object on the grounds that the threat of bushfires and their control has not been adequately assessed.

FLOOD RISKS

In the proposal it is stated that nowhere crossing the proposed line is there a likelihood of flood – untrue, Beardy River, Reedy Creek and Mole River would all have flooded across the proposed sites of pylons. In the January floods broken lines were cut and dropped in to the river providing a further risk which has since not been removed. Transgrid accepts that there is no rural floodplain management plan in use, and we would think that there needs to be one before a further impact from the line is put in place. They have not assessed for flood risk adequately. The area where the proposed easement crosses Woolshed Creek and Reedy Creek on Moorabinda has flooded 3 times in the past 2 years, and washed away all the fences within proximity of both creeks.

Long range forecasts are predicting the same and more for November and December 2011, and more again next year. We object on the grounds that flood mitigation effects have not been adequately addressed.

Dust and noise occurring as a result of large vehicles and road access will impact on our house, and that of our workman, Tom Boggs. We object on the grounds that, our day to day living will be severely impacted by vehicles passing on an unsealed road within 20 metres of our houses.

RADIO, TV AND MOBILE PHONE COVERAGE

Transgrid admits that these will be adversely affected as a result of the building of the line. We already have very poor reception in the valley (rarely more than 1 bar on a mobile phone, and very poor radio and TV reception). At a public meeting we were told by a Transgrid official we would just have to get bigger aerials. Two questions. Who would pay? And how can you carry a mobile phone around with a bigger aerial? It defies logic.

We object on the grounds our communications network will be severely impacted, thus affecting our lifestyle and our ability to report accidents, and bushfires and other life threatening events.

NOISE

The proposal states that there would be no major effect on households due to noise, vibrations or reduced air quality – we shall be quite severely affected, as will most dwellers in the valley. It will also impact on the rare and endangered species whose habitat is being destroyed.

The noise and vibration from vehicles, as well as the dust from passing vehicles on the unsealed Reedy Creek Road within 20 metres of our house would be insupportable for the period of time we would be affected. There is no compensatory measure they could make which would make their access less negative on our daily lives.

VISUAL AMENITY

Laws governing the effect of such lines on visual appeal of landscapes appear to favour those persons whose lives are affected by the sight of unsightly lines spread across the landscape. The proposal states that beyond a 1km view catchment

it is unlikely!!! to appear as a dominant visual element. The present Westlink line is clearly and dominantly visible from 10 km, so that's just rubbish. Any future sub divisions of Moorabinda would be affected by a drop in land value.

A photo published in the URS report of a house further down the valley belonging to the Hamel family as an example of how low the visual amenity effect will be, has shocked and upset that family by how grossly ugly it looks. Mrs Boggs who is a daughter of the Hamels and who lives on Moorabinda is extremely stressed by the photo.

We object on the grounds that there can be no measurement of how much the line is noticeable, because that is a subjective measurement and not an objective one. The URS report has not used acceptable methods of measurement of visual impact.

ROADS AND TRAFFIC

ACCESS AND TRAFFIC

Most land owners in the Dumaresq Valley have enough trouble with unauthorised shooters and piggers, and theft of animals, without extra road access along the line to provide these people with a highway through our back country which we cannot police.

The proposal states that within the Tenterfield LGA, the Bruxner Hwy is a classified State road, and the RTA has the responsibility to fund, prioritise and carry out works. **This is incorrect.** This is a Shire Road not a State road, and we have consistently complained, even before the floods, about the state of the road. Since the floods we have made representations on a personal and as a group (Mingoola Progress Association) about the dangerous state of the roads. This road is unsafe now, without a massive increase in large vehicles carrying heavy loads, as well as workers transport.

Three school buses operate Bruxner Highway from the start of the proposed line to Tenterfield (Bonshaw/Texas, Mingoola, and Tenterfield) Transgrid has said (at a meeting) they will not be using vehicles in the time zones for the buses, but how can we believe them? During daylight saving time, that would be 4.5 hours out of a day when they would not be moving vehicles. Normally it would be at least 3 hours on which the buses are on the road.

Who is going to repair and maintain our existing minor roads after heavy Transgrid vehicles and trucks loaded with steel materials and machinery, travelling on them have worn them away? We can't see the local shire council doing a great lot as we've contacted them on several occasions, asking for a grader to repair our road, but have hardly seen them at all. Roads are already a disaster after the January floods and we have made many complaints to the local shires. We are currently missing 3 bridges between the Beardy River and Tenterfield, there are 3 diversions, and potholes in the road make driving extremely dangerous. Our own property access roads would be badly affected also, and unsealed public roads such as Mole River Road and Reedy Creek Road, as well as the two roads accessing both sides of the Beardy River, which are inadequately maintained now, would become impassable. Even now if it rains a lot our neighbours at the back of Moorabinda (Maids Creek) cannot access their property.

We object on the grounds that the URS report has not adequately addressed these issues, nor has it been accurate in its facts.

CONSULTATION PROCESS AND COMPENSATION

Transgrid has paid lip service to a fair and equitable consultation process. The initial posting of their intention to build was done without affected landowners having the opportunity to object. We have only had this opportunity to object since the Planning Department required an EIS to be done. Much of their consultation they demand to be secret, which is not a legal requirement. Transgrid is still following the practice of one-by-one basis negotiations, and making landowners sign a privacy agreement with them to not disclose the amounts being offered to each landholder.

They say that few people registered complaints to them – mostly because early in the process it became clear that all complaints simply received the same rote replies full of the same twaddle and inaccuracy that we have complained of elsewhere. It was not worth the time and energy to complain. However, I think State and Federal MP's would have received a massive number of

complaints over the period of time. I alone have written more than 100 letters. During the period of the last NSW government, Ministers referred complaints to Transgrid who sent us the same rote replies That government relied upon advice from the very Corporation we were complaining about. I find it extraordinary that if you complain to a Government about one of their Corporations, that they ask for advice from the Corporation in order to reply. One would think a fairer process might involve independent advice.

It is worthwhile to remember that Transgrid exists to carry power, and would probably not exist if smart grids and local supply solutions were developed. They clearly have a vested interest as a Corporation to continue to operate in the way they were originally set up.

The compensation provisions in the proposal say they are fair, but the only side which agrees is obviously Transgrid itself. I have yet to speak to landholder who agrees with their valuations. Perhaps the ACCC could look into this, or the Dept of Fair Trading.

At present they are trying to intimidate landowners into signing agreements even though this proposal has not been passed by the Planning Department. They tell people it is ready to go, and they are only waiting for the signature on the piece of paper from the Planning Department, but that's a formality. I believe this to be a piece of supreme arrogance, with abnegates the rights of electors.

If the costing of the Transgrid proposal included proper compensation, and compensation for future land use, the cost would be more than double its advertised cost (\$270Million). In any case the future cost to the region (negative impacts and impeded land use) is not accounted for by the proposal. Compensation offered is inadequate in relation to land values.

Access roads consultation has been extremely poor or non existent. The compensation only deals with the easement and not with these other tracks being foisted upon us. Indeed in many cases (our own included) the first thing we knew about the access tracks was when they were published last month.

We object on the grounds that the consultation process has been inadequate, and that Transgrid has not followed the

recommendations of the Senate. (see Attached Eastlink report comparison)

PERSONS OTHER THAN LANDHOLDERS

People who rent, or live on properties on the line easement, or who live close to the line but do not own the land on which it is sited, will not receive compensation. These people will be affected in a variety of ways, from Visual Amenity, Health, Hazards, Traffic and Noise, just to mention a few. The democratic process gives these people a vote in local government, but Transgrid ignores their rights as citizens. It is quite inequitable that they should not be compensated for the negative impacts upon their lives, and the value of their land. The man who works for us will be very heavily impacted, and so far he and his wife have received no communication from Transgrid.

We object on the grounds that all persons impacted should have according to regulations been contacted.

SUMMATION

In short, the planning for this proposal is flawed. It does not comply with Planning Dept regulations. This proposal should be refused on the grounds of its' inadequacy. The cost of putting this proposal together has obviously cost the Corporation and by default, the NSW taxpayer, a lot of money. The proposal's cost is not just monetary and an extra burden upon the NSW tax payer, but also the effects upon our community have been very damaging.

By some spurious reasoning, the Proposal defines prudent avoidance of negative impacts as that which affects the fewest people. If one person is impacted negatively, that is still a negative impact, and there is no way we will accept being sacrificed in the name of prudent avoidance or, in reality, convenience.

Transgrid has clearly not taken any of the Senate recommendations into the Eastlink proposal 1995 report on board. It found many of their practices abhorrent and made many recommendations. Clearly they have not felt obliged to follow any of them (see attachment re Eastlink). This is clearly a flagrant

disregard for the Senate, and a problem in terms of best intentions when they make decisions regarding the building of infrastructure.

Legally, Transgrid has the power to make a compulsory acquisition. However, it is subject to two conditions:

ultra vires There is, of course, no question about Transgrid generally having legal power under the Act to resume an easement through freehold land. That said, if they have not complied with any procedural requirements that are a pre-condition to being able to use the resumptive power, or they don't comply with the processes under the Act itself, then this may give grounds for saying they are acting "outside of power".

mala fides Requires Transgrid to give objective and bona fide consideration to what is "necessary" to achieve the relevant public purpose. A court has no power to review Transgrid's decision on the merits in order to determine which is the "best" or "correct" decision, and can only interfere if the particular choice made by Transgrid was not reasonably and rationally open to Transgrid in all the circumstances.

We believe from the advice provided to us that neither of these two legal requirements has been met. The procedural requirements are at best poor, and as far as the public purpose is concerned; how can spending far more, for less public gain or purpose, be regarded as reasonable and rational? As well as having flagrantly disregarded the recommendations of the Australian Senate!

We as landholders affected intend to continue our fight against this proposal. We intend not to give in to the harrassment of Transgrid, and to continue to fight against the proposal with all the means available to us, both publicly and within the court system.

In conclusion, we call upon the Planning Department to not approve this proposal for all of the reasons outlined.

Julia and Philip Harpham

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0427749978

21959 Angelo Saccon of Tenterfield, NSW

I make this submission on behalf of myself and my family.

We are owners of the property "Riverview" 59 Beardy River Road, Bruxner Highway Tenterfield 2372.

The proposed 330kv transmission line between the Dumaresq substation and the Lismore substation will cross our property with 6 towers situated through it.

Concerns are as follows

1. Transmission line will be situated only 860 metres from current principal residence of the property and future development is now restricted.
2. Access category 2 access road is poorly and incorrectly designed due to practicality and topography (Volume 3 figure 3-2b of URS)

Access tracks need to be correctly located and defined by survey as the property is an EU Accredited business.

Angelo Saccon

21961 William Eastgate of Tenterfield, NSW

Please find my submission commenting on the "Environmental Assessment, Bonshaw to Lismore Transmission Line.

W. Eastgate
PO Box 584
Tenterfield 2372
NSW
Mob 0407439865
Email
eastgatewr1@bigpond.com.au

Dear Sir/Madam,

I submit my opposition to TransGrid's proposed Dumaresq to Lismore 330 Kv Transmission Line.

The construction of the transmission line should be abandoned for the following reasons outlined under the "Strategic Planning and Project Justification"

Strategic Planning and Project Justification

Strategic Planning

Strategic Planning should be undertaken using the framework for electricity supply in NSW and Australia. Essentially the power supply industry has been disaggregated into three components; generation, bulk transmission and retail. The claim is that this model promotes competition and consequently reduces the price of energy.

Because the supply of electricity is based on such a disaggregated model the strategic planning of electricity supply to the consumers must be based on that supply framework. Anything less can only be classed as 'Project Planning'. The planning process undertaken by TransGrid for the proposed line from Dumaresq to Lismore is for a project that has been initiated in isolation and with no visible strategic planning support. The 'Statement of Validity' confirms

my comments in that it provides a Project Summary which in turn lists only physical attributes of the project.

With the national, and indeed the global focus on CO₂ emissions and on the potential climate impacts TransGrid has been derelict in its duty by not strategically planning with the total energy supply chain considered. Simply asking other corporations what they think about the proposed transmission line etc does not substitute for serious and professional strategic planning.

Sustainability Planning/Conduct

Corporations, including Government owned Corporation, that have a social conscience conduct their business sustainability. For a company to conduct itself sustainably it must balance the economic, environment and social impacts of a project in accordance with its sustainability charter/policy. **TransGrid does not have a sustainability policy or charter** that is available to the public. Consequently it cannot and has not articulated the economic, environmental and social attributes of the project with the objective of clearly defining, justifying and reporting to the public the trade-offs made when evaluating the project. The approach and processes used by TransGrid may have been adequate three decades ago but are outmoded for contemporary standards now in practice.

Project Costs

The project costs are flawed because the cost to an individual or a property owner impacted by the proposed transmission line has not been included in the project costing.

The significant decrease in property values in the vicinity of the transmission line has not been accounted for. In fact, any negative impact on value of a property in the immediate vicinity of a transmission line or a property crossed by such a line was bluntly and categorically denied by the senior planners when meeting with TAG members in Tenterfield. This denial, in the face of clear evidence that property values do decrease casts serious doubt on the integrity of all aspects of the analysis and reporting related to this project.

It is clear that these hidden costs have not been included and that they have been transferred to individual landholders impacted by the construction and

long term presence of the line. Consequently, the real cost of the project will be greater than that stated and the cost of supplying power to northern coastal NSW is subsidized by the impacted landowners and communities in the vicinity of the transmission line.

Australian Energy Regulator

A report prepared by the Australian Energy Regulator in 2010 found shortcomings in the process conducted by TransGrid to justify continuing with the project.

Key areas of concern are that:

- there was inadequate analysis of network and non-network options
- neither the application notice (*April 2008*) nor the final report (March 2009) adequately examined the potential for material inter network impacts
- the final report did not summarise or respond to submissions on the application notice
- the decision to limit the Regulatory Test analysis to a single scenario was inadequately justified and did not meet the requirements to provide a detailed description on why TransGrid considered the asset passed the Regulatory Test

It remains unbelievable that absolutely nothing was done by the shareholding Ministers or Government to prevent the project continuing despite the report finding TransGrid's conduct and processes to be totally inadequate. If the regulator has no enforcement powers the responsibility to act on such reports rests with the owner, in this case Government.

NSW Government

If the NSW Government approves the project it will clearly demonstrate it is only interested in noting that superficial processes are followed rather than achieving strategic and sustainable outcomes of significant benefit to the NSW and Australian communities. It will clearly demonstrate to the people of NSW that the methodologies (particularly as they relate to strategic and

sustainability planning and justification) and the professionalism applied to justifying any future significant infrastructure project in NSW will be inadequate.

The strategic planning for power supply should be undertaken, or at least governed, by an independent body that will not benefit from the outcome. Companies such as TransGrid would then have the opportunity to bid for the right to develop and operate the infrastructure if appropriate and they so desire. Genuine commercial competition would then prevail and be reflected in the cost of electricity.

Without an **independent** strategic assessment of NSW's and Australia's future power needs and supply options the project should be abandoned as it based only on one component of the supply chain and will potentially add an unnecessary cost burden to Australian electricity consumers.

21963 (Name withheld) of east Fremantle, WA

I object to it.

21992 Phae Smith of Texas, QLD

We are the owners of the school bus run from Texas along the Bruxner Hwy as far as Zappa's (Dumaresq Valley Winery) serving both the Bonshaw and Texas schools. We object on the grounds that the road is already dangerous and we have made representations to both Tenterfield and Inverell Shires on the subject. It would be extremely dangerous to operate the bus run with large heavy vehicles, and the road condition is already so poor that it could not tolerate further traffic.

21967 (Name withheld) of TENTERFIELD, NSW

My name is Steve Alford a local Real Estate agent in Tenterfield. I strongly object to the construction of the Transgrid line from Lismore to Bonshaw. I believe there is a 30% decline in energy needs to this area as to what was predicted from the original proposal. There are other alternate renewable energy sources available. Since Transgrid has been brought to the attention of the general community, I have lost several sales and there has been minimised interest as purchasers were dubious of the proposed corridors and didn't want to buy in the path of the power lines.

21970 Neroli Endacott of Elanora, QLD

I object strongly to the proposed power line project!

It greatly disturbs me that this project is even being considered given the world focus is to preserve our natural history and caring for our environment.

My family and I have had the privilege of spending many a great holiday, visiting, often camping by Reedy Creek and enjoying the unique, tranquillity of Moorabinda Station for many years.

It is with great concern we learn that our now very special place is to be ruined by this power line project.

This activity could potentially cause the disappearance of much local wildlife and many species of plants and animals may never recover from the disturbance.

The outback's of Australia are the womb of life, home to half of the world's unique species of plants and animals.

We must prevent a social, economic and environmental tragedy.

Personally for our family, Moorabinda Station is the epitome of the outback, where you get to share the wilderness of Australia in its natural state.

My son was married at Tenterfield and their reception held at Moorabinda Station.

Family and friends came from many parts of Australia and also a big contingent from New Zealand

Years later, when we have gatherings, their time spent at Moorabinda Station still remains a major conversation subject.

I would NOT be happy to visit nor have my Grandchildren subjected to camping, playing or visiting the area with the loud hum of the huge overhead wires above and the danger below.

Code of Practice put out by the Government of each State advises:

People are harmed when a person or object gets too close to a line and a flashover occurs. About one in three accidents results in someone being killed.

Overhead power line contact is one of the largest single causes of fatalities associated with mobile plant and equipment.

Contact with live overhead power lines is a serious risk because any voltage that causes sufficient current to pass through the heart is potentially injurious or even fatal.

Contact with live electricity can also cause serious burns arising from the discharge of electrical energy.

Other risks include fires and explosions that may immobilise the equipment involved. You don't have to have a direct contact with a high voltage overhead power line to receive a fatal electric shock.

SIMPLY BEING TOO CLOSE CAN KILL!

PLEASE STOP THE POWER LINES PASSING THROUGH MOORABINDA STATION!

21972 David Harpham of Blue Mountain Heights, QLD

Firstly, I must declare that I have a family relationship to one of the parties objecting to this Transgrid proposal, and that I do not live in the vicinity of the proposed network.

My concern is based on an apparent mismatch between future power demands as suggested by Transgrid, and those of other reputable organisations....see the 2011 report of Rutovitz, Harris and Dunsta (University of Technology, Sydney).

The Envirofactor Pty Ltd also highlights deficiencies in environmental assessments conducted by Transgrid, and the efficacy of offset strategies.

I would ask that more scrutiny of the Transgrid proposal be undertaken to assess, firstly, its need, and, secondly, its social and environmental benefits, particularly to those directly impacted (rather than how its detrimental impacts will be reduced).

21976 Daniel l'Ons of Tenterfield, NSW

I object to the proposed Transgrid power line from Dumaresq to Lismore for the following reasons:

The proximity of the proposed power line to the north (<2kms) and west (<3kms) of Sunnyside aerodrome presents a significant hazard both to aircraft in the circuit and aircraft taking off to the west, in particular during periods of low cloud.

Aircraft taking off to the west in the event of engine failure will be severely compromised.

Future development of the aerodrome by Tenterfield Shire Council will be restricted.

I am a professional pilot and am very familiar with the Sunnyside aerodrome and its surrounds.

21978 Martin l'Ons of Tenterfield, NSW

My objection to the proposed Transgrid powerline from Bonshaw to Lismore is for the following reasons:

The proposed powerline will convey electricity that is produced predominantly from coal fired power stations when there is more than sufficient coal seam gas available at Casino to produce the required electricity for much lower CO2 emissions. Surely this must be a major factor in view of both NSW State and Federal Government objectives to lower CO2 emissions.

21986 Edward Hickson of edwardhickson@gmail.com

As the owner of "Monkstadt" , Bruxner Highway, Tenterfield I would like to submit my objections to the proposed 330 kV transmission line between the Dumaresq substation and Lismore substation, which will cross the corner of our property.

I fully support the submissions of the Upper Dumaresq Action Group, UDEN and the Mingoola Progress Association.

Like many landholders and residents in the area, I have concerns about the proposed transmission line and its impact on the environment, the residents and the resulting loss of value to landholders.

Furthermore I am not convinced there is adequate demand for power on the Far North Coast of NSW to justify such a large scale project. If the project is not even necessary, why should the environment, our health and our bank balances be left worse off?

Environment

The environmental destruction involved in building this piece of infrastructure is significant. There are environmentally protected birds and animals on our property whose habitat would be distressed if this project goes ahead.

I quote the report prepared by Dr John Hunter (Botanist) and Wendy Hawes (Terrestrial Ecologist) at the request of the Environmental Defender's Office called "Review of the Biodiversity Report - Dumaresq to Lismore Transmission Line" : "The assessment of the Dumaresq to Lismore 330kV Transmission Line as presented in the URS Biodiversity Report has in our opinion (a) variety of deficiencies which make it inadequate for approval authorities to effectively assess the impact of this development."

I do not see how an informed planning decision can be made on environmental grounds if the information on the environmental impact is inadequate. On a side note, I also understand that no Aboriginal people have been consulted by Transgrid, despite the area containing significant heritage importance to the Kamilaroi people.

Financial Hardship

I purchased Monkstadt in 2004 and have since spent significant amounts of money gaining approval to subdivide the property into new lots. The powerline itself will significantly detract from the value of the farm as a whole and will effectively leave the subdivided lots unsellable. The visual unsightliness, the negative health implications (whether perceived or real) and the ecological impacts will result in financial hardship and significantly impair our ability to develop eco-tourism in the area.

Transgrid has offered financial compensation but the amount proposed is so trivial that it goes nowhere near covering any of these losses in value.

Is the Project Necessary?

We do not believe that the demand for power on the Far North Coast of New South Wales has been accurately estimated.

TransGrid has forecast an increase in peak demand of 46% between 2008 and 2017. However over the past three years, demand has actually decreased. I believe Transgrid has exaggerated the need. It has been suggested that a "do nothing approach" would be the best option. (See expert report from Sustainable Futures submitted by UDAG)

In conclusion I strongly object to this proposal, and thankyou for your time reading this submission.

Yours Sincerely
Edward Hickson

21988 Simon Clough of Sustain Northern Rivers

Objects to this project

21990 Simon Clough of Sustain Northern Rivers

SUSTAIN NORTHERN RIVERS – SUSTAIN ENERGY GROUP

SUBMISSION ON THE ENVIRONMENTAL ASSESSMENT OF TRANSGRID'S 330kV
TRANSMISSION LINE FROM DUMARESQ TO LISMORE

PROPOSING SUPPORT FOR REGIONAL INITIATIVES AND DEMAND MANAGEMENT AS AN
ALTERNATIVE

24TH OCTOBER 2011

Introduction

TransGrid is proposing to build a new 330kVA transmission line from Dumaresq to Lismore, and argue that at \$227m this is the least cost option to avoid an alleged identified inability to meet reliability standards and a potential shortfall in transmission capacity in the NSW Far North Coast area, of 61 MW by 2016/17 (TransGrid 2011c, pg2-9)

This submission examines the range of local community responses to providing alternative renewable energy. It also examines the need for a major demand management program similar to the one TransGrid has implemented in other centres.

Finally there are proposals as to how TransGrid can create a more cost effective response to electricity demand than its current high cost proposal.

Executive Summary

There is intense community interest in creating a renewable decentralized energy system in the Far North Coast. This is evidenced by the four (4) significant community initiatives detailed here and the extraordinary uptake of photovoltaic systems in the region.

The Sustain Energy working group is not convinced of the need for the Dumaresq to Lismore transmission line. The figures provided by the Institute of Sustainable Futures (UTS) show conclusively that at minimum this project is nine (9) times more expensive than its less energy demanding alternatives and at a maximum twenty (20) times more expensive.

Sustain Energy does not believe that TransGrid has taken sufficient note of the following issues which could significantly affect electricity demand:

- the reports (Bloomberg) that large scale photovoltaic may have reached price parity with coal fired electricity,
- the likely decrease in demand for electricity from the impact of carbon pricing,
- Metgasco's approval for a 30MW gas fired electricity plant south of Casino,
- the failure of TransGrid to trial demand management in this region,
- the record up take of photovoltaics in this region.

We believe that TransGrid could much more effectively spend the money proposed for the transmission line in supporting regional organisations seeking to reduce nonrenewable energy consumption by 20% by 2020. We believe these community organisations in collaboration with TransGrid have the capacity and the passion to deliver better energy outcomes.

Who are we?

Sustain Northern Rivers (SNR) was formed in 2008 in direct response to climate change. It is a collaboration of 21 peak regional organizations (Appendix 1) working together to provide a local response to this global threat.

SNR is a collaborative platform that consults, collaborates and communicates.

Our aim is to empower local communities to become self-sustaining. Our focus is on food, transport, energy and behavioural change.

SNR is a network of networks, a collaboration of 21 of the major regional organisations in the Northern Rivers. The collaboration includes representatives from local, state and federal departments as well as regional community organisations.

Sustain Energy

There are four key areas of collaboration within SNR. This submission is from the Sustain Energy group. The Sustain Energy group has prepared a funding application for State and Federal governments. The rationale for the projects is provided in Table 1

Table 1. Sustain Energy has a full submission that can be made available on request.

Project	Rationale
Regional research	To make the transition to a low carbon economy and to calculate a regional carbon budget, we need to know which energy options are appropriate for this region and what industry needs.
Regional Carbon Budget	In order to reduce carbon emissions we need to know both the sources and magnitude of emissions in the region from various activities, particularly coal-fired power. It is also important to understand the value and potential of carbon sequestration as a strategy to offset emissions.
Carbon Emissions Reduction Program	Achieving significant and sustainable emissions reduction requires an integrated and targeted program that combines demand management and efficiency strategies with supply of renewable energy.
Renewable Energy Industry Investment Briefs	To enable the shift to renewable energy we need to determine viable options for potential investment from within and outside the region.
Regional Skilling for Change	Carbon emissions reduction requires new skills and behaviours for key stakeholders as well as consumers.
Monitoring and Evaluation	To ensure accountability and to determine effectiveness of programs for the benefit of future programs and other regions it is essential to have a robust and sustainable system of monitoring and evaluation.

Other Community Initiatives in Renewable Energy

The Sustain Energy working group has also been instrumental in conducting two “North Coast Energy Forums” in the last 2 years. The most recent forum was held on June 3 2011 at Mullumbimby Civic Hall. Over 100 people participated and included representatives from community; 50, industry; 10, government; 32.

The forum allowed participants to share ideas about how the North Coast might become more energy self-sufficient. A record of workshop discussions, including industry projects and/or new community renewable energy projects from existing or new groups has been established and presentations from the event are accessible via the NCEF website www.ncenergyforum.org

The agenda included:

- Local & external expert speakers on data, policies & trends
- Speakers on renewable energy options
- Interactive discussion with the audience
- Showcasing ideas and projects
- Speakers on related projects including Brunswick Heads Economic Transition Strategy
- Informing the governments and media of the event and outcomes.

See Appendix 2 for details of the publicity

The last Energy Forum also generated a group which is exploring renewable energy options for the North Coast. The aim of this group is to establish a community owned entity that will provide renewable electricity for the region

The Lismore Economic Transition Forum held on 20th September 2011 was attended by over 260 people who endorsed the priorities of the energy group formed at the forum. Extract from the Draft Lismore Economic Transition Strategy:

Energy Priorities

Priority One: To make the Lismore area as self sufficient in renewable energy sources as quickly as possible, thereby also obviating the need for an expensive new TransGrid extension to supply electricity from the coal fired power stations. The group encourages Lismore Council to develop policies and actions which support local energy production and to say „NO“ to the proposed TransGrid extension.

Priority Two: To minimise energy consumption in the Lismore area by increasing efficiency of buildings and infrastructure, appliances, transport and other energy uses.

Priority Three: To make the Lismore area carbon neutral including reducing green house gas contributions as quickly as possible by stopping coal seam gas development, and minimising, and eventually ceasing our demand for fossil fuels.

Photovoltaics

It should also be remembered that this region has been the leader in adopting photovoltaics with the Lismore postcode 2480 having the second highest installation rate in the state and many neighbouring postcodes not far behind

Installed MW PV Capacity 21.6MW (using 2.3 av. Install) 26.3 (using 2.8 av.install)

(http://www.trade.nsw.gov.au/__data/assets/pdf_file/0004/393664/AECOM-NSW-PV--connection-postcode-analysis.pdf).

ISF's (Rutovitz J, Harris S, and Dunstan D. 2011. TransGrid proposal for a new Dumaresq to Lismore transmission line: commentary on project need. Prepared for the Environmental Defenders Office by the Institute for Sustainable Futures, University of Technology, Sydney p12) submission suggests that these household systems could reduce peak demand by 7MW – 9MW.

Lismore City Council's Position

At its ordinary meeting on 11th October Lismore City Council passed the following resolution:

That Council make a submission in response to TransGrid's Environmental Assessment document on the Dumaresq to Lismore transmission line, with copies to the Premier, the Treasurer and the Minister for Resources and Energy. The submission should question how the \$227m transmission line can be justified when:

- There has been a state wide decrease in electricity consumption of 2% per annum over the last 2 years (SMH);
- It can be reasonably anticipated that the recently introduced carbon pricing legislation will further reduce the demand for carbon based electricity;
- Latest research shows that large scale photovoltaic energy generation is now at price parity with coal generated electricity (Bloomberg);
- The Northern Rivers Region has by far the greatest uptake of photovoltaics in NSW over the last 3 years;
- Neither TransGrid or the electricity retailers have tried to institute any form of demand management to reduce electricity consumption in this region; and
- There has been no consideration of any large scale decentralised energy systems for this region.

The submission should suggest that the money budgeted for the line be used to promote demand management or a significant renewable energy project.

It can be seen clearly from the breadth of these initiatives that there is a very strong desire by many people in this region to create a distributed renewable system and/or undertake a significant demand management program.

Demand Management

Demand management options include peak load management such as greater use of time of use pricing, which sends a price signal to consumers to switch usage from times of high tariff. It also includes direct load management by, for example off peak water heating or cycling of air-conditioning. A trial in Queensland showed that a reduction of 1 kW per home in the peak air-conditioning load was achieved by remote cycling of compressors (Effeney, 2009 quoted from the ISF study).

"TransGrid is a market leader in demand management. TransGrid delivered the largest demand management project ever undertaken in the National Electricity Market. During the summer of 2008/09 TransGrid implemented a 350 Mega Watt demand management solution for the Newcastle, Sydney and Wollongong areas." (Lismore City Council Briefing Notes – TransGrid)

If TransGrid is capable of these significant energy savings elsewhere it begs the question why hasn't TransGrid done the same for the North Coast region? A region that is prepared to discuss renewable energy solutions and to take action by taking significant steps in creating renewable energy supplies.

Other Sources of Energy

Metgasco and Red Sky have advanced plans for creating gas fired power stations that will generate 57MW of electricity. These stations would be ideal for providing peak electricity to the Far North Coast and obviating the need for the transmission line. Sustain Energy has serious reservations about the coal seam gas elements of these power sources and believes the precautionary principle should be applied.

Conclusion

“..... the construction of the power line would be about nine times more expensive, even at the highest requirement for network support put forward (61 MW). If only 22 MW is required, construction of the new power line would be more than 20 times more expensive than the non-network options.” (Rutovitz J, Harris S, and Dunstan D. 2011. TransGrid proposal for a new Dumaresq to Lismore transmission line: commentary on project need. Prepared for the Environmental Defenders Office by the Institute for Sustainable Futures, University of Technology, Sydney p9)

The ISF paper clearly dispels any doubt that the TransGrid proposal is a reasonable response to electricity demand on the Far North Coast. Under these circumstances the Sustain Energy group believes that it is incumbent on TransGrid to undertake alternatives. We believe TransGrid should immediately:

- Shelve its transmission line proposal,
- Collaborate with community organisations which have shown the commitment and capacity to reduce the areas dependence on coal fired electricity,
- Institute an effective demand management system that uses both technology and education,
- Ensure support for renewable forms of energy in the region.

Appendix 1

- Arts Northern Rivers
- Ballina Shire Council
- Byron Shire Council
- Catchment Management Authority, Northern Rivers
- Clarence Valley Council
- Industry and Investment NSW
- Lismore City Council
- Local Community Services Association, Far North Coast
- North Coast Health Promotion, NSW Health
- North Coast Institute of TAFE
- North East Waste Forum
- Northern Rivers Community Colleges
- Northern Rivers Social Development Council
- Northern Rivers Tourism
- Northern Star Pty Ltd
- NSW Department of Education and Training
- Regional Development Australia – Northern Rivers
- Richmond Valley Council
- Southern Cross University
- Tweed Shire Council
- University Centre for Rural Health, Northern Rivers Youth Environment Society

Appendix 2.



The aims of the forum

The aims of the 2011 North Coast Energy Forum are consistent with the following Outcome of the 2010 RDA-NR Regional Plan, “A clean energy future for the Northern Rivers” and an objective of the Northern Rivers Regional Industry and Economic Plan “To utilise renewable resources and maximise land and infrastructure in a sustainable manner”.

The aims of the 2011 North Coast Energy Forum are consistent with the North Coast Energy Strategy proposed to be undertaken by the Sustain Northern Rivers (SNR) collaboration; “to empower and enable the

North Coast to reduce greenhouse gas emissions by 20% and increase renewable energy sources to 20% by 2020”.

Objectives of the Forum

An objective to increase awareness of energy efficiency opportunities in the region was delivered by the following activities:

- Presentations emphasizing energy efficiency opportunities and advantages at the forum
- Networking opportunities at the workshop
- Displays and information booths at the forum including Environmental Defenders Office, Nickel Energy, SAE Power, Byron Shire Council, Sustain Northern Rivers, Byron Ecofarm, Mullum Community Gardens, 100% Renewables, Byron Shire Renewable Energy Resources mapping project
- Interest in establishing a north coast energy cooperative/company to focus on energy efficiency as well as energy generation
- All participants were assessed as to their travel emissions and carbon offsetting was calculated by Cool Planet and the amount sent to Byron Shire Council to contribute to rooftop solar installation on Mullumbimby Civic Hall. This component was widely promoted to all participants

Participants evaluated the forum and the results were favourable for a range of issues including relevance of the forum being mostly high and excellent. The evaluation of forum participants showed that participants now have a greater awareness of energy efficiency, renewable energy options in particular for the region. The highest suggestion for improvement was for additional time, which may indicate the need for future discussions and the need for additional information.

21998 Phae Smith of Texas, QLD

My husband Robert and I own the Texas to Dumaresq River Valley bus run servicing Students from Bonshaw and Texas. The bus run is 65 kilometres in length on the Bruxner Hwy. The road is in terrible condition, and we have already made complaints to both Inverell and Tenterfield Shires. We fear the bus run would be made very dangerous with extra traffic, especially with large and heavy vehicles. This sort of traffic would also worsen the condition of the road to a very dangerous level.

22610 Barbara Potter of Tenterfield , NSW

Dear Ms Timbrell

My objection to the Dumaresq to Lismore proposal is this transmission line is at high risk of bushfires caused by lightning strike. This area is known to have the highest strike rate in Australia. It is known that up to sixty percent of bushfires are caused by lightning strike from power lines.

This year could a high risk bushfire year as we have had high rainfall and now excessive growth.

Would you please explain why the Government would allow this type of power line to be placed where this is more likely to occur.

Yours sincerely

Barbara Potter
105 Douglas Street
Tenterfield NSW 2372

Dear Anna

It has come to my attention that a proposed electricity grid line will be built through EPBC protected sites. What use having an Environmental Protection Agency if its rulings are constantly ignored? In reviewing the identified native species that will be affected by this development one globally important 'umbrella species' stands out - the native grass *Microlaena Stipoides*. This is one of the world's wonder plants and was the subject of (I think) the 2004 Eureka Prize for the researchers Ted Lefroy, Stirzlecky et al. The findings of these scientists and of all pastoralists is that this native grass is highly sort of by grazing stock – to its own detriment – and is often referred to as an 'Ice cream' plant. But it is so much more than ice cream as it has a metabolized energy of over 80%, and is perennial taking it beyond wheat and corn as an globally essential cereal. In addition it is saline, drought, frost and acid tolerant....all the evils modern agriculture has visited upon the rangelands of the world. The awarding of the Eureka Prize was for this native pasture's potential to provide a high energy food source across the world – in especially its ability to survive across many terrains and to be perennial thus requiring no annual ritual of fallow, tilling and the subsequent devastation of soil mass, stability and fertility. As you would realise every time we break through the soil surface we oxidise captured carbon – which we are all against at the moment aren't we? So a grain that can feed humans, livestock, native species and hold the soil in place year in year out across a range of hostile environments and has a sizeable grain would have to be extremely valuable. Please also refer to the excellent research and cultivar development of *Microlaena stipoides* by Prof Whalley Emeritus Professor of Biology at UNE. Having created various different characteristics of this grass suitable for a range of applications from landscape remediation through to golf course grass Prof. Whalley's research proves that this grass adapts to local conditions by creating sub-species.

But, as I mentioned above the problem for the future of this very valuable grass is that domestic livestock love it, thrive on it and eat it out. It is therefore imperative that it remains protected across all its various native homoclimes and ranges to ensure we have this grass in safe keeping as it may be needed to save the world.

If this Transgrid development negatively impacts on this global, keystone species I will hold you and your department responsible and will broadcast to all tertiary environmental agencies around the world such wilful and unnecessary destruction.

Sincerely

Deborah Newell

M. Environmental Management in the Field of Sustainable Agriculture UQ

22619 JJ Spedding of Tenterfield, NSW

PCU026791

Notice of Opposition to Dumaresq to Lismore 330Kv Transmission line

Attention – Anna Timbrell

Planning Officer – Infrastructure Projects (Energy)

Department of Planning & Infrastructure GPO Box 39 SYDNEY NSW 2001

I wish to express my opposition to TransGrid's proposed Dumaresq to Lismore Proposal.

My objections specifically centre around TransGrid's complete failure in terms of its EA to appropriately outline the Strategic Planning and Project Justification in relation to the Director general's Requirements of Section 75F of the Environmental and Assessment Act 1979. Specifically Transgrid has not fulfilled the following mandatory requirements; TransGrid did not taken any account of the impact of non–network options prior to its initial proposal as mandated by section 5.6.6. the National Electricity Rules.

Furthermore TransGrid's basis for project justification is based on faulty data. TransGrid's predicted energy demands are based upon population growth, rather than actual energy usage, which has according to TransGrid's own documentation declined or remained flat over the last 3 years despite increasing population growth on the North Coast. TransGrid's failure to take into account for alternate energy sources is a direct breach of the National Electricity Rules. While the AER 2010 Report notes that TransGrid fixed this breach in May 2010, some 2 years after the April 2008 Application Notice, this does not alter the fact that TransGrid breached the Act and section 5.6.6. in not having completed this mandatory requirement of the Act prior to the 2008 application notice. Based upon these fundamental errors in strategic planning and project justification, TransGrid's rationalization for the project is untenable.

Furthermore, TransGrid's basis for project justification is based on faulty data. TransGrid's predicted energy demands are based upon population growth, rather than actual energy usage, which has according to TransGrid's own documentation declined or remained flat (2011 Annual Planning Report Forecast Demand North Coast) over the last three years and will continue to do so for the foreseeable future (2011 Annual Planning Report Forecast Demand North Coast).

Nowhere in the TransGrid's proposal takes into account the North Coast community's uptake energy saving systems, such as light bulbs, insulation, heat pumps, solar water heating and solar and wind electricity generation. TransGrid has also failed at every stage to adhere to the recommendations and findings of the Eastlink Enquiry.

The Land Use and Planning Impacts of the proposed transmission line are also significant. Tenterfield's current growth in smallholder blocks is to it north, in the very same region as the proposed lines. The proposed project will devalue the acreage of current landholders, even more significantly it will deter new purchasers from entering into the town. The proposal also places in danger the traditional land usage in the area, beef cattle and organic farming.

I also wish to object to the TransGrid's proposed project on the basis of its Ecological Impacts on the local ecology and landscape. The proposed route for the transmission lines through the Tenterfield region will impact dramatically on a number of indigenous fauna and flora listed as environmentally significant. In particular the proposed route will impact on the Conservation of EPBC Act listed communities White Box, Blakely's Red Gums, Orange Gums, Lyrebirds and Koalas.

In summary, TransGrid has not only failed to justify the need for this project but has actively breached a number of the National Electricity Rules. TransGrid has failed utterly in its Environmental Assessment Requirements under part 3A of the Environmental Planning and Assessment Act 1979. And despite carrying out analysis of network and non–network options, only subsequent to TransGrid Action Group Inc. & Upper Dumaresq Action Groups made Federal Minister Mr Tony Windsor aware of the breach in 2010, TransGrid must be held accountable for the fact that it breached the Act.

Yours faithfully,

22621 C/Julia Harpham of Kamilaroi People

Dear Anna

The Kamilaroi elders who live in Texas (contact person: Mrs Doreen Morton 48 Middleton St Texas 4385) have asked me to approach you re the objection that they would have liked to make. They were never consulted, which is the first part of their objection, even though the line in the Dumaresq Valley passes over Kamilaroi lands.

Secondly, they have not had the opportunity to come and inspect the area on Moorabinda, in the first instance they were ill, and now one has had to go to Adelaide to assist a grandchild. When she comes back, they very much want to come, and they want to be able to verify what we are sure is on our property as a significant Aboriginal site. They also wish to come as a group to inspect it, and not just rely on one person's evaluation.

Thank you for all your help, everyone lodging objections has had nothing but praise for the assistance you have given us

Have a good day - hope you aren't run off your feet tomorrow!

Regards

Julia

Julia Harpham
Moorabinda
6709 Bruxner Hwy West
Tenterfield 2372

0267375227
0427749978

22623 Marie Ihle of Tenterfield, NSW

Marie Ihle
Lot 2 315 Old Ballandean Road, Tenterfield NSW 2372
02 6736 2794 0417 601398 email; mariefraser@optusnet.com.au

18th October 2011

Attention Anna Timbrell
Planning Officer
Infrastructure Projects Energy
NSW Dept of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Department of Planning Received 21 OCT 2011 Scanning Room

Dear Ms Timbrell

I am writing to express my objection to the proposed Transgrid power line from Dumaresq to Lismore. Transgrid's justification for the project are based on faulty data. According to Transgrid's documentation the energy usage has declined or remained flat over the last three years and will continue to do so for the foreseeable future (2011 Annual Planning Report Forecast Demand North Coast). Where there is no demand, there is no justification for this power line.

If our government is really serious about making Australia a green nation, I want them to invest in green options for producing power. Locally produced power, solar panels, insulating homes, using energy saving options like light bulbs, meters in homes to make consumers aware of how we can all save energy. These are all superior options to invading natural habitats and destroying quality of living for people along the line's proposed route.

Ecologically it is a disaster to build long distance power lines to transport power. We should be developing local solutions.

But first of all there needs to be a demand. In this case there is not. With education and publicity Australians will be more equipped to reduce their own use of greenhouse gas producing technologies. The population of the north coast is already showing that they don't need more power.

Visitors come here to enjoy the bush setting, the absence of high rise, traffic lights, factories, industries, giant power lines. People don't want to play golf under power lines. People don't want to go walking in the bush under power lines. People don't want to live under giant power lines.

Our population growth relies on the preservation of the natural beauty of this area. Our town's life relies on population growth as well as our visitors.

The carbon tax and all the talk about clean energy mean nothing if projects like this go ahead.

Sincerely,

Marie Ihle

22625 Pearl Austin of Wallangarra , NSW

Attention– Anna Timbrell
Planning Officer– Infrastructure Projects (Energy)
NSW Department of Planning & Infrastructure
GPO Box 39
Sydney NSW 2001

30 September 2011

Dear Sir/ Madam,

I wish to express my opposition to TransGrid's Proposed Dumaresq to Lismore Proposal.

My objections specifically centre around the Land Use and Planning Impacts, Ecological Impacts, Human Amenity Impacts, Hazards and Risk Impacts, Visual Amenity Impacts, Construction–related Impacts, Noise Impacts,

Traffic and Transport Impacts and General environmental Risks Analysis. The Land Use and Planning Impacts of the proposed transmission line are significant. The proposed project will devalue the acreage of my current landholding. It will destroy my family's valuable farmland which has been in the family for generations and places in danger the traditional land usage in the area of beef cattle and organic farming. I own property west of Tenterfield with the Proposed TransGrid running directly through the most valuable parts of the property which has received thousands of man hours of work for prime grazing whilst keeping in mind sustaining of the natural ecological balance of flora and fauna. My concern is the Ecological Impact on the local ecology and landscape. The proposed route through my property for the transmission lines will impact significantly on a number of indigenous fauna and flora listed as environmentally significant. In particular the planned route will impact on the Conservation of EPBC Act listed communities White Box, Blakely's Red Gums, Orange Gums, Lyrebirds, and Koalas. Other species found on my property also include, wedge tail eagles, quolls, whip tail wallabies, echidnas, little gliders and countless other species that are native to this area. Furthermore the Transgrid proposal has not demonstrated a design strategy of impact avoidance.

Why should the people of the inland parts of Australia sacrifice their livelihoods and health for this outdated coal driven power line that will have no direct benefits for the local communities and land it will run through? From the outset we have been informed that this proposal is for the usage of Coastal residences, to the detriment of inland properties. We have survived for decades without these lines and believe them to be unnecessary for this region. Particularly when the Government is attempting to reduce carbon usage and emissions when there are more ecological alternatives such as solar and wind power. Nowhere in the TransGrid's Proposal takes into account the North Coast community's uptake energy saving systems, such as light bulbs, insulation, heat pumps, solar water heating and solar and wind electricity generation. TransGrid has not adequately regarded Human Amenity Impacts via not appropriately identifying receptor areas (ie Residential areas) or considered Tenterfield's area of growth in Council planning in this area which the Proposed line dissects.

TransGrid's proposal has not appropriately considered Hazards and Risk Impacts that are associated with such a Proposal. It has not appropriately shown harm minimisation in terms of EMFs associated with the project (ie too close to some houses and the affect on beef cattle and natural inhabitants through the TransGrid dissection regions). Not to mention two of the most likely risks to directly affect my property being bushfire concerns (of which recent Victorian Government findings found that 60%+ of dangerous fires were started by Transmission lines) and have not considered flood damage, or

isolation due to flood damage to local roads. Both of these risks are already high in relation to natural causes eg. lightning strikes on trees on my property and the affects of flooding of January 2011. Having such Transmission lines running directly through my property will only further maximise these risks.

Visual Amenity Impacts of the proposed transmission line will have detrimental impacts directly on my land value and the tourism industry in the community. Apart from destroying the majestic landscape and 'local and regional views' of the Northern Tablelands, the TransGrid Proposal will harm the local tourist industry, which depends for its very livelihood on the pristine, unspoilt and natural local landscape. This very feature alone, along with the many people moving to the region for a "tree change" to escape the "power lines" and the historical value of the local region due to Sir Henry Parke's Federation speech in 1901 sustains the local community. Even more significantly it will deter new purchasers from entering the town. Not only will the value of those such as myself, whose land the proposed route is situated on, but also adjacent landholders will suffer significant depreciation of their land. Local Real Estate agents have suggested that this could be 40–60% decline in the value for those directly affected, and a 20–40% decline for those who hold properties within view of the transmission lines. My land equals my superannuation for myself as it does for many others, with those on bordering properties without financial reimbursement for loss of value.

Construction –related Impacts and Traffic and Transport Impacts due to damage to local roads to access my property, and the construction of towers and lines on my most valuable part of farmland will not only have a Noise Impact on my cattle and local wildlife but may also affect water quality, weed management and have soil and erosion implications with ongoing monitoring and maintenance of the towers.

In summary not only does the TransGrid Proposal have a multitude of negative implications for my land and the local community, it has also actively breached a number of National Electricity Rules. TransGrid has failed utterly in its Environmental Assessment Requirements under part 3A of The Environmental Planning and Assessment Act 1979 and must be held accountable for the breach of this Act. We have been fighting against this Proposal for the past three years to protect and conserve our local environment, livelihoods and health so please take into account my opposition against the TransGrid proposal for the people and local ecology of inland Australia.

Yours faithfully,

Pearl Austin

45 Woodlawn St
Wallangarra 4383

22627 Phae Smith of Texas, QLD

Disclosable Political Donation: no

Name: Phae Smith

Email: phae.smith@bigpond.com

Address:

9637 Stanthorpe Rd

Texas, QLD 4385

Content:

My husband Robert and I own the Texas to Dumaresq River Valley bus run servicing Students from Bonshaw and Texas. The bus run is 65 kilometres in length on the Bruxner Hwy. The road is in terrible condition, and we have already made complaints to both Inverell and Tenterfield Shires. We fear the bus run would be made very dangerous with extra traffic, especially with large and heavy vehicles. This sort of traffic would also worsen the condition of the road to a very dangerous level.

IP Address: - 203.104.11.14

Submission: Online Submission from Phae Smith (object)

https://majorprojects.affinitylive.com?action=view_diary&id=21998

Submission for Job: #3472 Project Application - Dumaresq to Lismore Transmission Line

https://majorprojects.affinitylive.com?action=view_job&id=3472

Site: #2100 Dumaresq to Lismore Transmission Line

https://majorprojects.affinitylive.com?action=view_site&id=2100

Phae Smith

E : phae.smith@bigpond.com

22631 Ralph Weatherley and Sylvia Grigg of Tenterfield, NSW

PO Box 263, Tenterfield
NSW 2372

10 October, 2011

The Minister for Planning and Infrastructure
NSW Government

Dear Mr Hazzard

Transgrid Proposed Electricity Transmission Line from Dumaresq to Lismore

We attach a formal objection to the proposed electricity transmission line from Dumaresq to Lismore in Northern NSW.

Your government has stated that the finances of NSW are less than wonderful and there are many infrastructure projects needed by NSW.

By rejecting the Transgrid proposal the government would save at least \$250million.

The Basic electricity demand information on which the original proposal was based is flawed and proved to be incorrect.

Thus as there is NO NEED for this line, the government would at worst, be negligent in proceeding and at best, be unthoughtful and uncaring.

Transgrid is a NSW government instrumentality and thus is directly responsible to you and your government. Thus we urge you to accept your full responsibility when monitoring and evaluating the plans of Transgrid

The people of the Tenterfield Shire and we personally are relying on your common sense and good judgement to abandon this project.

Yours faithfully

Ralph Weatherley and Sylvia Grigg
(Retired registered surveyor and chartered accountant)

PO Box 263, Tenterfield, NSW 2372

10 October, 2011

The Minister
NSW Department of Planning & Infrastructure
GPOBox 39, Sydney NSW 2001

Dear Sir

OBJECTION Transgrid Infrastructure Project Dumaresq to Lismore 330 KV Transmission Line

We express our opposition to the proposal to construct a transmission line from Dumaresq to Lismore on the following grounds:

Strategic Planning and Project Justification.

1 In the original application, Transgrid predicted that energy use would increase on the North Coast such that this line was a necessity. However according to Transgrid's own data this energy demand has remained flat (or may have declined) over the last 7 years. Thus the most basic and No 1 reason for the line has disappeared.

2 There is no justification to spend some \$2.50 million plus on infrastructure which is not required.

3 The 2010 AER report has found shortcomings in the process conducted by Transgrid in reaching its original decision to build the line. (Please refer AER Report)

Land Use and Planning

Tenterfield's current growth in small block holding has been to the north of the town ie the same region as the proposed transmission line. The proposed transmission line has already reduced the value of the actual land through which the line passes but also the land which can "see" the proposed line.

Ecological Impacts

We are advised that the proposed transmission line will impact on the communities of White Box, Blakely's Red Gum, Orange gums, Lyrebirds and Koalas We trust that justice, common sense and good governance will prevail. Thus the electricity transmission line from Dumaresq to Lismore will NOT be built

Yours faithfully

Ralph Weatherley and Sylvia Grigg
Concerned long term residents of Tenterfield and NSW

22633 RS & MO Dowe of TENTERFIELD , NSW

Submission - Notice of Opposition to Dumaresq 330v Transmission line,

Attention - Anna Timbrell

Planning Officer - Infrastructure Projects (Energy)

NSW Department of Planning & Infrastructure

GPO Box 39

SYDNEY NSW 2001

Dear Madam,

I wish to express my opposition to TransGrid's proposed Dumaresq to Lismore Proposal.

My objections specifically centre around TransGrid's complete failure in terms of its EA to appropriately outline the Strategic Planning and Project Justification in relation to the Director General's Requirements of Section 75F of the Environment and Assessment Act 1979, Specifically TransGrid has not fulfilled the following mandatory requirements; TransGrid did not take into account the impact of non-network options prior to its initial proposal as mandated by section 5.6.6- of The National Electricity Rules.

TransGrid's basis for project justification is based on faulty data. TransGrid's predicted energy demands are based upon population growth, rather than on actual energy usage, which has according to TransGrid's own documentation declined or remained flat over the last few years despite increasing population growth on the North coast.

Why is TransGrid using old projection data in the project justification when it has newer (2011 data) showing over a 100MW decrease in demand projections?

The TransGrid proposal does not take into account the North Coast community's uptake energy saving systems, such as light bulbs, insulation, heat pumps, solar water heating and solar wing electricity generation ' this being a direct breach of the National Electricity Rules. TransGrid has also failed at every stage to adhere to the recommendations and findings of the Eastlink Enquiry

The Land Use and Planning impacts of the proposed transmission line are also significant; Tenterfield's current growth in smallholder blocks is to its north, in the very same region as the proposed lines. The proposed project will devalue the acreage of current land holders, even more significantly it will deter new purchasers from entering into the adjacent areas,

On our property the proposal directly effects 407 Hectares in 9 titles, each of which has building entitlement attached and can be further subdivided as it is within the 10 km radius circle of Tenterfield in the local shire LEP.

We have considered these blocks of land our Superannuation Fund, It is not a matter of selling them all off at once but realizing them as required as we get older and wish to stay in our family home, is there any need to say how stressful we find this?

The project costing does not reflect Asset Devaluation of assets in the vicinity of the proposed transmission line due to the many factors including visual impacts and perceived health risks, A reduced value of assets has been transferred as a hidden cost to the asset owners in the vicinity of the transmission line, both within the, and outside the easement, Consequently the project costing is false, The current cost of over a quarter of a billion dollars would be much higher when cost to land values for those along the line are calculated,

I also wish to object to TransGrid's proposed project on the basis of its Ecological impacts on the local ecology and landscape. The proposed route for the transmission lines through the Tenterfield region will impact dramatically on a number of indigenous fauna and flora listed as environmentally significant. In particular the proposed route will impact on the Conservation of EPBC Act listed communities, White Box, Blakely's Red Gums, Orange Gums, Lyrebirds and Koalas.

With regard to the ecological outcome, including habitat connectivity and distribution of species, what will happen to our koalas under the offset strategy? Will they be told where the offset area is? Will they be advised how to get there?

They have always been here and without habitat will surely perish.

Heritage Impacts. The proposed line on our property impacts on an area which has been preserved by four generations of our family because of its significance, it is pristine native bush land, has some aboriginal sites, was part of the 'Brisbane Line', and an Army Camp during WWI1 from 1939 to 1948. This property joins a National Park and has populations of indigenous flora and fauna as listed in the Ecological impacts. Thunderbolt frequented this area.

Hazard plus risk impacts. The proposed line will create a very high fire risk in the area traversed on our property due to the terrain and vegetation. In explanation - the recent Victorians Government findings, 60% of dangerous fires are started by transmission lines. This applies to us. The last major fire in this area was started by transmission lines near Ballandean, QLD.

We practice planned rotational grazing, high density of animals for short periods of time, with long recovery periods. The proposed power line will impact on this environmentally friendly practice.

Visual Amenity Impacts. The 19.5 Ha to be cleared on our property, predominantly along the top of two ridges, are areas of significant scenic and visual value, as well as heritage and ecological value. TransGrid in its report plays down the significance of this impact with its computer generated images, The line will be Clearly visible because of its location at high elevation, up to 920 mts plus towers on our property, both from the town of Tenterfield and from the wilderness areas of the adjacent National Park.

Construction-related impacts. This impact will be significant on our property. Negotiating access in pristine bush country which is steep, covered with old growth timber, under story, wild life, and numerous massive outcrops of granite rock, will create huge and savage disturbance.

It is just not the sort of country to support heavy equipment such as a 50 T crane etc, cement trucks etc.

Yours faithfully

For RS & MO Dowe

'Nareena'

PO Box 29

TENTERFIELD NSW 2372

22637 of SUSTAIN NORTHERN RIVERS – SUSTAIN ENERGY GROUP

See 21990 Simon Clough of Sustain Northern Rivers

**SUBMISSION TO MAJOR PROJECT 09_0150
DUMARESQ TO LISMORE – TRANSMISSION LINE**

The Upper Dumaresq Environment Network (UDEN) is a community group that is concerned about the destruction of the environment that will result if the Dumaresq to Lismore Transmission Line is approved. Members of UDEN got together in June 2009 after an utterly unsatisfactory meeting between TransGrid (TG) and Landholders affected by the line. UDEN represents affected residents and landholders. UDEN has supported and assisted the work of the Upper Dumaresq Action Group (UDAG) and the TransGrid Action Group (TAG) throughout the life of the proposal to date. UDEN has had the benefit of reading the submission of UDAG to this proposal and the expert reports that it commissioned. In preparing this submission UDEN relies on the material contained in those expert reports.

By way of background we alert the Minister that the entire basis of TransGrid's proposal is based on a breach of the law namely, the National Electricity Rules as found by the Australian Energy Regulator (AER). We have attached a copy of the AER report for your convenience.

No need for the project

We contend that the proposal should not be approved given there is really no need for the transmission line. We have read the report of the Institute of Sustainable Futures commissioned by UDAG and it is clear from that report that TransGrid has not made a case that the proposed infrastructure is in fact required.

What is clear is that it is in fact likely, that the proposed infrastructure is not now and nor will it ever be required. There is strong evidence that electricity demand is actually reducing not increasing and given the community responses to demand management options and the desire and now real incentives to move to renewable sources of energy, we contend that to approve the proposal in the circumstances would be negligent and incredibly short sighted of Government. It is very likely that the building of the line would negatively impact on the competitiveness of the renewable energy industry in the region, and threaten jobs in this much needed industry.

Biodiversity

We find alarming the report of Envirofactor, also commissioned by UDAG. We contend that this report compounds the case to refuse the project. The Envirofactor report makes very clear that the biodiversity report, prepared by the proponent, is drastically inadequate. Further the experts who wrote that report have further stated in correspondence, that we have seen, that the proponent underestimates the impacts that the transmission line will have on biodiversity. The authors of Envirofactor have stated:

It is difficult to assess the impact of the proposal given the significant shortfalls in the URS Report. This difficulty is further exacerbated by the absence of the various environmental management plans upon which mitigation of the proposal impacts are contingent. This notwithstanding and based on our knowledge and expertise, it is our opinion that the scale of the impact of the proposed project has been underestimated within the report. It is therefore not an accurate reflection of the true impact of the project should it proceed.

When viewed in the context of the fact that there is no real need for the transmission line but that it would appear that the impacts that the proposal will have on the biodiversity have been underestimated, we say the project ought to be refused.

As a consequence of the inadequacy of the proponent's Environmental Assessment, it is an inadequate tool for approval authorities to effectively assess the impact of this development.

The environmental damage and threat to EPBC listed species and ecological communities is far too great and considering there is no real need for the line in the foreseeable future, the risks far outweigh the non-existent benefit.

We note that in November 2009 the federal Environment Minister said in his decision on the Traveston Crossing Dam on the Mary River: the project has *"unacceptable impacts on matters of national environmental significance.....My decision requires me to balance environmental, economic and social impacts. The likely economic and social benefits of this proposal do not outweigh the serious environmental impacts on our nationally protected species."* (<http://www.abc.net.au/news/2009-11-11/garrett-rejects-traveston-dam/1138124>)

We firmly believe the same can be said about this project.

We would like to illustrate this in relation to three species (although there are many more) found on properties that will be affected:

- a. The Brush-tailed Rock Wallaby is threatened by "loss and fragmentation of habitat" (Threatened Species of the New England Tablelands and North West Slopes of NSW; NSW NPWS 2003) This animal is frequently observed within a section of the transmission line easement. The transmission line will therefore destroy and fragment its habitat.
- b. The Squatter Pigeon *Geophaps Scripta*. Threats to this species according to the NPWS brochure mentioned above again are loss and fragmentation of grassy woodland habitat.
- c. The Turquoise Parrot *Neophema Pulchella* faces the same threats from the project proposal.

For all these species the NPWS recommends as conservation actions to protect grassy woodland from clearing, fragmentation or development.

The Environmental Assessment does not deal satisfactorily with the threats to threatened species. The Envirofactor Report states (on p10):

"Within the S5A (AOS in the report) and EPBC (SIC in the report) assessments many of the potentially serious and deleterious impacts of the proposed transmission line are simply overlooked for example:

No explanation is tendered as to why the loss of tree hollows as a result of this proposal will not impact on local populations of threatened species dependent upon hollows for breeding and roosting such as the Turquoise Parrot, *Nyctophilus timoriensis* and Little Lorikeet. Tree hollows are a critical resource that has largely been lost from the landscape. Recognized for their long- development time (up to 140 years) their availability, or lack of it, is known to limit populations of species dependent upon them for roosting and breeding.

The impact of fragmentation is poorly dealt with. According to the Biodiversity Report clearing along the eastern alignment will not impact on populations of threatened species because the vegetation is already highly fragmented. This argument overlooks the serious deleterious impacts small areas of clearing can have in already fragmented landscapes. Impacts which include local species extinctions, as habitat blocks become too small to support populations and larger habitat gaps prevent species from moving across the landscape to access alternate habitat resources (food, breeding sites and mates).

For example for Koalas and native mice the assessment acknowledges the likelihood that the project will fragment habitat, potentially creating two or more populations from what is now one. Why this is not considered significant in the report remains a mystery."

The Envirofactor report suggests that the proposal is in fact likely to have a significant impact upon threatened species. Given biodiversity loss is one of the greatest environmental threats facing the world, we find this unacceptable in itself, given there is no need for the proposal we find this absurd.

The proponent proposes offsets for the loss of biodiversity. Again, to quote from correspondence of the authors of the Envirofactor report:

"The report from our reading acknowledges the need for a biodiversity offset strategy to compensate for vegetation and habitat losses however this strategy is yet to be developed. It is therefore impossible to assess whether any proposed offset will adequately compensate for the biodiversity losses that will be accrued from this proposal. It is our opinion until a Biodiversity Offset Strategy is developed no effective assessment of this proposal can be made by an approval authority.

This notwithstanding, there are questions regarding how effective any offset will be for EEC and CEECs. Given that these communities are generally listed under legislation because they have suffered significant declines in extent and condition. In the case of Box-Gum Woodland less than 10% is estimated to remain nationally in all its various conditions. It is therefore questionable whether the removal of any further areas of this community can be adequately offset.

Generally offset strategies propose the acquisition of good quality or degraded areas of the community and a subsequent change in management from production to conservation outcomes. Often when degraded areas are acquired the strategy will include replanting/rehabilitation. In both cases the theory is that at some future date (usually unspecified), there will be an increase in the extent and condition of the community. However, the reality is that in the short to medium term, under either scenario, there is a net loss ie areas of the EEC / CEEC are cleared. It is also likely that in the time lag between the clearing and when the offset area finally achieves similar habitat values to those lost (for hollow-bearing trees 140 years or more) local species extinctions will occur, particularly in fragmented habitats.

Additionally, species which live in the habitat to be cleared can't simply move into what habitat remains, as the habitat that remains will already be occupied. It is also highly unlikely that the resident fauna will readily share limited feeding and breeding resources with the clearing refugees.

In summary there are significant risks in any offset strategy for biodiversity"

The authors of the Envirofactor report were asked to comment on the quality of the Endangered Ecological Communities and the Critically Endangered Ecological Communities that will be impacted by the proposal. They stated:

"As discussed in our report we believe the species lists for a number of communities are somewhat depauperate, this includes many of the various communities which comprises the CEEC. We understand the UDAG would like more direct measures of impact but for us to properly assess the quality of the remnants would require site inspections, mapping and survey quadrants to quantify the answers i.e. basically another EIS, which is beyond the scope of what can be achieved given the time, resources and money. However, we believe the deficiencies in the report should be enough to suggest as a minimum a new round of surveys.

Despite these limitations, the fact that according to the report many of the areas conform to the minimum condition criteria, using a quadrant 60% smaller than that than required by SEWPaC for identification of the CEEC (ie 0.04ha instead of 0.1ha), indicates the condition is likely to be good to very good. This conclusion is supported by the community descriptions (Section 5) which lists dominant groundcover species in a number of these communities as; *Themeda australis* (Kangaroo Grass), *Poa* spp (Tussock Poa), *Cymbopogon refractus* (Barbed Wiregrass), *Bothriochloa biloba* (Lobed Redgrass) and *Microlaena stipoides* (Weeping Rice Grass). Additionally these descriptions indicate the presence of a number of forbs including; *Wurmbea biglandulosa* (Early Nancy), *Bulbine bulbosa* (Native Leek), *Glycine clandestina* (Twining Glycine) and i(Common Buttercup). Generally speaking these are grazing sensitive species which are quickly lost from good condition remnants under inappropriate management."

"For Box Gum Woodland the probable underestimation of the area of this community, for the reasons outlined in our report, make it likely this proposal will have a greater impact on the extent and condition of this EEC and CEEC than indicated in the URS report. The underestimation of this community is an important shortfall in this report."

Social and Economic Consequences

UDEN is aware of the widely held opposition to the depreciation of land values that will result as a consequence of the approval of the proposal. Rural communities are arguably susceptible to all sorts of social disruption when the thing they depend on the very most, namely land, is threatened in some way or another.

Over the last years of the proposal's life UDEN has received and heard many fears, anxieties and objections from members of the community broadly and in particular the large amount of landholders and interests within and adjacent to the proposed easement.

Imposing such unnecessary psychological, social and economic stress on a rural community at this time and in the circumstances, namely that there is independent expert evidence that the proposal is in fact not required at all, would be irresponsible of any Government.

Our organisation feels, and has had representations from the wider community, that there will be unacceptable social, economic and individual consequences from the project, which will not in real terms deliver any benefits, certainly non that outweigh the sum of the negative consequences.

The view is held widely that there has been extreme anxiety and stress placed upon members of the community already through the development of the project proposal. Concerns have been raised over the significant impact that the proposal will have aesthetically on the landscape. Currently much of the proposed easement is a classic unmarked rural landscape. Concerns have been also raised as to the dangers posed by a substantial increase in traffic on the Bruxner Highway, which is not, as stated in the Environmental Assessment, an RTA road, and is currently in very poor condition as a result of the floods in January. Noise and dust during the construction phase and future maintenance stages are very concerning to those living within and adjacent to the easement. The Environmental Assessment does not significantly address these matters. It does not appear that the noise caused through the construction phase will in fact comply with permissible and acceptable noise standards. The increased likelihood of bushfires as a result of a high voltage power line is a major contention. The absence of an integrated Disaster Management Plan at this stage of a proposal is totally unsatisfactory. The recent bushfires and floods have highlighted that there are situations where prevention and avoidance of the risk in the first place is the only satisfactory plan. Many people have also expressed concern and fear over the effects of EMF's on the health of the community. A "policy of prudent avoidance" is not a satisfactory proposal to impose on people on their private land. It is essential that there be clear evidence that there is absolutely no risk to human health. In any case it is not clear what a policy of prudent avoidance includes. A lack of adequate consultation amongst affected parties has also been the subject of concern. Many people have objected to the high handed way in which they were dealt with. Some feel they have been harassed, and others feel that they have been subjected to undue pressure to sign an agreement, before the proposal has been verified. Some people who are neighbours of the easement have never been consulted, and feel they will be affected in a number of ways, and there are no provisions within the proposal to compensate them for the negative effects they will experience. UDEN is aware that there are some people who fear that making an objection to this proposal will make TransGrid deal with them unfairly in the event of future acquisitions and easements, and they will suffer as a result.

Members of the community have expressed concerns that the proposal will lead to a massive loss in property values. The TransGrid valuers have not valued property owners' properties for future land use or subdivisions, something which it ought to take into account. Compensation offered has been very poor, and does not reflect the real value of properties. Many landowners do not have a dedicated

superannuation fund, and rely upon the sale of their properties to fund their retirement. This proposal will affect the future incomes of all affected landholders, which is something that has been talked about amongst all affected landholders and the community broadly.

The proposal will affect the burgeoning eco-tourism and winery industry in the more remote areas affected by the proposed easement. There are two wineries, and seven Bed and Breakfast businesses and many camping sites affected by the proposal. Many of the regular clients to these businesses have indicated that they would be affected by any transmission line, that they value the absence of such development. Those affected will experience a downturn in income, and all have spent considerable time, money and energy in initiating these much needed sustainable industries.

The proposal is massively expensive and will inevitably lead to higher electricity prices which will affect the whole NSW community negatively. The carbon tax soon to be in place is intended to offset some of the costs, but we cannot understand why a proposal which costs so much more than the other options identified in the report by the Institute for Sustainable Futures could be approved. During the life of this proposal so far UDEN has received many complaints relating to the cost of electricity, and fears of the likelihood that the proposal will in fact lead to higher prices.

Conclusion UDEN objects in the strongest terms to the proposal and contends that the project ought to be refused on its merits. UDEN believes on all of the material available there is absolutely no rational justification for the proposal and that with this in view on every account the negative impacts of the proposal far out weight any intended benefits

Upper Dumaresq Action Group Submission to TransGrid's Far North NSW Project

24 October 2011

The Upper Dumaresq Action Group (UDAG) is a community group and includes concerned residents and landholders of the Dumaresq and Mole Valleys.

UDAG opposes the construction of the Dumaresq to Lismore transmission line. After becoming very familiar with the proposal and the process that has been followed by TransGrid to date, and having engaged its own independent experts to assess the proposal, UDAG submits that the Minister has very strong grounds upon which to refuse the project and in fact upon the evidence presented in this submission UDAG argues that the Minister ought to refuse the project.

Our argument is centred on the following sections of the Environmental Assessment Report (EA):

1. Project Need and Alternatives, and
2. the Biodiversity Report

Project Need and Alternatives (Environmental Assessment, chapter 2)

UDAG, through the Environmental Defenders Office, commissioned an independent study by the Institute for Sustainable Futures of the University of Technology Sydney into the transmission line proposal. The study focused on the need for the line. A copy of the report TransGrid proposal for a new Dumaresq to Lismore transmission line: commentary on project need (ISF report), is attached to this submission and forms part of this submission.

Following is a brief outline of the main points contained in the ISF report:

- a) The amount of network support identified in the EA is not justified in the light of current projections (ISF report, p 3-7):

Annual demand growth has fallen significantly since TransGrid's Final Report (2009) where TransGrid projected an increase of 97 MW in peak demand ... and identified a need for network support of 62 MW. TransGrid has not revised their estimates of the network support to correspond to the reduction in demand growth ... it is unclear why the need for network support would be greater than the projected increase in demand in the next five year planning horizon, namely either 49 MW (TransGrid 2011c) or 22 MW (TransGrid 2011b).

The 2009 Final Report projected a need for 62 MW of network support when demand reached 435 MW. The Environmental Assessment projects a potential need for network support of 62 MW when peak summer demand reaches 378 MW (48 MW lower than the previous constraint year demand). No explanation is offered for why greater network support is required compared to the peak demand expected; the difference in forecast peak demand would seem to imply a need for only 13 MW support in 2016/17.

The actual projection for peak summer demand in the Environmental Assessment is also higher than the projection for peak summer demand in the TransGrid 2011 Annual Planning Report (387 MW compared to 360 MW). The difference of 27 MW is significant, relative to the potential need for network support of somewhere between 22 MW and 61 MW, and is not addressed in the Environmental Assessment

More broadly, there is no justification for why the network support required rises from nothing in 2015/16 to 61 MW in 2016/17, while peak demand is forecast to grow by less than 10 MW in that year. (ISF report, p 7)

- b) TransGrid's projections have not fully accounted for a number of proposals and potential projects which would materially affect any shortfall e.g. Red Sky Energy 27MW gas station, Metgasco 30MW gas station, PV installations, (ISF report, p 10-11).

c) TransGrid's presentation of alternatives and options (EA, section 2.4) is inadequate and at odds with available evidence (ISF report, p.15-16):

- The Do Nothing Option (EA, 2.4.1) - if current proposals for gas generation go ahead, this is a reasonable option
- Demand Management Options (EA, 2.4.2) - the RfP was an inadequate and therefore ineffective exploration of the opportunities for DM (see (d) below)
- New Generation Options (EA, 2.4.4) - the small scale of network support required (13 - 61MW by 2016/2017) could be met by either the Metgasco or Red Sky projects, or failing both of these, the incremental introduction of more solar PV
- Transmission Options (EA, 2.4.5) - TransGrid does not include the option of contracting with EPI to strengthen Directlink

Given that cost information on alternatives is widely available, the requirement for network support is relatively small, and the potential expenditure on the transmission asset is very large, TransGrid could reasonably be expected to consider a more proactive approach to non-network options, for example contracting directly with a demand response provider, or contracting for installation of targeted energy efficiency measures, or sharing the cost of time of use metering with the DNSP, or contracting directly with the proponent of one of the gas generators. (ISF report, p14)

As found in the Australian Energy Regulator, Investigation Report - *Compliance with the planning and network development provisions of the National Electricity Rules TransGrid*, September 2010 (AER Investigation Report): the application notice did not contain an adequate analysis of all reasonable network and non-network options (p 20), and given the considerable cost of the proposed project, TransGrid should have considered a full range of scenarios (p17).

d) The RfP is an inadequate document upon which to base any conclusions about alternatives to the construction of the line (EA, section 2.3.4). The RfP issued by TransGrid in 2010 did not seek alternatives to the construction of the Dumaresq to Lismore line. The RfP sought support for generally less than 3 days per year, for the summers to 2014/15(RFP 51_10, p 16) and was issued ... as an operational risk management procedure to cater for the unexpected delay in project delivery. It is therefore hardly surprising that the RfP did not elicit alternatives which would "address the long-term network limitations for which the proposed Project is being developed" (EA, 2.3.4), as it was not a document designed for that purpose. In light of this, TransGrid's conclusion that the RfP confirmed their view that "the best long-term option ... would be the development of the proposed project" seems quite extraordinary.

In summary: the purpose of the RfP was not to investigate alternatives to the construction of the line, and hence it is a failure of logic to use the RfP to draw any conclusions about the existence, or otherwise, of such alternatives

e) TransGrid has not fulfilled the requirements of the regulatory test (ISF report, p 13-16). TransGrid's statement that the AER confirmed the outcome and final conclusion of the regulatory test undertaken by TransGrid (EA, 2.3.4) is incorrect. The AER Investigation found

the decision to limit the analysis to a single reasonable scenario was inadequately justified (regulatory test version 3, paragraph 19) and thus did not meet the requirement for the application notice to set out a detailed analysis of why the regulatory test was satisfied or, alternatively, if the asset satisfied the regulatory test as a reliability augmentation, why the asset was a reliability augmentation (clause 5.6.6(6)). (AER Investigation Report, p 20)

The AER Investigation Report also found that there were a number of potential breaches ... of the NER by TransGrid, particularly issues of non-compliance with clause 5.6.6. The AER decided not to require TransGrid to address these breaches since, in its opinion, it appeared unlikely that a fundamentally different outcome would be achieved even if the shortcomings of the process were addressed. This „opinion“ by the AER was based on its belief that the RFP enabled potential non-network alternative providers to submit alternative commercial proposals (AER Investigation report, p 21). As explained in (d) above, the RfP was extremely limited in its purpose and scope and was not an appropriate document from which to draw any conclusions about possible alternatives to the construction of the line; the AER's „opinion“ was also informed by TransGrid's predictions about the amount of network support that would be required and the timeframe available, both of which have since been shown to be incorrect (see (a) and (b) above).

- f) The construction of the transmission line is not the least cost alternative to meet the identified network constraint. A combination of energy efficiency, peak load management, and solar PV could meet the network support required at much lower cost within the projected time frame (ISF report, p 10-12):

the construction of the power line would be about nine times more expensive, even at the highest requirement for network support put forward (61 MW). If only 22 MW is required, construction of the new power line would be more than 20 times more expensive than the non-network options. (p 9)

In summary, our submission clearly shows that TransGrid's projections for peak demand shortfall as presented in the Environmental Assessment are unsupportable and at odds with their other reports; their investigation of alternatives to the construction of the line is seriously inadequate and does not satisfy the requirements of clause 5.6.6 of the NER; and there are cheaper and cleaner alternatives available to meet any future demand shortfall.

Biodiversity Report

UDAG, through the Environmental Defenders Office, commissioned an independent study by The Envirofactor into the Biodiversity Report prepared by URS Australia on behalf of Transgrid.

The Envirofactor report, Review of the Biodiversity Report –Dumaresq to Lismore Transmission Line, (Envirofactor Report) is attached and forms part of this submission.

Following is a summary of the Envirofactor Report findings (page 4):

The assessment of the Dumaresq to Lismore 330kV Transmission Line as presented in the URS Biodiversity Report has, in our opinion, a variety of deficiencies which make it inadequate for approval authorities to effectively assess the impact of this development.

In summary some of the more major deficiencies are:

- inadequate vegetation mapping which has left large sections of the project area unmapped
- inappropriate survey effort which has potentially underestimated the area of critically endangered and endangered ecological communities and threatened species present on the project area
- unexplained paucity of survey findings
- failure to identify a number of vegetation communities found on the project area as comprising endangered ecological communities
- failure to identify *Bothriochloa biloba* found on the project area as a threatened species
- omission of a significant number of ecological communities and threatened species from survey and assessment that potentially occur on the project area

- flawed assessment of the major impacts associated with the project including habitat loss and fragmentation and loss of essential habitat components (eg tree hollows, feed trees).

Hence we submit that the URS Biodiversity Report “is inadequate for approval authorities to effectively assess the impact of this development” (Envirofactor Report, p 11).

Conclusion

It is UDAGs evidenced and substantiated submission that there is no sound basis upon which to argue that the project as proposed is required and or justified and therefore there is no proper basis upon which to approve the proposed project.

It is UDAGs further evidenced and substantiated submission that the impacts that the proposed project will have on biodiversity, particularly listed threatened species, populations and communities and matters of national environmental significance are unknown, as the URS Biodiversity Report is so inadequate. UDAG is of the opinion that no reasonable decision maker can claim to have adequately considered what impacts the proposal will have on biodiversity on the material submitted by the proponent.

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Submission Notice of opposition to Dumaresque to Lismore 330 KV Transmission line

Attention Anna Timbrell
Planning Officer– Infrastructure Projects (Energy)
NS W Department of Planning and Infrastructure
GPO Box 39 Sydney NSW 2001 Department of

Department of Planning Received 24 OCT 2011 Scanning Room

Dear Sir/Madam,

We wish to express our opposition to Trans Grid's Dumaresque to Lismore Transmission line proposal.

With regard to strategic planning and project justification Trans Grid has failed to outline the strategic planning and project justification in relation to the Director General's requirements of Section 75F of the Environment and Assessment Act 1979. Specifically Trans Grid has not fulfilled the following mandatory requirements Trans Grid did not take into account of the impact of non-network options prior to its initial proposal as mandated by section 5.6.6 of the national Electricity Rules.

Land Use. We have a landholding of 400 acres directly in the path of the proposed line. We run beef cattle both stud and commercial on this land. The proposed route will run directly through the middle of the land which is our most accessible part of the property. This area had been targeted by us to further develop by way of pasture improvement and possibly the construction of an airstrip for us to apply our yearly applications of fertilizer.

We have concerns that the introduction of weeds may well have a detrimental effect on our livestock production as well as erosion caused by any increase in traffic through the land. We have our property fenced in a manner that is easily managed by us and anyone that we employ. Should any change in the positioning of gates or access to waterways occur, this could impede the management of our property. We have concerns that the additional vehicular traffic on our local gravel roads will cause further damage to a road system that is already under stress.

We have concerns that as we live in an area that has a great number of lightning strikes, there may be a significant likelihood of an increase in fires occurring. Our country is heavily grassed and would be very conducive to being involved in fire.

Real estate values have been conservatively estimated by all the local estate agents to devalue by at least 45%. Should this proposal be successful. This figure would have a significant effect on our future income as the land is treated as superannuation by not only us but many rural landholders.

Health

We have great concerns for the health issues that might occur from us or our animals being in close distance to this line. There have been indications that cattle that are grazed beneath the lines may well not be readily acceptable in the market place in the future.

Visual Amenity

We have concerns for the visual impact that this line will cause not only to ourselves but to the many tourists and new comers to the district. People move to the district for the pleasant rural atmosphere. We have city based family that in the future had planned to erect a residence on this land when they were able. This will now have to be reconsidered.

On a number of occasions it has been recommended to Trans Grid that the Transmission line be located underground thus alleviating, visual and health concerns.

in summary we feel that Trans grid has not taken into account the increase in the uptake of solar power, wind power or coal seam gas proposals that are increasing on the North Coast. We cannot see any benefit for our beautiful area.

Yours Faithfully

Colin & Helen Chevalley
PO Box 141
Tenterfield NSW 2372.

22643 Deborah Adam of Tenterfield , NSW

Dear Ms Timbrell

My objection to this proposal is the exorbitant cost of this project as per the Rutovitz J, Harris S, and Dunstan D, 2011 Transgrid proposal for a new Dumaresq to Lismore transmission line: commentary on project need. Prepared for the Environmental Defenders Office by the Institute for Sustainable Futures, University of Technology, Sydney Report page seventeen, which cites "Institute for Sustainable Futures calculations found the annualised cost of constructing the power line maybe between nine to twenty times higher than non-network support is actually required. This comparison did not set the optimum (least cost) mix of non-network alternatives which is likely to include more energy efficiency."

This must, of course, have a negative impact on Australia's budget as well as environmental issues.

Am looking forward to and early response.

Yours sincerely

Deborah Adam
104 Douglas Street
Tenterfield NSW 2372

22648 Sandor von Kontz of Tenterfield , NSW

Dear Mrs. Timbrell,

Please find below my submission and attachments.

Thank you so much for offering, that you will put my non pdf files into the right format. I do appreciate your efforts and thank you for it.

Regards

Sandor

Sandor von Kontz

Maids Creek 20.10.2011

"Maids Creek"

Reedy Creek Rd.

Tenterfield NSW 2372 02 67375367

sisovonkontz@hotmail.com

Submission-Notice of opposition to Dumaresq to Lismore 330 Kv Transmission Line

Attention -Anna Timbrell

Planning Officer -Infrastructure Projects (Energy)

NSW Department of Planning & Infrastructure

GPO Box 39

Sydney NSW 2001

I have not made any political donations in the last two years.

My name does not need to be withheld.

Dear Madam/Sir,

As a landholder to the west of Tenterfield, I strongly object to the proposed transmission line on several grounds. I am also a member of UDAG (Upper Dumaresq Action Group) and fully endorse their submission. Let me start out with the more personal objections.

Since 1987 I have lived with stand-alone solar systems for my electricity supply. When I bought my property here, to set up my place of retirement, one of the reasons for this particular location was it's remoteness and seclusion, away from everything which annoyed and stressed me during my working life. To have this proposed transmission line right in front of me defeats exactly this purpose and seems to me to be an **acquisition of my right -to enjoy my property for its particular qualities-on unjust terms.**

I spent the last 7 years investing time and money into the infrastructure of my property, just to face the prospect now of not having what I wanted, without any compensation for it. One of the requirements of the Director General was " to undertake an appropriate and justified level of consultation with each landowner and land occupier within and adjacent to the corridor of the proposed development..."

TransGrid has never contacted me or offered any compensation. The line does not run through my property, but adjacent to it, right in my face, while the landholder, through whose property it runs, lives in another valley. What an irony!

At the same time, the value of my land is decreased severely. Because of the peculiarities of the location and quality of the property, it is limited to a small but interested niche market. (People like me) The line destroys any interest from this market, the property becomes unsalable. As an illustration: just recently my neighbour accepted a substantial offer for the paddock adjacent to my place, a very similar property. When the prospective buyer heard about the possibility of the power line going in front of his nose he withdrew the offer. So I even cannot sell the place to find a new one which fulfills my requirements. Very unfair. Let me quote here from the City of Sydney: "Issues Paper Submission for the Prime Minister's Task Group on Energy Efficiency." (find attached; **all the attached documents are not only meant as references for quotes, but submitted in toto as support to my arguments, in some cases as the ones who make the argument by themselves and much better than I ever could. So it is essential to my submission, that they are all completely read.**)

"Another fairness consideration is how rural communities are affected by the supply of power to people in cities. Centralised power generation and the grid transmission upgrades needed to meet the growing energy needs in cities bring environmental damage, pollution and displacement of land in rural communities. Examples of this include plans to expand Lithgow power station and build new transmission lines on the Far North Coast. These energy needs would be better and more equitably supplied by installing decentralised energy in the cities and urban areas where it is needed."

The "Senate Economics Committee's" enquiry into Eastlink in 1996 recommended "The Committee recommends wider and more comprehensive compensation provisions, which may include provision for an independent conciliation process for individuals or groups affected. (Paragraph 4.105)." (see attachment Eastlink)

Do I need to say more?

This brings me to the more general objection, but still connected with the above.

Appropriation without just cause.

Addressing the Director General's requirement: Strategic Planning and Project Justification.

The line is not needed. It serves no greater common good. (A comprehensive study on this issue by the ISF/UTS is attached: ISF report on project need). "The AER is concerned that there is a systemic bias towards inflated forecasts because of the framework for establishing forecasts of required capital and operating expenditure.

As it stands, the current regime provides network businesses with incentives to submit revenue proposals that are at the top of, or beyond, what could be considered a range that 'reasonably reflects' the required expenditure." (Andrew Reeves, Chairman AER, 20. June 2011

'Finding the balance -the rules , prices and network Investments" address to EUAA) (attached)

This completely vindicates a statement of the Environmental Defenders Office in 2009 when it wrote in it's Dispute notice to the AER (attached) : "Supply and demand forecasts: The network limitations anticipated by TransGrid are the result of projected increases in end-user demand over the next decade. However, there is widespread evidence that TransGrid consistently overestimates demand forecasts. For instance:

- he forecast demands in TransGrid's 2008 Annual Planning Report were "slightly lower" (Final Report page 13 note 1.) than those in the 2007 Annual Planning Report, which formed the basis of the Application Notice.
- The 2009 Annual Planning Report states (at p18) that 2009 energy projections for NSW, using the Baseline economic growth scenario, are "4.8 per cent, on average below last year's projections" for the following 10 year period.

- Figures B.4 and B.5 of Appendix B: Load Forecasting of the NEMMCO 2008 Statement of Opportunities (SOO) shows that TransGrid's demand projections were significantly higher for the period 2005-2008 than actual demand during this period.
- There are substantial variations (up to 10% above and below) between the Country Energy (North) summer peak demand forecasts for locations such as Coffs Harbour and Lismore between the 2008 and 2009 Annual Planning Reports and even for 2010. This reinforces our client's belief that forecasts for up to 10 years in the future should be treated with caution, especially when they are used to justify spending large sums of public money for major infrastructure that is likely to have a significant impact upon the environment and the community. In spite of a body of consistent evidence that TransGrid overestimates future demand, the FR, however, states (at p24) that its justification for this project is based on "Only a single market development scenario... which corresponds to a medium growth outcome and which does not explicitly model future generation or demand management developments."

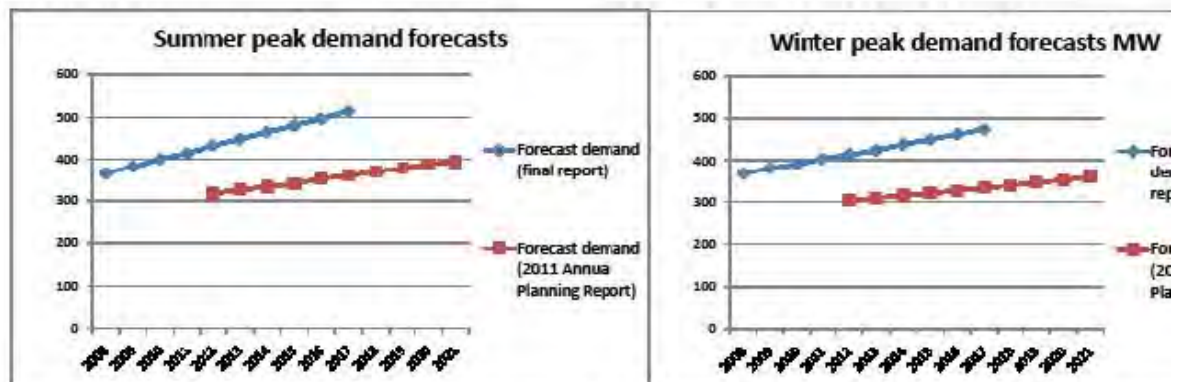
This has been born out by reality in the last two years. The data below are taken from TransGrid's final report 2009 and the annual Planning report 2011 (compiled by J. Rutowitz).

If you cannot see the graph in this mail please see attachment "Demand Projections TransGrid 2011."

FORECAST DEMAND FROM Transgrid 2009 Final report - development of supply to the NSW Far North Coast and Transgrid 2011 Annual Planning Report

Summer peak demand forecasts MW	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Forecast demand (final report)	367	382	400	415	433	449	465	481	497	515		
Table 4 Summer Peak Demand												
Forecast demand (2011 Annual Planning Report)					317	326	333	341	353	360	370	377
Table A3.10 – Essential Energy (North) Connection Point Summer Peak Demand												
Reduction in forecasts					116	123	132	140	144	155		

Winter peak demand forecasts MW	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Forecast winter demand (final report)	368	381	390	404	414	424	439	450	462	474		
Table 3 Winter Peak Demand Forecasts												
Forecast demand (2011 Annual Planning Report)					303	308	315	320	326	333	338	344
Table A3.11 – Essential Energy (North) Connection Point Winter Peak Demand												
Reduction in forecasts					111	116	124	130	136	141		



Both include peak demand for Boambee South, Coffs Harbour, Dorrigo, Koolshan, Lismore, Macksville, Nambucca, Raleigh, and Tenterfield

According to these figures the line is completely unnecessary.

This is also implied by an energy efficiency specialist from Ausgrid, Paul Myors, who said in an interview with Brian Robins in the Sydney Morning Herald from the 15 August 2011:

"We have seen consumption falling by around 2 per cent a year for average household electricity use over the past four years. That goes against the long-term trend of a steady rise.

"It could be the global financial crisis -and rising tariffs is a factor. We are seeing the impact of energy efficiency," he said, pointing to the move away from electric hot water systems, previously the main user of electricity in the home.

The fall is expected to lead the national electricity market body, the Australian Electricity Market Operator, to forecast overall cuts of 5 to 6 per cent in demand in the next decade -the first cuts in living memory.

The drop so far will increase pressure on the government to curtail capital spending by state-owned electricity companies.

Prices rose as much as 13 per cent on July 1 to fund \$14.4 billion of spending on the electricity system but there has been criticism that government-owned companies such as Ausgrid and Endeavour

Energy are "gold-plating" their networks by investing unnecessarily."

This brings up another objection to the line.

The unnecessary price rise for the consumer due to overinvesting in unnecessary infrastructure.

The expected rise in demand and in peak demand can be met by other means and much cheaper than by extending the transmission network for centralised power. The core of the problem is a centralised, mostly coal fired electricity supply via transmitted energy. (see attached Media Release of City of Sydney 6 May 2010) A very wasteful and expensive way of way of supplying power. Demand side management (DSM), energy efficiency and distributed energy, locally generated, can supply the growing demand and peak demand problems, do it much cheaper, and with a lot less greenhouse gas emissions. The fact, that Xstrata just recently pulled out of the Copperstring project says a lot about cost efficiency for consumers of long distance transmission.

"And the scale of this "waste" is enormous: around \$6 billion in costs – a quarter of the annual retail cost of electricity, which is caused by servicing the extreme peaks in wholesale prices and network demand for just 40 hours a year "(<http://www.climatespectator.com.au/commentary/its-time-reform-nem>)

"Meeting the growth in demand with Distributed Energy is significantly cheaper than building a new coal fired power station or meeting electricity growth needs with gas turbines. This is primarily because of significant savings which can be achieved by avoiding or deferring the need for expensive electricity network augmentation.

The Distributed Energy scenarios also have lower greenhouse gas emissions, particularly if combined with retiring 1000 MW of coal fired generation. The maximum Distributed Energy scenario considered (energy efficiency, cogeneration, demand side response and retiring 1000 MW of coal fired generation) saves 7 million tonnes of emissions and \$0.5 billion compared to business as usual." (J. Rutowitz, Chris Dunstan: Meeting NSW electricity needs in a Carbon Constrained World Lowering Costs and Emissions with distributed Energy, UTS 2009, attached)

As further evidence in support of my claim I have attached : " Distributed Energy versus transmitted Energy", transcript of a Saturday Extra, and " Demand Management and Energy Policy", by the Total

Environment Centre.

The construction of the line also flies into the face of all the attempts of state and federal governments to reduce greenhouse gas emissions, support of lower power consumption, energy efficiency measures etc.

"The NSW government has a strong commitment to energy efficiency, and is continuing to develop and implement innovative policies to help NSW transition to a low carbon economy. NSW believes the key drivers for energy efficiency to be:

- National coordination and leadership, including the need for clear goals and energy efficiency across sectors;
- Enhancing demand side measures to address energy shortages rather than only focusing on supply;

- The need for long term market signals to encourage energy efficiency."

(Introductory letter to the NSW Government Submission to the Prime Minister's Task Group on Energy Efficiency: Issues Paper; attached.) The go ahead with the line would go completely against those goals and send the wrong market signal. Let me quote Giles Parkinson from the Climate Spectator in this context:

"The NEM, a market that has been widely praised for delivering cheap and reliable energy, is now criticised because it is inflexible, is skewed towards suppliers simply producing more energy, and worst and most ironic of all – it adds unnecessarily to rising electricity costs. "There is no environmental objective and no demand management objective in the national electricity law, and that's quite surprising," says

Mark Lister, head of the Alliance to Save Energy."

(<http://www.climatespectator.com.au/commentary/its-time-reformnem>)

Meeting peak demand can be done much cheaper, simpler and environmentally friendlier than by building the new line, if the before mentioned new technologies and measures are implemented.

"However, these economic and environmental benefits will not be realised unless there is deliberate and effective electricity policy reform in NSW. This policy reform does not need additional government funding, but it does require strong and sustained political leadership to break with the centralised energy paradigm of the past." (UTS report p.viii)

This is exactly what I would like to ask the planning minister to do. Do not approve of this project but show the political leadership which is asked for in this instance.

I would like to point out that the 6 weeks, or so, given to make submissions to the proposal are rather short. This is a document of almost 2500 pages which has to be read understood and commented on by the public, who have full time jobs and do not get paid to read the proposal. URS took two years and a lot of money before it submitted the report. So please understand that my response to the report will be short and patchy from here on.

2.3.2 Regulatory Consultation (Main Report Vol.1 p57)

The attached final report by the AER about the " compliance with the planning and network development provisions of the National Electricity Rules" shows, that TransGrid has failed badly to comply with the NER.

" Despite the requirements of clause 5.6.6(c)(1)(iii) to describe all reasonable network and non-network alternatives to address the identified constraint, the application notice did not describe the sorts of non-network alternatives that would address the emerging network limitation." (Final Report p.9) TransGrid can therefore not believably claim, that there could not be any feasible alternatives to the line be identified.

2.3.3. Request for Proposals (Main Report vol.1 p.58)

This so called Request for Proposals was an afterthought forced onto TransGrid by the result of the Investigation by the AER. Not only did it come far too late to comply with the NER, it does not comply with the rules in it's substance either.

The National Electricity Rules 5.6.6 (c) (iii) require that the Application notice must set out all other reasonable network and non-network alternatives. The RFP was extremely limited in its purpose and scope and was issued, to quote Michael Gatt: "While TransGrid's Far North NSW Transmission Line project is the most effective long-term solution to meet growing peak demand in the region, transmission line projects take years to deliver and TransGrid is seeking proposals for non-network alternatives in the short-term," It had absolutely nothing to do with investigating all network and non-network alternatives to the line itself, and the AER itself "considers that the RFP process is not a

substitute for clause 5.6.6 of the Electricity Rules" (Attachment A to a letter by Andrew Reeves, Chairman of the AER, to the Managing Director of TransGrid, obtained through Freedom of Information) It seems the RFP was designed to fail. In talks to members of industry, this was regularly mentioned and used as an argument why businesses didn't even bother to put in submissions. As a layman I would only like to use one example: On page 21 of the Request for Proposal 51-10 Document it says:

"14.3 Other Termination Rights TransGrid may terminate this agreement, without liability to the Operator, by giving one months prior written notice to the Operator:

- (a) during the period from 1 May 2011 to 30 November 2011; or
- (b) during the period from 1 March 2012 to 30 November 2012; or
- (c) during the period from 1 April 2013 to 30 November 2013; or
- (d) during the period from 1 April 2014 to 30 November 2014.

Any notice given during any of those periods shall take effect on the expiration of the one month period, even if that date is outside those periods."

Which business in its sane mind would invest millions just to be told, with one months notice, the contract is off? I wonder if this has anything to do with the unwillingness of the owner of the bagass biomass plant to be contractually bound to provide network support as mentioned under 2.4.4. p 62 of Vol.1 of the main report.

On page 38 of the main report TransGrid claims, the project will save 33.000 tones of Co2 per year due to increased efficiency of the network. This is completely ludicrous and a little bit like the first semester economy joke of how to save money as a smoker? Smoke lots of cheap cigarettes! If your packet of cigarettes costs \$15 go to cigarettes which cost \$10. So in a business as usual scenario you save \$5 but if you double your smoking you save \$10. So go for it. This ties in exactly with the findings of the senate's Eastlink Enquiry:

"Chapter 6 -Electricity Consumption and Greenhouse

The question of impact on greenhouse gas emissions hinges on whether Eastlink will increase the use of coal fired power stations. Because there is almost no data available which relates specifically to Eastlink, the Committee is unable to make a decision as to which is the more likely outcome. However, the Committee notes that the potential does exist for greenhouse gas emissions to increase. The Committee therefore recommends that the Commonwealth Government investigate in detail the likely impact of Eastlink on coal consumption and the implications of any change in that consumption for greenhouse gas emissions having regard to its international obligations. (Paragraph 6.29)."

This, I think touches the heart of the matter. This line has nothing to do with covering the peak hour demand of the Far North of NSW and all with creating the necessary infrastructure to go on with business as usual, meaning centralised coal/gas fired power supply. It seems to be clear by now, that the reality has to go another way. In 20 years time, experts agree, the sources and infrastructure supplying households with electricity will look very different from today's models. I am concerned that even within 5 years, this proposal could be a massive waste of money. It is worthwhile to remember that Transgrid exists to carry power, and smart grids, local supply solutions, energy efficiency measures, and all the recommendations by the federal and NSW government threaten their bottom line (e.g. see the attached submissions to energy efficiency task force). They clearly have a vested interest as a Corporation to continue to operate in the way they were originally set up.

Finally, let's just for arguments sake, assume that the logic of saving Co2 emissions is right. Over the 30 years lifespan of the project this would mean around 1mio tones of Co2 saved. At a cost of \$227 mio this saving comes at a price of \$227 per tone of carbon. This speaks for itself about the inefficiency and value for money of this project. In fact "The inefficiencies in our current grids are systemic.

With little or no intelligence to balance loads and monitor power flows, every year grids around the world lose enough electricity to power India, Germany and Canada." (IBM GE new technologies) (www.ibm.com/innovation/au/smarterplan/)

4.5.5. Vegetation Clearing Protocol (Main Report Vol. 1 p. 123)

The method of chemical control mentioned in this section is exactly one of the things I am trying to get as far away from as possible, as mentioned in the beginning of my submission. I find it an intolerable infringement of my right to enjoy my property, to have my environment poisoned by chemicals.

4.5.6. Access Tracks (Main Report Vol.1 p.p. 124)

Most land owners in the Dumaresq Valley have enough trouble with unauthorised shooters and pig hunters, and theft of animals, without extra road access along the line to provide these people with a highway through our back country which we cannot police.

The frequent use of those tracks by maintenance personnel and the above mentioned unauthorised visitors opens up a highway for environmental weeds to come to the, until now, uninfested back blocks.

This again touches on one of the reasons why I chose this block here, the absence of weed infestation due to its inaccessibility. This will put an additional financial and time burden on us landholders, which we can do without in the current situation.

5.2.1 Environmental Protection and Biodiversity Protection Act 1999 (Main Report Vol.1 p.p. 140)

"No threatened species listed under the EPBC act were recorded during the survey of the study area." (p 141)

They cannot have looked very closely, since I have observed the Squatter Pigeon, Spotted Tailed Quoll and the Brush Tailed Rock Wallaby on my property alone.

For the assessment under the EPBC act please see my attachment: Submission TG EPBC. and the Review of Biodiversity Report by The Envirofactor.

In summary, I come to the same conclusion as Minister Garrett did in November 2009 that the project has " unacceptable impacts on matters of national environmental significance.....My decision requires me to balance environmental, economic and social impacts. The likely economic and social benefits of this proposal do not outweigh the serious environmental impacts on our nationally protected species." (quoted from the ABC <http://www.abc.net.au/news/2009-11-11/garrett-rejects-travestondam/1138124>)

Table 8.2 on p183 Main report Vol. 1 fails to identify Reedy Creek as a class 2 creek. My records can prove this is, indeed, the case. This is just another example of the sloppiness of the research done.

Let me give you another example of this. In Volume 2 Appendix H the "visual receptors" are defined and listed. On page 38 just south of AP15 between R7 and R8 I should be listed. But I do not exist for TransGrid even though the line would be in plain view from my entrance.

6 Community Consultation (Volume 1 p.152)

Let me please quote here from the Senate Enquiry (see attachment)

"The Committee concludes that while the power authorities put a large effort into public consultation, the methods used were not accepted by many of those people affected by the proposed power line. The cumulative effect has been considerable social disquiet and stress. (Paragraph 4.108)."

The same has happened here. The public was treated patronisingly and with arrogance. One of the questions I asked was labeled stupid. At the first meeting here on the western side, the line was presented as a fait accompli. All the questions asked regarding the need, the consumption figures and alternatives were not answered. We were told the "experts" present cannot answer these questions, and we should ask about compensation and make suggestions where the line should go. In the list of Key issues raised during community consultation, these issues about the fundamental question of the need of the line and the underlying usage figures are left out again. This issue is completely ignored.

12.2.2. View Catchment (Main Report Vol.1 p. 238) I do object to the 1 km offset each side of the line. In the Reedy Creek valley the line will be a dominant spoiling feature for many kilometers around. It will transect the view of the whole length of valley from my property. This will have a major negative impact on the bushwalker and hunter tourism in the valley which is quite frequent. It also has a major impact on the land value and my right of undisturbed enjoyment of my property.

16.3. Bushfire Assessment p.p. 290

As the enquiry into the Victorian bushfires showed, power lines are a major cause for bushfires. If a fire starts in Reedy Creek Valley due to the line, considering the prevailing winds in these conditions and the topography, my place would burn before the bush fire brigade would arrive, even if I detected the fire immediately after it's start. The fact, that TransGrid does not recognise my existence makes this even more frightening. Furthermore do I disagree with the intensity score around my place. Particularly sections 7 and 8 are well grassed woodlands and very steep forested slopes.

17.4 Health risks (Vol.1 p.229)

Again I want to quote from the Senate Enquiry:

"However, the Committee is able to conclude that simply the fear of detrimental health effects, whether real or imaginary, is in itself having an impact on the lives of some individuals affected by the Eastlink proposal." From my own experience I can add, that the threat of the line going through our valley here alone, has caused me considerable stress anxiety and depression.

18. Socio Economic p.p. 300

The proposed line has already had an impact on the real estate market for properties along the Western corridor. In addition, the value of properties along the corridor will be reduced by the advent of the powerline. It is clear that some people are currently being economically disadvantaged by the proposal.

Regional economics will feel a flow-on effect from the stagnation of the rural real estate market and the unwillingness of property owners in general to make any further capital investment in their properties. The visual impact of the power line will affect regional tourism. To summarise my opinion: this line cannot be approved because: 1 TransGrid's application process was flawed and did not comply with the NER and therefore be rejected on non compliance.

2. There is no need for this line, because

- a. the projections are flawed
- b. there are cheaper and more environmental solutions to the perceived problem.
- c. TransGrid does not meet the regulatory test to show that the proposed option is the least cost alternative?

3. A complete inadequacy of large parts of the EIA that make the report an inadequate tool for approval authorities to effectively assess the impact of this development (e.g. see the attached "Review of the biodiversity report")

4. The environmental damage and threat to EPBC listed species and ecological communities is far too great and considering there is no need for the line the risks far outweigh the non existent benefit. (Please refer to the ministers decision in the Mary River Dam case in November 2009)

5. There are unacceptable social, economic and individual consequences from the project, again without any benefits.

The only benefit there is in this line is for the profit of TransGrid and the power of centralised power supply.

Thank you for the opportunity to put in a submission.

Your sincerely

Sandor von Kontz

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Dear Ms Groves,

Re: Dispute Notice re proposed Dumaresq-Lismore transmission line

The Environmental Defender's Office Northern Rivers acts for Upper Dumaresq Action Group ("UDAG"). The Group is made up of landholders from the Dumaresq Valley in northern NSW. We refer to TransGrid's proposal to construct a new 330kV transmission line between Bonshaw and Tenterfield and to upgrade the existing 132kV line between Tenterfield and Lismore ("TransGrid's proposal").

UDAG regards itself as an "interested party" within the meaning of the National Electricity Rules (NER), in that its members are end users who have the potential to suffer "material and adverse market impacts" from TransGrid's proposal.

We are instructed by UDAG to lodge a dispute notice (attached) in relation to TransGrid's proposal. UDAG recognises that more than 30 business days have passed since a summary of TransGrid's Final Report: Development of Electricity Supply to the NSW Far North Coast was published on the NEMMCO website on 28 April 2009. However, as a community group rather than a market participant, UDAG was not made aware of the dispute resolution process within the normal 30 day timeframe for lodging dispute notices.

Further, UDAG is of the view that there are serious public interest issues involved in this proposal that have not been addressed by TransGrid and that affected landholders and consumers on the Far North Coast (FNC) have not had the opportunity to address through TransGrid's application of the reliability limb of the regulatory test of the NER to this proposal.

In short, our client contends that TransGrid and Country Energy have erred in claiming in the Final Report to have "applied the regulatory test to all known reasonable options to meet the network limitations described", since the Final Report has not given adequate consideration to current and potential demand management and local generation options; and that these options, if properly considered, would not only obviate the need for new and upgraded transmission lines to the Far North Coast, but would be more compatible with emerging state and federal government policies and market conditions in the energy sector.

Our client claims that the economic inefficiency and environmental irresponsibility of this proposal is illustrated by the fact that, at the same time that TransGrid is planning this project to allow additional supply to the FNC via the QNI interconnector during a potential 87 Armidale-Coffs Harbour 330 kV line outage, Metgasco is seeking planning approval to build a pipeline to transport gas from Casino to Ipswich to fuel a gas-fired power station. In other words, electricity (largely from coal-fired power stations) is intended to be sent south over the NSW-Qld border while gas is piped north over the same border, only 200 kilometres to the east. The AER is possibly in the best position to intervene to correct this classic example of poor infrastructure planning.

In view of the large capital expenditure involved, the lack of community consultation and the public interest issues involved, UDAG requests the AER to consider this dispute under Clause 5.6.6 of the NER.

Yours sincerely,

Environmental Defender's Office (Northern Rivers) Ltd

Sue Higginson

Solicitor

DISPUTE NOTICE

New Large Network Transmission Asset TransGrid 330kV transmission line from Bonshaw to Lismore

Introduction

This dispute notice is lodged pursuant to Clause 5.6.6 of the National Electricity Rules (NER), in relation to the application of the reliability limb of the regulatory test for new network investments (Clause 5.6.5A of the NER).

This dispute notice is lodged by the Environmental Defender's Office Northern Rivers on behalf of its client, the Upper Dumaresq Action Group ("UDAG"). UDAG is made up of landholders from the Dumaresq Valley in northern NSW. UDAG regards itself as an "interested party" within the meaning of the NER, in that its members are end users who have the potential to suffer "material and adverse market impacts" from TransGrid's proposal.

This dispute is in relation to TransGrid's proposal to construct a new 330kV transmission line between Bonshaw and Tenterfield and to upgrade the existing 132kV line between Tenterfield and Lismore.

TransGrid's justification

In short, TransGrid justifies this proposal on the following grounds:

1. Due to (a) increasing population and (b) energy usage on the Far North Coast (FNC), there are emerging network limitations that in time will affect reliability.
2. Due to the claimed reliability issue, TransGrid is justified in applying the reliability limb of the regulatory test, which is less onerous than the market benefits limb.
3. Having received no responses to the publication (with Country Energy) in 2003 of a document seeking "proposals from proponents of developments which may relieve the limitations in the transmission network supplying the area", in its application notice TransGrid considered two options for 330kV lines to Lismore and several other network developments.
4. With submissions to the application notice being received only in relation to non-network options, TransGrid and Country Energy believe that they "have applied the regulatory test" appropriately, "have determined the option that satisfies the test", and have accordingly decided to proceed with Option 1 at a cost of \$227 million.

In response, UDAG contends the following:

1. (a) It is agreed that current and forecast population increases will gradually put more pressure on transmission and distribution networks on the FNC, all else being equal.
(b) TransGrid's projections in the Final Report (FR) for energy consumption on the FNC over the next decade (Figures 2 and 3 of the FR) are based on "a medium economic growth outcome".¹ The choice of this scenario (discussed further below) appears to be based more on a low-risk approach to TransGrid's planning needs than on any rational assessment of available demand data and trends. The forecast demand increases to 2018 shown in Figures 2 and 3 of the FR appear to be approximately in line with the "business as usual" (BAU) scenario in TransGrid's Strategic Network Development Plan 2008 (SNDP), whereas recent demand and forecast demand in light of current energy efficiency and related government policies are closer to either the Low Green or High Green Scenarios in the SNDP.² The FR shows that total annual demand has plateaued since 2004-05, while summer demand in 2007-08 actually decreased markedly.

¹ Final Report, page 24.

² Figures 2.5 and 2.6, Strategic Network Development Plan 2008.

Reinforcing this trend, new ABS data reveals that in the period 2001-06, overall energy consumption in NSW and the ACT rose by only 3 per cent (including off-grid transport energy), while residential energy consumption actually fell by 1 per cent.³

When current and forecast demand management (DM) and local generation (LG) options discussed below are taken into account, it is likely that, in spite of modest population increases, overall consumption may continue to plateau or even decline over the next decade. Further, if energy companies spent a similar amount to that planned by TransGrid (\$227 million) on local generation on the FNC, the overall energy required to be transported by the transmission network could even fall over the next decade, rendering redundant the reliability issue (see below). Even without this additional investment, TransGrid's 2009 Annual Planning Report identifies a range of policy and market changes that are likely to reinforce this trend. A low growth scenario is therefore more appropriately applied in this case.

2. The reliability limb of the regulatory test is designed as a less rigorous test than that which applies to other new network assets, in order that reliability not be compromised by long leadtimes for project approval. However, TransGrid has warned of emerging network limitations on the FNC since 2003.⁴ TransGrid has had more than enough time to apply the market benefits limb of the regulatory test, which involves consideration of "alternative options and timings in a majority of reasonable scenarios." It is contended that this is the test which should be applied to the TransGrid proposal.
3. TransGrid and Country Energy's 2003 request for proposals represents the absolute minimum it could have done to investigate DM and LG options for the FNC. By contrast, in 2001 TransGrid commissioned consultants to prepare a report on DM and LG for the Central West of NSW which identified numerous opportunities for reducing demand on the transmission network.⁵ No serious effort has been made to take into account government energy policies, investigate DM and LG, or to attract the interest of non-NEM registered participants (such as wind and solar power providers) who may be able to reduce demand on the transmission network.

In light of the above, the only serious consideration given by TransGrid to options to reduce reliability constraints were those available within its own current business model and network, in partnership with Country Energy as the monopoly distribution network service provider

The following sections provide more detailed information to support statements made above.

Supply and demand forecasts

The network limitations anticipated by TransGrid are the result of projected increases in end-user demand over the next decade. However, there is widespread evidence that TransGrid consistently overestimates demand forecasts. For instance:

- The forecast demands in TransGrid's 2008 Annual Planning Report were "slightly lower"⁶ than those in the 2007 Annual Planning Report, which formed the basis of the Application Notice.
- The 2009 Annual Planning Report states (at p18) that 2009 energy projections for NSW, using the Baseline economic growth scenario, are "4.8 per cent, on average below last year's projections" for the following 10 year period.

³ ABS, 1338.1 - NSW State and Regional Indicators, June 2009:

<http://www.abs.gov.au/ausstats/abs@.nsf/Products/1338.1~June+2009~Main+Features~Environment?OpenDocument>.

For an independent source of projections for household energy consumption, see Energy use in the Australian residential sector 1986-2020, Department of the Environment, Water, Heritage and the Arts, 2008:

<http://www.environment.gov.au/settlements/energyefficiency/buildings/publications/energyuse.html>.

⁴ Emerging Transmission Network Limitations on the NSW Far North Coast, TG, August 2003.

⁵ Crawford-Smith et al, Development Options Involving Demand-Side Management and Local Generation in the Advance Energy Area: <http://www.transgrid.com.au/trim/trim175049.pdf>

⁶ Final Report page 13 note 1.

- Figures B.4 and B.5 of Appendix B: Load Forecasting of the NEMMCO 2008 Statement of Opportunities (SOO) shows that TransGrid's demand projections were significantly higher for the period 2005-2008 than actual demand during this period.
- There are substantial variations (up to 10% above and below) between the Country Energy (North) summer peak demand forecasts for locations such as Coffs Harbour and Lismore between the 2008 and 2009 Annual Planning Reports and even for 2010. This reinforces our client's belief that forecasts for up to 10 years in the future should be treated with caution, especially when they are used to justify spending large sums of public money for major infrastructure that is likely to have a significant impact upon the environment and the community.

In spite of a body of consistent evidence that TransGrid overestimates future demand, the FR, however, states (at p24) that its justification for this project is based on "Only a single market development scenario... which corresponds to a medium growth outcome and which does not explicitly model future generation or demand management developments." This is said to be due to:

- "The need for network augmentation being within the lead time of all known reasonable options.
- There being no known committed or advanced generation or demand management developments that are likely to affect the timing of the onset of the network limitations or the ability of any reasonable option to meet them."

Proposal timing

The first of these two reasons is of limited validity, since:

- (a) TransGrid has been warning of the need for network augmentation in an N-1 scenario on the FNC since 2003⁷ – ie, this is not a new situation requiring an urgent response;
- (b) whichever growth scenario from the 2009 Annual Planning Report is chosen, the majority of the projected demand increase occurs in the second half of the next decade, giving adequate time to consider alternative supply options;
- (c) even if TransGrid's projections were accepted as realistic, there is no suggestion that failure to build the Bonshaw-Tenterfield-Lismore transmission lines would result in outages on the FNC: rather, it would merely require greater TransGrid network support during summer via QNI, and there is no data in the relevant reports suggesting that either Queensland generation or QNI are close to capacity or incapable of augmentation; and
- (c) TransGrid's own calculations indicate that (again, even if TransGrid's demand projections were accepted as realistic) the level of support required in the event of major line outages will grow relatively steadily over the next decade, rather than rising exponentially from any particular year.

Local/renewable generation

UDAG disputes the second reason given above by TransGrid for not explicitly modelling future generation or demand management developments, for the following reasons:

- a. while the FR does not consider DM and LG solutions to the alleged emerging network limitations,⁸ in recent years TransGrid's Annual Planning Reports have discussed at length the options for non-network alternatives and gas and wind generation;
- b. while it is impossible at this stage to accurately predict the impact of the proposed CPRS and MRET on generation capacity, TransGrid has recognised the potential

⁷ See Emerging Transmission Network Limitations, TransGrid and Country Energy, 2003.

⁸ The FR merely refers to its 2003 call for proposals and states that "No responses relating to new developments were received" (19). A genuine, widely advertised and easily understandable call for DM and LG proposals on the FNC would be likely to produce numerous proposals from solar and cogeneration providers in particular.

impact of the MRET and the proposed CPRS on DM and LG across NSW in its recent Annual Planning Report;⁹ there is no evidence in the FR, however, that TransGrid has made any allowance for these important and directly relevant policy drivers in its consideration of DM and LG;

- c. TransGrid appears to underestimate the potential for renewable energy generation in NSW: for instance, the 2008 Annual Planning Report projects wind generation capacity to grow from zero in 2008/09 (which is inaccurate) to 1,448 MW in 2014/15, in spite of the fact that this figure has already been exceeded with the recent approval of the ~ 1000MW Silverton wind farm, and could be expected to double further in the next 5 years;¹⁰
- d. TransGrid has made no significant effort to encourage non-network solutions on the FNC beyond its statutory duty to publish the 2003 call for proposals: a call which would have been seen only by industry participants registered with the NEM at the time (it could, for instance, have published ads in local newspapers calling for local renewable energy suppliers to propose large rooftop PV rollouts or stand-alone solar arrays, among other options);
- e. (e) TransGrid appears unaware of a range of local generation projects on the FNC which have either recently been commissioned or are pending planning approval – ie, the Condong and Broadwater Cogeneration plants (30 MW each) and the Richmond River (coal-seam methane) Power Station (30 MW). These three plants alone will provide enough power to supply the additional needs of the FNC for another 8-9 years, even if TransGrid's demand forecasts were accurate. Thus, in its Environmental Assessment for the Richmond Valley Power Station, Metgasco contends that "Current power supplies for the region are provided through a substation at Lismore. The installation of reliable power generation in the Casino area will augment security of power supply for the region with greenhouse gas efficient generation."¹¹
- f. (f) TransGrid makes no allowance for the possible future expansion of gas generation related to exploitation of the Clarence-Moreton Basin of northern NSW, with Metgasco, for instance, stating that it has "growing certified gas reserves close to energy markets and plans for electricity generation":¹². Whether gas-fired power is distributed via the transmission or local distribution networks, it has the potential to substantially reduce the load on the broader transmission network and thus to increase reliability on the FNC;¹³ and

⁹ 9 TransGrid 2009 Annual Planning Report, 55.

¹⁰ While in 2007 there was only 17 MW generated by the 4 wind farms then operating in NSW, at that time another 10 projects with 556 MW of capacity had been approved, and another 4 projects with 247 MW of capacity were pending approval (see Reidy and James, *The Role of Wind Power in NSW*, Institute for Sustainable Futures, 2007, Tables 4 and 5). One of these projects has since been approved, alongside Silverton; the others are pending; and 4 new proposals (Yass, Boco Rock, Paling Yards and Flyers Creek) are also now pending NSW planning approval. These last 4 alone have a capacity of approx. 1450 MW (see <http://majorprojects.planning.nsw.gov.au/page>)

¹¹ Metgasco, *Environmental Assessment - Richmond Valley Power Station and Casino Gas Pipeline*, ES-1: http://www.metgasco.com.au/page/richmond_valley_power_station.html.

¹² See <http://www.metgasco.com.au>.

¹³ For instance, if the NSW Government were to decide that the methane to be piped interstate via the planned Metgasco pipeline from Casino to Ipswich should instead be used to expand the Richmond River Power Station, this would add another 18 petajoules per year of generation capacity on the FNC.

- g. (g) No allowance has been made for the recent and possible future high local uptake of rebates for rooftop solar power, solar hot water systems and ceiling insulation, some of which have been rolled out on a town-by town basis on the FNC over the last two years.¹⁴

Conclusion and recommendations

Our client is of the view that there are good reasons to believe that demand on the FNC, as elsewhere in NSW, will continue to plateau in coming years, and that any increase in demand can be more than met by local generation. It therefore contends that the planned reliability augmentation is unnecessary and would be a misuse of public funds, which would be better spent encouraging DM and LG.

We note that similar concerns were raised by the Total Environment Centre in its September 2005 submission to the Wollar to Wellington 330kV Transmission Line Environmental Impact Statement, but that that line was constructed nonetheless, and that TransGrid has not substantially altered its transmission planning process since that time. Four years later and in light of changing climate change, renewable energy and energy efficiency policies and programs, TransGrid's business model is looking not only outdated but counter to the changing interests of consumers, the environment and government policy alike.

We note further that TransGrid is required under the Energy Services Corporations Act 1995 (NSW) "To protect the environment by conducting its operations in compliance with the principles of ecologically sustainable development."¹⁵ To this end, and bearing in mind that well over 80 per cent of the power TransGrid transmits is still generated by coal-fired power stations, the \$227 million of NSW energy consumers' money TransGrid is planning to spend on new transmission lines could instead be spent on initiatives to improve DM and LG on the FNC,¹⁶ and to reduce the carbon footprint of TransGrid's operations.

It is therefore recommended that, prior to proceeding with the planned network upgrade for the FNC of NSW, the AER requires TransGrid to:

- a. commission an independent study of DM and LG options for the FNC and the environmental as well as economic impacts of these options, including their carbon footprints relative to TransGrid's current proposal;
- b. involve the community on the FNC in this study and inform it of the results;
- c. commit to involving the community in major decisions about its energy future;
- d. if it still considers a large transmission network project is necessary, apply the forthcoming regulatory test to it; and
- e. not proceed with the planned transmission line construction until this process has been completed.

¹⁴ Statistics from DEWHA indicate the NSW had the highest number in Australia of domestic solar power systems installed to May 2009, including the highest number of off-grid installations: see

<http://www.environment.gov.au/settlements/renewable/pv/index.html>. No data are available by region

¹⁵ Quoted in the Final Report, page 9.

¹⁶ For instance, if this money was invested in domestic solar hot water systems, it could theoretically save around 472 GWh pa or approx. 33 MW. This assumes that the average cost of a new solar water heater after current government rebates is \$1500; \$227 million could top up the subsidies to provide free systems for over 180,000 homes. (In reality, given there are around 270,000 people on the FNC, at the Australian average of 2.8 persons per household, this means there are around 96,000 households or dwellings on the FNC. Thus, \$227 million could provide enough subsidies to put a solar hot water system on every current household's roof nearly twice over.) Assuming that the installation of a 300 litre domestic solar hot water system saves around 75 per cent of the approx. 3,500 KWh pa of energy (ie, about 37 per cent* of the 2008 average NSW household consumption of 9400 KWh pa**) used by an electric system, this equates to a saving of 2,625 KWh per household, or a total saving for 180,000 households of approx. 472 GWh. Assuming an average recharge time of 4 hours per day for electric water heaters, this equates to an average saving of ~33 MW. ¹⁶ It is recognised that the energy saved by converting to solar hot water would otherwise have been partially consumed by offpeak heaters, spreading the load around the clock; thus the figure of 33 MW is indicative only.

* This figure for the contribution of hot water to household energy consumption is from Energy Australia's energy usage guide.

** This figure is obtained by dividing the total NSW residential electricity consumption for 2006-07 of 21,862.5 GWh (source: Electricity and Gas Australia, Energy Supply Association of Australia 2008) by the 2,328,000 households in NSW (source: ABS, 2006 Census QuickStats: New South Wales)



**Energy Users Association of Australia Energy
price and market update seminar**

**‘Finding the balance—the rules, prices and
network investment’**

20 June 2011 Andrew Reeves, Chairman

Good afternoon and thank you to Roman for the invitation to address the Energy Users Association of Australia’s energy price and market update seminar today.

For many years Australia enjoyed relatively stable energy prices in real terms. However, this situation has changed markedly, with substantial increases in prices in the past 2 to 3 years.

Charges for use of the transmission and distribution electricity networks together represent about half of a customer’s bill and have been a major contributor to increasing prices. There are a number of reasons for this—fundamentally there is a need to spend money on the networks to meet strong growth in demand, to provide services to new connections and to replace ageing equipment to maintain reliability.

Recent decisions also include higher allowances to cover increases in the cost of debt that have occurred since the global financial crisis and increases in labour and materials costs. However, as has been raised by a number of recent reports, the framework under which the regulator must operate is also a factor in the increases.

The role of the AER as the economic regulator for energy networks is to ensure that consumers are not paying more than is necessary for the delivery of safe and reliable services. Indeed, this concept is enshrined in our energy legislation. The national electricity and gas objectives are such important principles that they are set out in the National Electricity Law and the National Gas Law. These laws, together with the National Electricity Rules and the National Gas Rules, direct the work of the Regulator.

In essence, the objective set out in the law is to promote efficient investment in and efficient operation and use of energy services for the long term interests of the consumers of energy. It is important that the National Electricity Rules and National Gas Rules, under which the Regulator makes decisions, deliver outcomes that meet this objective.

The AER considers that changes to these rules are necessary for regulatory outcomes to better meet the objective of the Law.

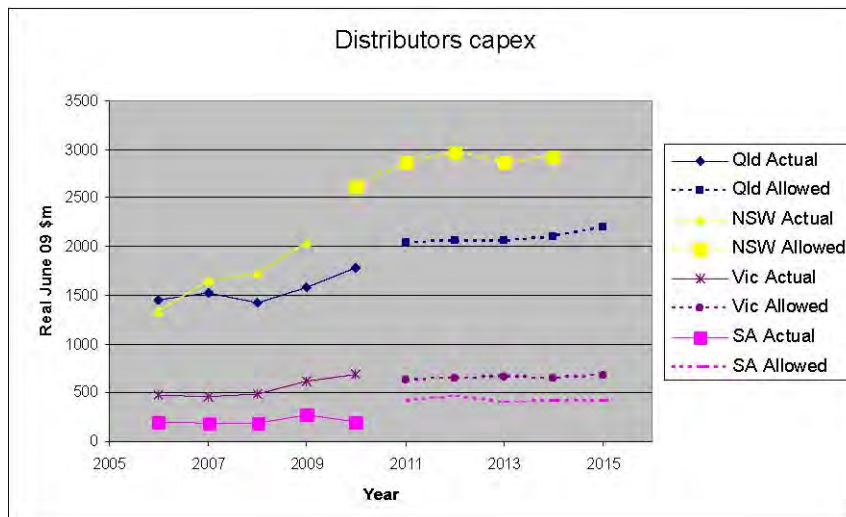
The AER considers that, in order to achieve the objective, it is necessary that the rules allow the regulator to determine an unbiased estimate of efficient costs required to provide these services. That is not the case as the rules now stand.

We recognise that network reliability is critical, so we need to be certain that we make sufficient allowance for investment to meet demand and to replace equipment that has reached the end of its life.

We need to be certain that firms have sufficient allowance to meet the costs to operate and maintain the network and to restore power quickly if blackouts occur. We need to provide a commercial return on efficient expenditure so that the firms can fund this investment. But we also need to be sure that we are only making customers pay the minimum necessary to meet the cost of an efficient service provider for the safe and reliable supply of energy. And that is the challenge – to ensure that the rules allow the regulator to strike that balance.

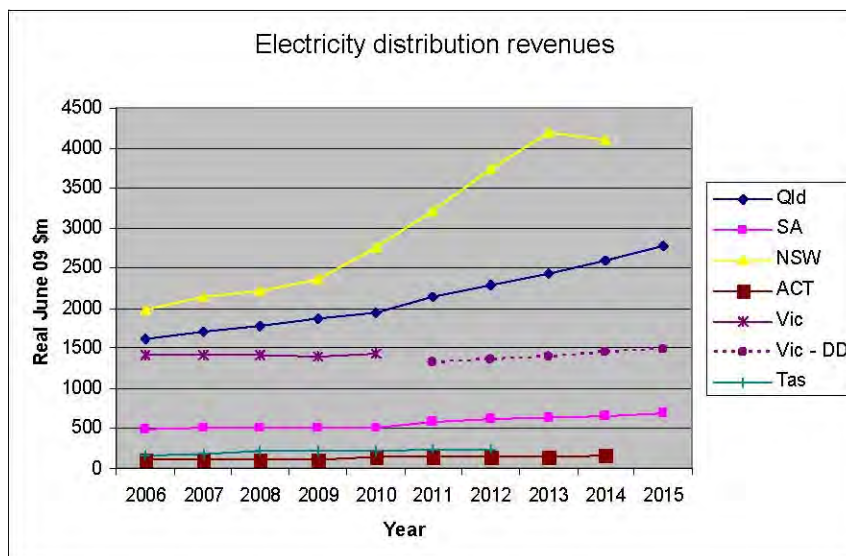
The current framework has allowed a major increase in investment expenditure by distribution and transmission networks. This slide (Figure 1) shows the increase in the capital expenditure of electricity distribution networks which has been approved under the current framework which came into effect in 2006.

Figure 1 Annual capital expenditure, distribution networks (by state)



The next slide (Figure 2) shows the impact of the current framework on distribution network revenues. As you can see, the amended rules framework has supported significant increases in electricity distribution revenues, particularly in NSW and Queensland.

Figure 2 Annual revenue, distribution networks (by state)



But to understand how this has come about, we should consider the circumstances in which the current set of rules were developed. The rules were written in 2006, when Australia was enjoying a long period of growth, network charges were relatively constant and there were concerns in some quarters about whether investment in critical infrastructure was sufficient to support continuing strong growth. It was argued at the time that the previous regime administered by jurisdictional regulators and the ACCC did not give the sector the assurance of returns needed to guarantee that investment would take place. It was thought that it was necessary to hard-wire into the rules, procedures and factors that the regulator ought to observe.

However, the result was a framework for network regulation that went beyond codification of regulatory process. The rules that operate today are not only highly directive in regard to process, but limit the ability of the regulator to exercise a proper discretion in assessing key inputs to its decisions.

While certainty for investment remains a critical consideration it is equally important that the framework only supports investment that is necessary and efficient.

The AER has now almost completed a full round of resets under the current framework and we have undertaken a stock take of our experience. What we have found are a range of issues with the rules which restrict the regulator's ability to make its own unbiased determination on efficient costs.

In several important respects, we have concerns about whether the current framework strikes an appropriate balance between the interests of network businesses and those of consumers. In broad, these concerns can be boiled down into three separate issues:

- first, we consider that the regulator should be able to make unbiased forecasts of efficient capital and operating expenditure
- second, there needs to be strong incentives for the firms to spend no more than is necessary and efficient, and to be sure that excessive expenditure is not rewarded
- lastly, there needs to be a process for setting the cost of capital that properly reflects the cost of funds, maintaining certainty for service providers that they are able to receive a commercial return on efficient investment, while ensuring that consumers are not paying for excessive returns.

I will now turn to each of these issues.

Forecast capital and operating expenditure

The AER is concerned that there is a systemic bias towards inflated forecasts because of the framework for establishing forecasts of required capital and operating expenditure.

As it stands, the current regime provides network businesses with incentives to submit revenue proposals that are at the top of, or beyond, what could be considered a range that 'reasonably reflects' the required expenditure.

The rules state that the AER must accept the estimate proposed by the business if it is satisfied the total 'reasonably reflects' efficient, prudent and realistic costs taking into account certain factors set out in the rules. Where we are not so satisfied, we must determine a substitute amount, subject to the requirement that the substitute decision must be made on the basis of the service provider's proposal.

As with all of the rules, these two items must be read together as a package. In isolation, they could be read as affording the regulator discretion to reject forecasts and to substitute its own view. However, looking at the process in more detail demonstrates the problem.

First, there is a clear incentive for the business to submit proposals that are either at or beyond the upper end of the range of reasonable estimates since the regulator is obliged to accept a reasonable estimate.

As you would expect, the proposals include copious amount of detail, and substantial engineering justification. Since the rules require that the regulator's response be based on the original proposal, the regulator must engage in a careful forensic examination of the myriad of detailed workings to be able to amend the forecast.

Further, the regulator can only amend the proposal to bring it back into a range of what could be considered to 'reasonably reflect' a forecast of efficient costs.

These factors, put together, mean that the regulator can only make adjustments at the margin, i.e. can only amend those details which are excessive to a reasonable estimate of that particular detail.

This is borne out by the AER's experience. Businesses routinely submit proposals that contain substantial engineering detail in support of the 'reasonable' estimate. We are then required to undertake a granular assessment of the proposal. This puts a substantial burden on the regulator to produce the evidence necessary to justify an amendment to the proposal, even if only to the extent necessary to enable its approval under the rules. This must be done within a tightly-defined timeframe. The inevitable consequence is an outcome that is not a central estimate of efficient costs, or even one which would conservatively provide 'at least' efficient costs, but one which is biased in favour of the service provider and can lead to excessive payment by users.

To address these shortcomings, the AER is preparing rule changes to amend this two stage assessment process. These would, if accepted by the Australian Energy Market Commission, reduce the limitations on the regulator's ability to challenge the proposal, requiring the regulator to determine the efficient forecast of required overall capital and operating expenditure.

The prescribed 'factors' that the AER must now take into account when making its determination are also being considered. The current set of factors include a mix of procedural and substantive matters, but it is not clear whether the list is intended to be exhaustive, or how the regulator should manage conflicting factors.

Importantly, we are keen to ensure that the rules do not place undue restrictions on the use of benchmarking to assist us in determining efficient costs. The AER noted in its final determination for the distribution networks in Queensland and South Australia that we are continuing to develop our analytical tools and techniques. For example, in our recent Victorian decision, we developed a new benchmarking and analysis tool – the repex model – to assess the need for replacement expenditure on ageing assets.

We are giving particular attention to benchmarking as a key tool in identifying efficient costs.

We are acquiring data and developing other benchmarking techniques, including process techniques, programming and parametric approaches, ratio analysis and time-series/trend analysis. We use a number of these depending on the quality and availability of data to hand as part of the assessment of the network businesses' proposals.

Quality of data is the key to this process. While raw comparisons across networks can expose evidence of differences between the businesses, care must be taken to ensure that the data is showing a fair and reasonable comparison. It must take into account differences in the regulatory environment, accounting treatment, asset classifications, network maturity, customer characteristics, geographical factors between regions and so on.

The AER today can not currently rely exclusively on benchmarking to determine efficient costs. Quite properly, the rules require that we must have regard to the circumstances of the firm being examined and we must be satisfied that the data is a reliable indicator of network needs.

As the nature and consistency of the data improves, we will be able to rely more heavily on benchmarking techniques. Our current review will ensure that the rules do not impose an impediment to the appropriate use of benchmarking.

Turning now to the incentives for efficient expenditure.

Efficiency incentives

The current rules require that all actual capital expenditure be rolled into the asset base at the start of the next period. This occurs even if the expenditure is more than that allowed by the forecast. We have seen that some network businesses have spent substantially more than the regulatory allowances in previous periods. This has led to significant step changes in prices for consumers at the start of the next regulatory period when the higher expenditure is rolled into the asset base.

It has been suggested that this is particularly an issue where the true cost of capital is below the regulated cost of capital and the business may have incentives to overspend. Under the rules, a network business may spend more than the approved allowance during a regulatory period. It has to bear the carrying cost of any expenditure in excess of the allowance, but only until the next reset.

At the next reset, the actual expenditure is rolled into the asset base without further review as to whether it was efficient or necessary. After that, the margin between the regulated return and actual cost of capital compensates for the short term carrying costs. This incentive arises whenever there is an expectation that the actual cost of capital is less than the regulated return, whether for private or Government-owned businesses.

To address this and other incentives for over-expenditure, we are considering a package of measures that would increase the power of the incentive on network businesses to spend efficiently. As a starting point, we consider that the requirement to automatically roll-in expenditure above the forecast should be removed.

While our inclination is not to pursue the ability for a full ex-post review of expenditure, there may be merit in some form of limited ex post review for overspends. We also consider that we should look to measures that strengthen the incentive not to overspend or to reduce the reward from over-expenditure.

However, we recognise that circumstances can change after the forecast has been set. Accordingly, we are also examining whether the current framework of pass-throughs, contingent projects and re-opener provisions are sufficient to manage changes of circumstances throughout a regulatory period.

In sum, we would like a package of measures that enables a robust forecast of efficient costs to be determined, with strong incentives to organise capital expenditure programs to not overspend that allowance, together with a range of measures to deal with changes in circumstances. In our view, such a package would better meet the national electricity objective to promote the long term interests of consumers.

Cost of capital

Leaving behind the setting of allowances for operating and capital expenditure, I will now turn to how the cost of capital and its constituent parameters are set.

At present, the AER must use three different processes to determine the weighted average cost of capital (WACC) to apply to network businesses. In electricity transmission, the AER undertakes a WACC review at fixed five yearly intervals. The parameters determined during the WACC review must then be applied to each subsequent electricity transmission decision, with no ability to depart from the parameters determined during the review.

For electricity distribution decisions, the AER publishes a Statement of Regulatory Intent as part of the WACC review every five years.

However, the distribution rules allow the businesses to submit material in order to convince the regulator there is persuasive evidence to depart from the statement of regulatory intent. Our decision on whether or not there is persuasive evidence is subject to merits review by the Australian Competition Tribunal. To date, our experience has been that the existence of the ability for the regulator to exercise discretion in departing from the statement of regulatory intent has led to a parameter by parameter assessment at each reset.

This was clearly not the intent of policy makers when they drafted these provisions. Despite the intent being to allow the regulator to take account of significantly changed market conditions, but otherwise to maintain stability of inputs, our experience shows that, in practice, a case-by-case, parameter by parameter assessment is inevitable.

In gas transmission and distribution, the AER is required to reassess the relevant parameters every time it conducts a reset.

The AER experience has shown that each of these three models is imperfect. For example, while in electricity transmission, the WACC statement is binding on the regulator and transmission businesses, the other two models require the AER to assess a large amount of material for each reset process, either in determining the parameters themselves or determining whether there is persuasive evidence to depart from the WACC statement.

Further, in all of these cases the rules lock in the form of the benchmark that the AER must use to assess the cost of debt. The rules require the AER to use an Australian benchmark corporate bond rate with a maturity of the same length as used in calculating the risk free rate. Effectively this locks the AER into using a ten year corporate bond.

There are two issues with this. Firstly, it is not possible to determine this benchmark with any degree of certainty due to the limited use of such a long dated corporate bond in Australia. Secondly, this does not reflect the actual debt portfolios of network service providers. While it may have been representative of past practice, that is no longer the case. In essence, the AER is obliged to make its assessment using a methodology that no longer reflects actual debt financing practices. This moves the cost of capital estimate further and further away from an efficient cost estimate.

As I have outlined, there is no one single perfect answer to this problem. Drawing on our experiences, we are currently considering amendments to how the cost of capital parameters are set. We are balancing the intuitive appeal of allowing some limited flexibility to deal with significant changes that might occur within the interval, with the need for stability in those factors which are long term financial market averages.

Further, the justification for the divergence of approaches across electricity distribution, electricity transmission and gas is not clear. It may be that it is appropriate for one regime to apply across all sectors.

Merits review

Finally, I will briefly touch on the interactions with the merits review mechanism that is contained in both the electricity and gas laws.

It is clear that the decisions of the tribunal on hearing reviews of AER determinations has led to further price increases for customers. The evidence is that a low hurdle has been established to enable review matters to come before the tribunal. This has led to reviews of AER decisions becoming an inevitable part of the determination process.

That said, the merits review mechanism itself is not the subject of the AER's current review. The review process that the AER is currently undertaking is focussed towards developing a rule change package to be considered by the Australian Energy Market Commission. Any amendment to the merits review mechanism would require a change to the national energy laws, which neither the AEMC nor the AER has the power to progress.

The energy legislation requires that a review of the merits review mechanism be undertaken by 2015. When it is appropriate, the AER will be willing to share our experiences with the merits review mechanism with policy makers. Just as importantly, the experiences of consumers with the merits review process should also be shared.

Conclusion

So what does the framework that I have outlined look like?

In terms of the information that the businesses are required to submit to the regulator in their proposals, there will be little or no change. The changes do not seek to amend the fundamental building block incentive based model. The key changes are to allow the regulator to robustly consider and challenge the information that comes before us and to determine what the regulator considers to be efficient costs.

If accepted, the changes we will propose will determine an unbiased forecast of efficient costs, while allowing certainty for businesses to respond to changing conditions. We will also propose stronger incentives on businesses to not overspend and to shield customers from inefficient excessive expenditure.

Further, we will propose a process for determining the cost of capital that streamlines the regulatory process and better reflects how businesses actually conduct their financial affairs.

As I said at the outset, our changes will be squarely aimed at restoring the balance of the regime to give better effect to the national energy objective. Nothing in our proposal will be radical or outside of what is already considered best practice economic regulation in other sectors.

For those that have been around the industry for some time, it would be fair to characterise the changes that we will likely be seeking as bringing the regime back into line with other energy and general economic regulators. For example, the way that the ACCC regulates telecommunications or water, or overseas, how Ofgem regulates energy networks in the UK.

It is our intention to prepare a rule change proposal to be submitted to the AEMC during the third quarter of 2011. This timing is to ensure that it would be possible to have an amended framework in place for the next round of revenue resets starting with the NSW and ACT networks.

I am confident that the changes that we will propose will not only protect the incentives for efficient investment, but will also better promote the long term interest of energy users. Again, I thank you for the opportunity to discuss these important issues with you this afternoon.

ISSUES PAPER SUBMISSION FOR THE PRIME MINISTER'S TASK GROUP ON ENERGY EFFICIENCY

Background

In developing its vision for the future, Sustainable Sydney 2030, the City spent more than a year consulting its community and a consensus emerged on the way to make Sydney a greener, more global and connected city.

Some 97 per cent of people wanted the City to take urgent action to tackle climate change, so the City made sustainability the overarching theme. A major objective of Sustainable Sydney 2030 is to position Sydney as one of the world's leading green cities in the race to counter climate change. To achieve this, the City has committed to reducing greenhouse gas emissions by 70 per cent by 2030 from 2006 levels.

Eighty per cent of the city's greenhouse gas emissions come from centralised power generation, primarily burning coal, which is inefficient, unnecessarily polluting, a waste of non-renewable resources and the primary cause of climate change. Key in the City's objective to tackle climate change is to supply 100 per cent of the city's electricity from local generating plants through a combination of energy efficiency and low- or zero-carbon decentralised energy. These local generating plants are known as trigeneration because they provide combined cooling, heat and power and can use natural gas or renewable gases for fuel.

The emission reduction targets will be delivered through what Sustainable Sydney 2030 calls "Green Transformers". These are a combination of green infrastructure, primarily trigeneration, but also waste and recycled water infrastructure. When combined with demand reduction, trigeneration will provide 70 per cent of the electricity needs of the city in 2030 and reduce greenhouse intensity by about 35 per cent. This will need at least 330 megawatts of trigeneration to be delivered by 2030. The balance of energy needs will come from waste heat from local electricity generation and renewable energy from within and outside the City area.

Developing the Green Infrastructure Plan and putting it into action is happening on two levels – for the city as a whole and by the City of Sydney leading the way and installing local generation projects in its own operations.

This "show by doing" principle has been adopted in Woking and London and demonstrates that if the public sector leads, others will follow.

At the first level, contracts are already under way for the Decentralised Energy Trigenation, Renewable Energy and Alternative Waste Treatment Master Plans. The Water Recycling and Automated Waste Master Plans will follow later this year. These will complete the city-wide Green Infrastructure Plan which will be embedded into the City's master plan and operations.

Ways of delivering the Green Infrastructure Plan will follow, with particular focus on how to introduce trigeneration. An integrated approach has been taken for the city-wide green infrastructure. This enables, for example, trigeneration, recycled water and waste to use the same networks and stations - renewable gases and non-drinkable water can be recovered from the waste and used on the city's green infrastructure.

At the second level, the City has already made available an \$18 million budget to reduce its CO₂ emissions by 48 per cent by 2012. This is the first step towards the City's own 70 per cent reduction in CO₂ emissions target for its buildings and operations. This has led to a series of building energy-efficiency retrofit and renewable energy projects. However, measures such as bulk procurement are planned to maximise competition and the economics of the projects as well as ensuring the challenging targets are achieved. For example:

- All the City's properties have been included in the City's trigeneration tender which also provides options for finance and city-wide public/private joint venture Energy Services Companies (ESCOs). Specifications for the trigeneration systems allow them to be extended beyond individual buildings into precinct-based systems supplying nearby buildings not in City ownership. This would establish the City's first Low Carbon Zones. A good response was received to requests for expressions of interest, particularly from the major energy players in Australia, and the project will go out to tender shortly.
- All the City's properties will be included in the City's building energy efficiency retrofit project, which will go out to tender early this year.
- Energy-efficient LED lighting will be installed in all 8,500 of the City's street and public domain lights over the next three years following a trial of 250 LED light columns.

In other measures, a Sydney Better Buildings Partnership is proposed to be set up to reduce the carbon footprint of big commercial buildings in the city, and high-level advocacy is under way to find ways of removing regulatory and institutional barriers to decentralised energy (trigeneration, renewable energy, etc).

This submission to the task group is based on the City's experience of the practical measures it is taking to deliver deep cuts in CO₂ emissions that go well beyond Australia's present commitment to reduce carbon pollution. This experience can be applied to any community in Australia or indeed the world.

Why is energy efficiency important?

Trigeneration helps both delay and reduce the need for new investment in electricity infrastructure. It achieves this because the waste heat from local electricity generating plants can be used (via heat-fired absorption cooling) for air conditioning and refrigeration. This replaces electric-powered air conditioning and refrigeration which are a primary cause of electricity demand growth, particularly during the summer peak energy load periods.

For example, the Sustainable Sydney 2030 trigeneration target of 330 megawatts would reduce electricity peak demand by up to a third if all trigeneration waste heat were converted to heat-fired absorption cooling – as well as supplying 70 per cent of the City's electricity needs from local generation. Similarly, there would be a reduction in the winter electricity peak demand when trigeneration waste heat replaces electric heating and electric reheating in air conditioning units.

Removing the regulatory barriers to decentralised energy (cogeneration, trigeneration, fuel cells and renewable energy) will stimulate the decentralised energy market and make a significant contribution to energy production efficiency and reductions in CO₂ emissions. (See also the Energy Efficiency in Energy Markets section below).

Scope of the Task Group

Achieving a step change in energy efficiency

Removing the regulatory barriers to decentralised energy, particularly trigeneration, will drive energy production efficiency across the economy. As explained above, it will also reduce and delay investment in electricity transmission and distribution networks (a significant component of electricity prices, now and increasingly in the future) through local generation, distribution and supply of electricity close to the consumer electricity loads – and by using waste heat for heating and cooling.

Removing barriers to decentralised energy will also give incentives to Energy Services Companies (ESCOs) to deliver energy services as they do in the UK and elsewhere in Europe.

Decentralised energy - natural gas-fired cogeneration/trigeneration and renewable energy – has other benefits. It will displace nitrogen and sulphur oxides and particulate emissions from centralised coal-fired power stations and deliver health benefits to communities affected by their pollution. It will also reduce water consumption at coal-fired power stations. The water is used to reject the waste heat at power station cooling towers.

Decentralised energy can also improve local energy security. Local generators can be designed to operate in “island generation mode” on private or public wire networks if there is a failure in the centralised electricity grid. Local energy security is an important benefit of decentralised energy, particularly for the CBDs of cities such as Sydney.

Maximising the opportunities for energy efficiency improvement

Through its Decentralised Energy Master Plans – Trigeneration, Renewable Energy and Waste, the City is seeking to identify and develop renewable gases from waste. This would include waste from domestic, commercial, industrial and agricultural uses, biomass, sewage and landfill plus coal seam methane in and around the City of Sydney.

In London, the Mayor’s Climate Change Action Plan found that if all the waste that was going to landfill (where it emits greenhouse gases such as methane) were used, it could (via cogeneration/trigeneration) generate enough electricity for 2 million homes and heat for 625,000 homes

Waste can be converted into renewable gases using advanced treatment technologies such as plasma arc gasification. This has another benefit. As well as syngas, the process produces non-drinkable water from the waste (usually lost in landfill or by incineration), another valuable resource.

Principles for considering energy efficiency options

Targeting known barriers

In commercial buildings, there is little incentive for landlords to invest in energy efficiency because their tenants benefit from the savings in energy costs, not them.

Commercial and public sector buildings in the City are responsible for 52 per cent of the City’s CO₂ emissions and 60 per cent of these buildings are owned by 12 major landlords. In London, the 20 major landlords there were targeted by the London Climate Change Agency (LCCA) which established a Better Buildings Partnership in April 2008. The partnership, among other things, worked to change lease agreements where neither the tenant nor the landlord had any incentives to increase energy efficiency. New lease agreements were designed so that landlords and tenants could share the benefits of investing in increased energy efficiency. Now a similar approach is being taken in the City of Sydney.

The problem of raising capital for energy efficiency changes, particularly for local authorities, can be overcome by setting up revolving funds. In these, the initial investment in energy efficiency generates savings on energy bills which are then reinvested in new energy efficiency projects.

Removing the regulations that stand in the way of decentralised energy will bring incentives to this market and help ESCOs to succeed.

ESCOs can change the way people pay for energy. They can replace existing energy pricing – where customers are charged per kilowatt hour of energy – with energy services pricing where ESCOs deliver and charge for the services customers need. Consumers do not want kilowatt hours of energy, they want the services that this energy provides – heating, cooling, lighting, and so on. Using trigeneration, ESCOs can deliver these energy services and reap savings from avoiding the costs associated with maintaining and replacing boiler/chiller plant and transmission lines of conventional power networks.

Fairness considerations

When it comes to energy use, low-income households are at a disadvantage. This is because public housing is often provided without any low-cost heating and therefore families are left to buy the cheapest heaters - electric or combustion heaters - which are also the most expensive to run. Public and affordable housing should have the highest standards of insulation and energy-efficient design and be supplied with low-carbon energy such as decentralised energy. This would improve the health of the occupants, leave them more money from which to pay the rent and reduce damage to the buildings caused by condensation and mould.

Another fairness consideration is how rural communities are affected by the supply of power to people in cities. Centralised power generation and the grid transmission upgrades needed to meet the growing energy needs in cities bring environmental damage, pollution and displacement of land in rural communities. Examples of this include plans to expand Lithgow power station and build new transmission lines on the Far North Coast. These energy needs would be better and more equitably supplied by installing decentralised energy in the cities and urban areas where it is needed.

Geographical considerations

When energy-intensive industries are located close to communities in remote areas, consideration should be given to supplying those homes with surplus or waste energy or providing other community benefits. In the UK, power station developers must show they have explored every opportunity for using combined heat and power before consent can be granted. The UK Conservative Party has also proposed introducing a power station waste heat levy in their Quality of Life Policy Group Blueprint for a Green Economy to give an incentive to change from centralised energy to decentralised energy.

Denmark introduced a Heat Law in 1979 that enabled the macro development of combined heat and power for urban and rural areas that now delivers 55 per cent of the nation's electricity and 75 per cent of the nation's heat (and heat to cooling). Over the same period, GDP increased by more than 50 per cent.

Peak demand issues

A significant factor in the increased peak demand for power is electric air conditioning and refrigeration which in high summer temperatures is turned on at the very worst time of day. Trigenation significantly reduces this peak demand by displacing or replacing electric air conditioning and refrigeration with thermal cooling derived from the waste heat of local electricity generation.

Energy Production Efficiency

Distributed generation (decentralised energy) significantly reduces losses in transmission and distribution networks and the need to expand them. As well, cogeneration and trigeneration significantly increase energy production efficiency because they recover waste heat from local electricity generation and use it for heating and cooling, thereby displacing electric heating and cooling. The use of thermal storage in decentralised energy (both cogeneration and trigeneration) can even out the time of day energy profiles. Overnight storage brings better utilisation of both electricity and heat (and heat to cooling).

A key issue in stimulating energy production efficiency is the removal of the regulatory barriers to decentralised energy. This would also stimulate the energy services market.

Energy Efficiency in Energy Markets

There are significant regulatory and institutional barriers to the deployment of distributed generation or decentralised energy. The electricity market was designed for a centralised energy system, not a decentralised one. The consequence of this is to penalise decentralised energy by imposing centralised energy market and administration costs for something that makes little or no use of the big transmission networks. These costs are out of all proportion to the scale of the generation and expose decentralised energy developers to the vagaries of vested-interest energy players. The laws of physics dictate that electricity will flow to the nearest load, so wherever decentralised energy is located the generation, distribution and supply will be integrated and will always be very local. It should not be treated as if it were centralised energy.

In the UK, decentralised energy was stimulated by the Electricity (Exemption from the Requirements for a Licence) Order 2001 which led to the Woking private wire and other decentralised energy systems. These were class exemptions, so permission was not required from any of the vested interest energy players, including the distribution network operator. Compliance with the order was sufficient to implement decentralised energy projects.

The exemption supply limits were 50 megawatts (without Secretary of State approval) or 100 megawatts (with Secretary of State approval) for each generation site over private wires. This enabled significant growth in non-residential supply. However, the exempt limit for home use was only one megawatt (about 1,000 homes) for each generation site with limited exempt aggregated supply over public wires. Although this was not a problem for the growth of decentralised energy in towns such as Woking, it was a very big problem for cities such as London.

Because decentralised energy was the key carbon reducer for London (as well as cutting energy costs and helping tackle fuel poverty), the Mayor of London and the London Climate Change Agency (of which the Mayor was chair and Allan Jones CEO) decided to do something about this through negotiation with government.

This resulted in the setting up of the Ofgem/DTI/BERR Distributed Generation Working Group (on which Allan Jones sat) to investigate and remove the regulatory barriers to distributed generation or decentralised energy. Although the barriers were easily identified, the conundrum for the UK regulator Ofgem (Office of the Gas and Electricity Markets) was how to tackle the problem without upsetting the market approach to supplying electricity to domestic consumers and the protection given to domestic consumers. A compromise was reached leading to the creation of "virtual private wires" over public wires.

If decentralised energy is restricted to using the public wires distribution network and the maximum supply limits removed it can be licensed according to its size and treated as a second competitive (decentralised) energy market. Arrangements can be made for any imports into or exports from transmission networks (which would be minor) via the back-up agreement with grid electricity suppliers similar to the UK. This would allow the decentralised energy developer or ESCO (since more than just

electricity would be supplied) to charge its customers competitive retail electricity prices (less the distribution system charges) rather than the much lower wholesale price it would get by selling electricity into the grid. Ofgem enacted the Electricity Supply Licence Modification on 19 March 2009 to bring about this second competitive (decentralised) energy market.

An attachment to this submission entitled Removal of Barriers to Trigenation forms part of the City's submission for consideration by the Task Group. It contains details of the Woking and London models and the proposed Sydney model, together with the details of the regulatory change to remove the barriers to decentralised energy. It also includes the Institute for Sustainable Futures on the Issues and Barriers in Developing Trigenation in Sydney – Working Group Discussion Paper and Action Plan.

Energy Use Efficiency

Household energy efficiency

Public and other group housing provides the opportunity to retrofit cost-effective macro energy-efficiency measures, including decentralised energy, to reduce the overall cost of energy to consumers on limited incomes.

Industrial and large energy users

In the UK, the Climate Change Levy was introduced in 2001 to help industrial and commercial users reduce energy consumption and emissions. (It was a cost-neutral measure offset by a small reduction in employer national insurance contributions). The Carbon Trust was established from the levy to help large energy users who had signed Climate Change Agreements – it gave them an 80 per cent discount on the Climate Change Levy as long as they reached additional CO2 reduction targets. Similar measures could be introduced in concert with the Australian Carbon Trust.

Commercial building energy efficiency

In London this sector was targeted by the Better Buildings Partnership for major landlords and the Green 500 for major tenants. Similar approaches are being taken in the City of Sydney.

Government energy efficiency

Governments need to lead from the front on the “show by doing” principle. They cannot expect others to do something that governments themselves are not prepared to do. Governments should be class leading and deliver greater and quicker energy savings than any official targets for national, state or local government areas.

Transport energy efficiency

As well as improvements in transport energy efficiency, alternative low-carbon fuels, such as renewable gases from waste and low- or zero-carbon energy to charge electric vehicles, should be used to reduce emissions.

Allan Jones MBE

Chief Development Officer, Energy and Climate Change

30 April 2010

Attachment 063_Distributed Energy

Geraldine Doogue: Since the dust settled on Australia's failed ETS, the other big debate that of course we've been having, there's one question really being asked by CEOs, politicians, voters and environmentalists: Where to now? Despite the shelving of the ETS, projects are underway to cut carbon emissions and others are being dusted off and re-presented, some of which were knocked back before, when the all-encompassing cap and trade scheme looked like it would sweep all before it.

Because the figures on planned expenditure in our various power systems are really quite substantial. By some estimates around \$40 billion will be outlaid in the next four to five years, on new systems, clearly offering chances for emissions reductions, let alone the rules governing renewable power by ten years' time. Somehow they have to be achieved.

So *Saturday Extra* has brought together three engineers, already with impressive runs on the board for reducing carbon emissions within industry, the commercial sector and local government authorities. Where are all the efforts going now?

Allan Jones is the engineer credited with getting Woking Council, in Surrey, almost off the electricity grid. You'll remember he made a very big impression on *Saturday Extra* listeners last year when he talked about his co-generation and tri-generation achievements. Well he's now been brought out by the Sydney City Council to work here, and he has a new job there: he's their Chief Development Officer for Energy and Climate Change.

Che Wall is founder of the Green Building Council of Australia. He's head of the environmental engineering consulting firm WSP Lincolne Scott. Che, with Lend Lease, has just resubmitted to the government a proposal to have all commercial buildings subject to mandatory carbon reduction targets. It's an interesting scheme, in which credits would be traded within the commercial building industry sector and, in effect, rewards granted.

And our third engineer is Tom Cawley. He's a member of the Energy Efficiency Council, and he's head of Balance Energy, which works with industry to cut carbon emissions.

Welcome to you all.

Now if climate change was once the biggest moral challenge facing Australia, I wonder what's going to happen after that? Are bottom line savings that business already wants, might they actually drive carbon emissions reductions in Australia?

Now I wonder if I could come to you first, Che, because you and Lend Lease are effectively proposing, if I read it properly, a mini-ETS scheme for commercial buildings in our major cities. How would that work?

Che Wall: It's a sector-specific solution, it's not dependent on an emission trading scheme.

Geraldine Doogue: And I gather you'll have, say, a good behaviour dividend: if you actually do make energy savings, you get a dividend from that, is that right?

Che Wall: Correct. We're not big fans of grants attached to certain actions because they don't allow the full opportunity. So as soon as you provide a price signal and it's mandatory, you'll find we get a drop in energy consumption, purely because people are more astute in how they manage their assets, as well as upgrading.

Geraldine Doogue: Very interesting. Now Allan Jones, do you think that actually savings, which drove you at Woking in Surrey, savings, as opposed to saving the planet, that that might actually be a bit of a breakthrough, and we don't have to wait for an ETS?

Allan Jones: What I achieved in Woking, I reduced emissions by 77.5% within 14 years; 98% of Woking's energy supply comes from local decentralised energy. And all that was done without any emissions trading scheme, in fact they didn't even exist for the major part of that program. I think emissions trading schemes can add to work, but we just have to get used to the idea. If you want to tackle climate change, you actually have to do something, you have to actually put some physical infrastructure on the ground. In Woking, we reduced energy efficiency by 50% and the remaining 50% was supplied from local decentralised energy low and zero carbon technologies. That's how you get the really big savings in CO2 emissions.

Geraldine Doogue: This is your co-generation and tri-generation?

Allan Jones: Yes, and everybody made financial savings from that, whether it was the council or whether it was the private sector partners in the escrow, or the customers, they all made financial savings from that, and everyone likes to be green as long as it doesn't cost them more. And so even if you were to be able to supply this at the same price, there'd be a lot of takers, but the fact is you can make savings from this.

Geraldine Doogue: Now you've been given the job. You've got a three-year contract with the City of Sydney, and presumably they're trying to do something similar. Now what is actually on the table, or in planning, for the City of Sydney?

Allan Jones: Well it's more than in planning; we've actually got some contracts in place. We're doing that at two levels, one at the citywide level, so we've got decentralised energy masterplans for tri-gen renewable energy and waste, currently in contract at the moment, and that will set the low carbon precinct zones for the city. And then on a Show by Doing principle, which is the same principle I had in Woking and in London, we're actually doing that to the city's projects, but at a much more accelerated rate. So we've got building energy efficiency retrofit program, reducing emissions initially by 48% within the next two years, then rolling on to 70%. Tri-generation for all of the city's buildings, so we put all 200 buildings into a single contract. We're also going to roll out LED lighting, and we're just currently working on at the moment, on a renewable energy program to provide the remaining 25%, 30% energy from renewable energy.

Geraldine Doogue: Well now, Tom Cawley, you've heard what Allan's doing. Your thoughts: are things happening without an ETS?

Tom Cawley: Yes, to an extent. I mean what we're finding is that where we can find large savings with very little capital cost, they get implemented very quickly, and when you do a rigorous assessment of these large industrial sites, you consistently find lots of very large-scale opportunities, and like I say, where the capital cost is low, they'll implement them. Industrially, the situation's very much similar to the commercial situation, in that we need a pricing link to drive those large opportunities that have capital cost, with paybacks going beyond two years, up to four years and so forth.

Geraldine Doogue: In the Lend Lease proposal that we were just talking about with Che for this mini-ETS in commercial buildings, they say that for every dollar spent on demand management, studies have shown the need for investment in energy infrastructure is deferred or reduced by \$6.50. Now you would have thought that was a pretty compelling business case.

Tom Cawley: In California what they've done is spent a lot of the money that would be spent on the electricity infrastructure on energy efficiency, and it's easy to do in California because the power companies are vertically integrated, that is, that the same power company owns the power station, owns the power lines, and owns the retailers. We don't have that situation in Australia, and that's a key issue at the moment is to achieve reform of those systems so that there's an incentive to invest that way.

Geraldine Doogue: Keith Orchison, who's been a very prominent commentator over many years, writing in *Business Spectator* just last week, wrote something I think most of us wouldn't know, that there will be \$40 billion to \$50 billion outlaid in the next four to five years on distribution and transmission network systems. And he said --and I want to see if this is right --that for instance New South Wales alone will have to build 2,000 megaWatts of baseload generation just to maintain security of supply to 2015. Like is this going to happen whether or not there's any price on carbon?

Tom Cawley: There's no business case for the distributors to spend money on energy efficiency, there's no structure for them to do that, and they're also monopolies. So there's no competition, and they have to be, because you don't want to run two sets of lines down the road.

Geraldine Doogue: But what about the mandatory renewable energy target that we've also got running, where I think there's got to be 20% reduction hasn't there, by 2020? Isn't that kicking in, Tom?

Tom Cawley: Well it is, but I mean part of the problem is that you need to run power lines out to those turbines and this money's only for the distribution system, so it's not for the generators. But the other problem is we're talking about here with energy efficiency, you're talking about at the point of use. Now if the demand keeps growing, then they need to keep spending money on infrastructure to deliver that energy. The idea is that if we can spend that money at the usage point, then we can reduce the demand.

Geraldine Doogue: And my guests are three engineers on *Saturday Extra*, and we're talking to Allan Jones, from the Sydney City Council nowadays; Che Wall, the founder of the Green Building Council of Australia, and Tom Cawley, a member of the industry group, the Energy Efficiency Council.

And I just wonder, Allan Jones, as somebody who's very hands-on here, how do you intend to evangelise to people beyond say a Sydney City Council, and just listening to our other guests, they're saying, 'Look, if you don't have a direct yield, and of course you do when you're on something like a council, you can reduce ratepayers' rates for instance, or you can put the money into something totally different and show people. How do you evangelise beyond that to these groups that we've been discussing?

Allan Jones: Well that's essentially happening through the master planning process and already that's generated a lot of approaches from the major landlords. Something like 52% of the commercial office space in Sydney is owned by 12 landlords. We've also had major developers coming to us, and they want to be the first in the low carbon zones, and so we're able to lay the various properties over, if you like, a series of fly-papers, so you can actually identify the hot-spots. So right from the outset, this wasn't just about City of Sydney doing its own thing just for itself, this is about --because the targets in Sustainable Sydney 2030 are for the whole of the city, not just for the City Council. It's just that the City Council is driving it in this way, because they've seen that it works in other countries. And I have to say on the emissions thing, Australia really needs to bite the bullet on this one. The UK introduced the climate change levy 10 years ago, you know, a carbon tax. And that's much easily managed.

Geraldine Doogue: That's a carbon tax. What's the price on carbon in the midst of that?

Allan Jones: Well the thing is, that was fiscally neutral. Basically cover the cost of that by reducing employers' contribution to National Insurance contributions by 0.3%, so there was no additional cost to the economy at all. But what it did do is fund the Carbon Trust and its program, so that rolled out; it incentivised businesses to actually reduce energy consumption to provide their own co-gen, tri-gen or whatever, and that's why you've seen a significant reduction in emissions in the UK. In terms of emissions trading, the EU trading scheme is worse than the UK one that we had, UK was the first in the world to introduce that. But what's been introduced as of last month, in April, was a carbon reduction commitment, which is very similar to what Che is talking about, and they're all commercial businesses outside of the EU emissions trading scheme. If they consume more than 6,000 megaWatt hours of electricity a year, not for individual buildings but all their property portfolio, they're caught by the carbon reduction commitment, and that's setting a price of about \$30 a ton.

Geraldine Doogue: And is there a penalty?

Allan Jones: \$30 a ton.

Geraldine Doogue: \$30 a ton, and that goes to government, who then does what with it?

Allan Jones: It goes back to the people --it gets recycled back into the system so that that money actually funds further improvements. So people that are ahead of the game, they're incentivised, and already making savings, are the ones that are going to get more money come back to them; those that don't do anything, they'll just end up paying more. So it's sending a very strong price signal to actually get their own property in order.

Tom Cawley: If you're talking about evangelising this, the thing is that the economy has a limited amount of resources, and energy efficiency by and large is profitable. If you have a set amount of resources, you'll get a greater carbon abatement if you fully utilise all the available energy efficiency measures in addition to renewables. But if you don't do energy efficiency well, with the same amount of money you're going to get less carbon abatement, it's as simple as that. Energy efficiency is profitable.

Geraldine Doogue: Yes, it's just that point you make which I hadn't realised before, I admit, that if you don't get a yield from all your efforts of carbon abatement, if you're an electricity producer and you don't get a yield and the only yield is you hand more money back to the government, I presume there's some kudos in that, well why do you do it?

Tom Cawley: Well exactly. And renewables are very important in the long term to get to these deproduction targets you need to get to, but energy efficiency in the short-term can provide a profitable return on investment. Whereas renewables generally cost more than all the existing forms of generation we have in Australia, whereas energy efficiency is cashflow positive, it's profitable.

Geraldine Doogue: Look, so where does this leave us, gentlemen? Your predictions please, action whether or not there's a carbon price, and that's not an ETS, that's a carbon price, action whether or not there's an ETS, and reduced emissions. I just wonder what your predictions, as people who are right in there, trying to get their hands dirty, are we going to see some change in five years, whether or not there's any government movement. First to you, Tom.

Tom Cawley: The point is, that if you're going to have an energy efficiency scheme, it needs to cover all the significant sectors and it needs to be well-designed. We need to learn from the mistakes that were made in the EU and in earlier schemes, we need to design that scheme so that it addresses each sector's needs. So the commercial sector's needs and the industrial sector's needs.

Geraldine Doogue: Che?

Che Wall: I think there'll always be room for strong leadership and voluntary action, and I commend what the City of Sydney's doing, but the reality is, institutional investors hold the majority of non energy efficiency buildings. They will always engineer balance sheets and go for the maximum return to their shareholders. Australia is both blessed and cursed with an abundance of dirty fossil fuel, and we will never have a sufficient price signal to encourage the right action unless we dedicate to one related to the carbon intensity of that fuel. So I think legislation and I hope it's at the user, not at the generator, because that's where you get the right behaviour, is inevitable, and I think if we have to wait five years, it's far too late.

Allan Jones: And I think in the absence of leadership in the national and state governments, and we saw this happen in Europe, it will be driven forward by the most advanced cities, by the most advanced landlords and private developers, simply because they want to do it. And we'll find, as has happened in the UK, that the national government actually follow. You know, London was the first city in the world to introduce a climate change statutory duty, and legislation went through because Mayor Ken Livingstone wanted that to apply to all future mayors. Within 12 months, the UK national

government have come up with a Climate Change Act, imposing the same statutory duty on all future UK governments to tackle climate change, and that's why we're seeing all this raft of measures coming out there, the Carbon Reduction Commitment, the 3.2 pinning down investment in retro-fit energy efficiency, decentralised energy, a whole raft of measures has suddenly trickled out. But that was brought about, not by national government leading, but by following.

Geraldine Doogue: OK gentlemen, thank you all very much indeed for that conversation.

All: Thank you.

Geraldine Doogue: And all the participants in that conversation: Allan Jones, the Development Officer for Energy and Climate Change at the Sydney City Council; Che Wall, the founder of the Green Building Council of Australia, now head of WSP Lincolne Scott; and Tom Cawley, a member of the industry group, the Energy Efficiency Council.

And on *The National Interest* tomorrow, Peter Mares speaks with the CEO of the Clean Energy Council, Matthew Warren, about those mandatory renewable energy targets, and he says they must now be fixed quickly or risk \$20 billion worth of investment. So that's *The National Interest* at midday on Sunday, and may I refer you also to the Grattan Institute's website. They did a very good whole forum a couple of weeks back, on tax versus ETS and so on, it was fascinating to read, so if you want to really skill yourself up and not feel deflated, as some of the people who rang and said to Paul Barclay on *Australia Talks* --have a read of that Grattan Institute and of course our own website.



PCU027387

Peter Spedding
P.O. Box 324
Tenterfield N.S.W.
2372

Submission Notice against Proposed Power line 14-10-11

Attention Anna Limbrell

Planning Officer - Infrastructure Projects (Energy)
N.S.W. Department of Planning & Infrastructure
G.P. Box 39 Sydney N.S.W.

Department of Planning
Received
27 OCT 2011
Scanning Room

Dear Sir/Madam,

I am totally against Transgrid's high voltage overhead power line from Dumaresq to Lismore. In these times today such power lines should be underground. Some advantages would be - No visual pollution, cheaper to install, far less storm damage, less maintenance to mention a few. Transgrid did not even look into this.

The AER enquiry into Transgrid's proposed network found they not only breached the Act in section 5.6.6 but failed in many other areas. Transgrid's staff have lied to landowners, entered properties when refused access, they made compensation offers to some land owners before the final line easement was decided as their plan on display showed the proposed preferred easement was 500 m. wide. This means they wanted people to sign up not knowing exactly where the line was going on their land. Where properties are jointly owned they have made one offer to one owner and not all owners. [REDACTED]

[REDACTED] I can say honestly I don't know of anything they have done correctly on the Dumaresq to Lismore Project as far as Tenterfield people are concerned.

Major concerns are also land devaluation of properties not only where the line is placed but other nearby land and people are not compensated at all. Noxious and many bad weeds that are not classed noxious in our area however are in other areas of the

Weed is not noxious in Tenterfield Shire however it is in some other areas and it has really taken off in some areas of the shire. Contractors vehicles and machinery really spread weeds and although Councils receive much Government funding it all goes into Weeds Managers wages, 4w.d. vehicles, diesel and attending conferences. Nothing ever happens to the weeds apart from getting worse in all Shires.

Once payment is not good enough, land owners should be compensated by regular payment as rent for the easement the line is erected on for as long as it remains there.

It also appears Transgrid's 2011 Annual Planning Report, Forecast for Demand to justify the Project is not being taken serious as the actual and forecast are approximately 30% different, the actual being the lowest.

The Government could save a lot of money if the Project was shelved as it is not really necessary and the cost of \$70 m. quoted is nowhere near the cost of the Line.

I hope you seriously consider my points.

Yours Sincerely
P. Hadding.
Land owner.

Office of Environment & Heritage

Your ref MP09_0150

Our ref FIL071123"02 DOC11/41243

Contact Biodiversity:

Adrian Deville

66402583

Todd Soderquist

67737006

Aboriginal Cultural Heritage:

Nick Pulver

66598225

Phil Purcell

68835341

Neville Osborne
Team Leader – Energy
Infrastructure Projects
Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

24 OCT 2011,

Attention: Anna Timbrell

Dear Ms Trimbrell

RE: Proposed Dumaresq to Lismore 330kV Transmission Line -Inverell, Tenterfield, Kyoggh:i, Richmond Valley and Lismore Local Government Areas (MP 09_0150)

I refer to the Environmental Assessment (EA) Report provided for the above proposal received by the Office of Environment and Heritage (OEH) on 6 September 2011.

OEH has reviewed the information provided and has determined. that it is able to support the proposal subject to the Department of Planning and Infrastructure (DoPI) seeking the amendments to the draft Statement of Commitments (SoCs), identified in Attachment 1. Attachment 2 contains OEH's assessment of the proposal, including justification for the amendments. Note that these amendments relate to the protection, maintenance and enhancement of biodiversity values of the site and to Aboriginal cultural heritage.

It is expected that OEH will be given an opportunity to review the draft Director-General's Environmental Assessment Report for this proposal. If the amendments to the draft SoCs are not included to the satisfaction of OEH, we recommend that they are included as Conditions of Approval, if approval is recommended by DoPI. It should be noted that these amendments are important for OEH's ongoing support of the proposal.

Should there be any other matters, or should your department be in possession of any further information of interest to OEH associated with the proposed development, please contact Adrian Deville on (02) 6640 2583.

Yours sincerely

JON KEATS

Head, Biodiversity Management Unit, North Coast
Environment Protection and Regulation
Office of Environment and Heritage
Department of Premier and Cabinet

ATTACHMENT 1 RECOMMENDED STATEMENTS OF COMMITMENT CONDITIONS OF APPROVAL

OEH recommends that the Department of Planning and Infrastructure seek the following additional statements of commitment from the proponents, or apply the following as conditions of approval as appropriate.

1. Biodiversity Conservation Issues

1. Assessments made using the EPBC Act Significant Impact Criteria (SIC) heads of consideration listed in summary form (in Tables 6.1 and 6.4) should be reviewed for consistency against detailed assessments (in Appendices I and J).
2. A more precautionary approach should be adopted in the selection of species for which "focused management controls" will be developed, expanding the current list from those species likely to be 'adversely' affected (under NSW AOS assessments) to also include any species deemed in the EA SIC (i.e. EPBC Act) assessments to be 'significantly' impacted (in Table 6.4, Appendix F, pp99-101), and/or any species listed as 'critically endangered' (regardless of AOC/SIC assessments).
3. DoPI should seek commitment to the collection/documentation of accurate records of specific habitat features and nesting resources that will be significantly impacted by this proposal, as inventoried during pre-clearance assessments (pp136-9). This information should be undertaken as part of a monitoring and compliance strategy (see below) .. and taken into account in the development of the proposed offset package. Unavoidable losses of such habitat features (if not already accounted for by any existing offset package) should be compensated for via further suitable offsets.
4. A suitably qualified ecologist with expertise in specific landscapes should be commissioned for any proposed pre-clearing surveys for the presence of threatened species, to maximise the potential identification of threatened flora.
5. DoPI should seek commitment to the collection/documentation of accurate records of threatened flora and its habitat that will be significantly impacted by this proposal, as part of a monitoring and compliance strategy (see below). Unavoidable losses of threatened flora (if not already accounted for by any existing" offset package) should be compensated for, possibly through translocation if appropriate, or via further suitable offsets that can demonstrate no net loss of threatened species and their habitat.
6. In addition to the stated strategies (7.2.1) and the monitoring strategies (7.2.2), reference should be made to commitment to the use of a compliance strategy that will communicate the results of the monitoring program and any adaptive measures arising as a result of this program to DoPI and other relevant agencies.
7. The proponent should have due regard in developing its proposed offset package to use of OEH's Biobanking Assessment Methodology (BBAM) as a means of determining the nature and scale of impacts to be offset.

2. Aboriginal Cultural Issues

1. The proponent must continue to consult with and involve all the registered local Aboriginal representatives for the project, in the ongoing management of the Aboriginal cultural heritage values. Evidence of this consultation must be collated and provided to the consent authority upon request.
2. The proponent must develop an Aboriginal Heritage Management Plan (AHMP) for the project area to reflect the management outcomes for Aboriginal cultural heritage. The AHMP is to be developed and implemented in consultation with the registered Aboriginal stakeholders. The " plan must include procedures for ongoing consultation and community involvement; details of the responsibilities of all stakeholders; details of proposed mitigation and management strategies of all Aboriginal sites; including any additional investigation processes proposed e.g. program of ground-truthing, any monitoring strategies, salvage activities, etc; procedures for the identification and management of previously unrecorded sites (excluding human remains); identification and management of any proposed cultural heritage conservation/relocation area(s); details of an appropriate keeping place agreement with local Aboriginal community representatives for any

Aboriginal objects salvaged through the development process; include maps or plans identifying those areas subject to archaeological monitoring and salvage activities; detail protection measures for Aboriginal sites which will remain in situ within the project area, to be protected in perpetuity; details of an Aboriginal cultural heritage education program for all contractors and personnel associated with construction activities; detail the current legislative requirements and environmental management standards follow recent legislative amendments; and compliance procedures in the unlikely event that non-compliance with the AHMP is identified.

3. In the event that surface disturbance identifies a new Aboriginal object, all works must halt in the immediate area to prevent any further impacts to the object(s). A suitably qualified archaeologist and the registered Aboriginal representatives must be contacted to determine the significance of the object(s). The site is to be registered in the Aboriginal Heritage Information Management System (AHIMS) (managed by OEH) and the management outcome for the site included in the information provided to the AHIMS. The proponent will consult with the Aboriginal community representatives the archaeologist and OEH to develop and implement management strategies for all objects/sites.
4. If human remains are located in the event that surface disturbance occurs, all works must halt in the immediate area to prevent any further impacts to the remains. The NSW Police are contacted immediately. No action is to be undertaken until police provide written notification to the proponent. If the skeletal remains are identified as Aboriginal, the proponent must contact OEH's Enviroline on 131 555 and representatives of the local Aboriginal community. No works are to continue until OEH provide written notification to the proponent.
5. All reasonable efforts must be made to avoid impacts to Aboriginal cultural heritage at all stages of the development works. If impacts are unavoidable, mitigation measures are to be negotiated with the local Aboriginal community and OEH. All sites impacted must have an OEH Aboriginal Site Impact Recording (ASIR) form completed and be submitted to OEH's AHIMS Registrar within 3 months of completion of these works.
6. An Aboriginal Cultural Education Program must be developed for the induction of all personnel and contractors involved in the construction activities on site. Records are to be kept of which staff/contractors were inducted and when for the duration of the project. The program should be developed and implemented in collaboration with the local Aboriginal community.

ATTACHMENT 2 -OEH ASSESSMENT OF THE PROPOSAL

1. BIODIVERSITY CONSERVATION ISSUES

General

The general corridor is defined and any specific assessment of anticipated localised impact is postponed until the project is initiated on-ground. It is therefore difficult to calculate true impact and therefore any appropriate mitigation measures and/or compensatory offsets prior to approval. Bearing this in mind, OEH makes the following points regarding the commitments made at this stage of the proposal and the reasoning provided in the EA documents in respect of biodiversity conservation.

Avoidance of Impacts on Native Vegetation and Habitat

Although the EA indicates that the easement route will generally avoid significant biodiversity assets, it should be noted that in several instances the easement cuts through important blocks of vegetation of high conservation value. Noting the abovementioned limitations to available knowledge at this stage and therefore the difficulty of making an effective judgement of the extent to which such impacts have been unavoidable, OEH recognises that there has been effort to provide and explain impact avoidance 'rules' applied. OEH also recognises the commitment to undertaking more developed pre-clearance surveys at later stages. However, given that post approval surveys are likely to increase knowledge of impacts to significant vegetation, species or habitat, OEH reinforces the need for the adoption of a precautionary or conservative approach to uncertainty in general, and specifically to the estimates provided for the clearing of potentially significant native vegetation.

In the case of avoiding impacts on (ie losses of) hollow bearing trees (and other habitat features), the application of a 'where practical' rule at this stage of the proposal strengthens the need for a detailed inventory of habitat losses as proposed (Section 7, pp138-9), which will not only inform the suite of on ground mitigation measures needed post approval, but the degree to which avoidance and mitigation is not feasible, and the means by which the proposed offset package might be framed. It also has implications for the development of monitoring, reporting, adaptive management and compliance issues (see below).

Impacts on Threatened Fauna

Determination of SIC Assessments There appear to be some assessments made using the SIC (EPBC Act) heads of consideration that have been listed (in Tables 6.1 and 6.4) as being likely to be 'significantly' impacted, despite the fact that the detailed assessments (Appendices I and J) appear not to support this listing. This is the case for one flora and five fauna species scheduled under the EPBC Act (for which 'potential' impacts are also noted using the AOS (NSW TSC Act) heads of consideration). OEH recommends that these assessments be reviewed for consistency.

Focused Management Controls for Threatened Fauna

In addition to future pre-clearance biodiversity impact assessments, the EA provides a list of species for which there will be "focused management controls" developed as part of a Fauna Management Plan to "further ameliorate any Project impacts" (see Point 4, p136, Management of Threatened Fauna and Fauna Habitat, Appendix F: Biodiversity Report). These species are those "that are likely to be adversely affected by the project", and includes eight bird species and the

squirrel glider. It appears that while being drawn from Table 6.4 (p99) which considers both state and nationally listed species, it is only the NSW listed species known *in advance* to be likely to be '*adversely*' impacted that are listed. Hence, nationally listed species that *have* been assessed (using SIC criteria) as being likely to be 'significantly impacted' by the project are not further considered for focused management controls. An example of this is *Litoria piperata* (the Peppered Frog), which despite taxonomic uncertainties about relationships with other species, is also listed as 'critically endangered' in NSW. Whilst there are commitments to riparian habitat protection that should provide a degree of *preventative* protection to this species, it is of concern that in the context of much on ground uncertainty, its threatened status and (SIC) impact assessment do not trigger more committed precautionary attention in the form of 'focused management controls'.

Several NSW listed *critically endangered* species are assessed as being likely to occur in the project area and to sustain some level of impact. OEH notes the example of the critically endangered Regent Honeyeater (*Xanthomyza Phrygia*) which is considered to be known or predicted to occur within the project area (Table 5.6, p74 Appendix F) and likely to be 'potentially' impacted. Suitable habitat and forage is known from within the easement and areas for access tracks (including white-box/yellow-box woodland) and there is an Atlas record (2009) for this species within 2km of the project site (at Mallanganee National Park). While the risks to a mobile species may be low, without the benefit of the results of pre-clearance surveys and depending on seasonality and other factors, it is difficult to support the view in the EA that there will be consistency with the *relevant Recovery Plan* for this species, such as no further losses of key nectar tree species and mistletoes at key sites (Menkhorst et. Al. 1999). As a precautionary measure, this and other 'critically endangered' species need to be specifically considered in pre-clearance surveys and in the focused management controls to be *developed*. Much of the actual impacts upon threatened species will be unknown unless or until detailed future assessments of habitat and species are made, and *given* that detail for impact *avoidance* and mitigation is to be *developed* after approval, general proposals for *avoidance* and mitigation of impacts are regarded as predictive or speculative. Therefore, OEH recommends that a more precautionary approach be adopted in the interim in the selection of species for which "focused management controls" will be *developed*. The current list should be expanded from those species likely to be '*adversely*' affected (under NSW AOS assessments) to also include any species deemed in the EA SIC (ie EPBC Act) assessments to be 'significantly' impacted (in Table 6.4. Appendix F. pp99-101). and/or any species listed as 'critically endangered', regardless of AOC/SIC assessments.

Impacts on Habitat and Habitat Features

OEH notes that habitat features and nesting resources will be documented in pre-clearance assessments. They are to be managed and re-used or relocated where possible as part of general management and mitigation measures, and attention has been paid to accounting for the loss and offsetting of nesting resources (7.2.1), the quantity of which will be determined through proposed pre-clearance assessments (pp136-9). *However*, OEH recommends that any of these specific features. the loss of which are not able to be *avoided*, need to be documented as part of a monitoring and compliance strategy (see below) be taken into account in the development of the proposed offset (see discussion of offsets below).

Impacts on Threatened Flora

OEH previously indicated it had concerns that only two threatened flora species (Caley's Ironbark - *Eucalyptus caeyi* and Bluegrass - *Dichanthium setosum*) for the *entire* length of the proposal had been identified in targeted surveys. OEH *recommended* that in any of the proposed pre-clearing surveys for the presence of threatened species, there is need to ensure that suitably qualified ecologists with expertise in specific landscapes are commissioned to maximise the potential identification of threatened species. OEH recommends that a specific statement of commitment or condition of approval is included to ensure this outcome.

In section 7.2 under the heading of management of clearing impacts, there is mention of the intent to *avoid* threatened flora species where possible, but it is not clear what is to be done in the scenario following more detailed pre-clearance surveys, where such impacts are ultimately deemed unavoidable, other than to assume that the offset package proposed (see below) would adequately capture such impacts, In the *abovementioned* context of dealing with uncertainty generally, OEH recommends that DoPI seeks assurance that:

- accurate records of unavoidable threatened flora and its habitat lost at this stage be made and documented as part of a monitoring and compliance strategy (see below); and that,
- unavoidable losses of threatened flora (not already accounted for by any existing offset package) be compensated for, possibly through translocation if appropriate, or *via* further suitable offsets that can demonstrate no net loss of threatened species and their habitat.

Mitigation, Monitoring and Adaptive Management

Recognising that future detailed, site specific knowledge will be generated regarding impacts that are unable to be *avoided* (pre-clearance surveys), some degree of flexibility will be required in terms of detailed design. Following also from the *above* discussion of managing uncertainties generally and the intent to provide a monitoring program, a degree of adaptive management will also be required. The actual mitigation measures to be applied in light of all such future information (as part of the proposed Fauna Management Plan) will need to be carefully and conscientiously implemented in order to achieve the desired benefit and in this context, OEH recommends that in addition to the stated strategies (7.2.1) and the monitoring strategies (7.2.2), reference should be made to the use of a compliance strategy that will communicate the results of the monitoring program and any adaptive measures arising as a result of this program to DoPI and other *relevant* agencies and stakeholders.

Developing an Offset Package

Any offset proposal will be the subject of detailed future discussions and negotiations, with the aim being to achieve an offset underpinned by sound ecological principles, based on detailed quantification of losses and gains in biodiversity attributes that will ultimately maintain or improve similar or equivalent biodiversity *values* in perpetuity as a result of the project. *However*, there are inherently significant limits to current understanding of biodiversity *values* to be lost as a result of this project, and as mentioned, increased understanding of such losses can only be partly achieved by means of future pre-clearing surveys and monitoring and reporting, after project approval. In the context of significant uncertainties about quantities and qualities of biodiversity assets that may need to be offset, there is need to determine a strategy for managing information gaps in framing such an offset. *Given* the approach taken to identifying site specific attributes as the project unfolds, offset negotiations would ideally be somewhat open-ended as specific cases arise with regard to threatened flora and threatened fauna and associated habitat.

In this regard, it is expected that:

- detailed scientific information arising from pre-clearance surveys will influence the nature and scale of the offset package in terms of habitat features lost (such as those detailed pS9 of the EA), rather than reliance upon current estimates of *vegetation* types/communities cleared as a surrogate for habitat.
- the offset package will take into account the condition of acquired land parcels and the cost to OEH of ongoing *management improvement*.

However, if agreed benchmark offset and mitigation strategies need to be developed prior to project approval and prior to the detailed calculation of impacts, offsetting mechanisms will need *extensive* consultation once the EA process has been finalised. OEH notes that although there has been reference to the *Principles for the Use of Biodiversity Offsets in NSW* (DECCW 2010), our policy for impact assessment and offsetting for major projects is to use the Biobanking Assessment Methodology (BBAM) to:

- describe, quantify and categorise the *biodiversity* values and impacts of a proposal;
- identify, for benchmarking purposes, the offsetting that would be required to meet the improve or maintain standard; and
- provide the information for calculating offsets under this policy.

Biobanking is discussed in the following documents:

- <http://www.environment.nsw.gov.au/biobanking/>
- <http://www.environment.nsw.gov.au/resources/biobanking/08527bbdevguide.pdf>
- <http://www.environment.nsw.gov.au/resources/biobanking/09476biobankingscience.pdf>

OEH recommends that the proponent has due regard to current offset benchmarking tools in developing its proposed offset package. The use of such tools would assist in ensuring that offsets are targeted and in accordance with biodiversity priorities in the area, based on the conservation status of the ecological community, the presence of threatened species or their habitat, *connectivity* and the potential to enhance condition by management actions and the *removal* of threats.

2. ABORIGINAL CULTURAL HERITAGE ISSUES

General

OEH supports the assessment, findings and management strategies proposed by the proponent. OEH is satisfied that local Aboriginal community consultation has been undertaken appropriately and that there has been an effective process to develop/support the Management options for Aboriginal heritage. OEH has also recommended a number of conditions of approval to support/ensure proposed management strategies, provided at Attachment 1.

22809 Alan Bawden of NSW Rural Fire Service

All communications to be addressed to:
Headquarters
NSW Rural Fire Service
Locked Mail Bag 17
GRANVILLE NSW

2142



Service

Y NSW

212

Telephone: (02) 8741 5555 Facsimile: (02) 8741 5550
e-mail: development.assessment@rfs.nsw.gov.au

Infrastructure Projects
NSW Planning and Infrastructure
All communications to be addressed to:
GPO Box 39
SYDNEY NSW 2001
Headquarters

Your Ref: MP 09_0150
D11/2071
Our Ref: HQ11/4586

Headquarters

NSW Rural Fire Service
Attention: Anna Timbrell
Locked Mail Bag 17

NSW Rural Fire S

15 Carter Street

24 October 2011

HOME BUSH BA

NSW

Dear Madam
GRANVILLE NSW

2142

**RE: Request for Agency comment: Environmental Assessment – Far North Coast Project –
(Dumaresq to Lismore Transmission Line (MP 09_0150))**

Telephone: (02) 8741 5555 Facsimile: (02) 8741 5550

I refer to your letter dated 31 August 2011 seeking the NSW Rural Fire Service (RFS) comments regarding bushfire protection for the above development in accordance with section 75F (4) of the Environmental Planning and Assessment Act 1979.

Headquarters

NSW Rural Fire Service
The RFS has reviewed the Far North NSW Project Environmental Assessment and Statement of Environmental Effects dated August 2011 for the construction and operation of the following electricity

15 Carter Street

transmission infrastructure:

HOME BUSH

GRANVILLE NSW
ANZUSK, 330kV easement incorporating pole and tower structures and comprising:

BAY NSW

2127

○ construction of a new 96km 330kV transmission line and 60m easement through greenfield areas from Dumaresq Switching Station to the proposed location of the new Tenterfield 330/132kV Substation (Tenterfield 330kV Substation);

Telephone: (02) 8741 5555

Facsimile: (02) 8741 5550

e-mail: development.assessment@rfs.nsw.gov.au

○ construction of a new 109km 330kV transmission line between Tenterfield 330kV Substation and Lismore Substation through the existing 132kV easement. Between the Tenterfield 330kV Substation and Casino (95km), the 330kV transmission line would be located on the route of the existing 132kV transmission line. The existing 45m easement would be extended to 60m. Between Casino and Lismore Substation (14km), the new 330kV transmission line would run adjacent to the existing 132kV transmission line (which

All communications to be addressed to:

Headquarters

NSW Rural Fire Service

Locked Mail Bag 17

15 Carter Street

○ removal of 95km of the existing 132kV transmission line between the proposed Tenterfield 330kV Substation and structure 395 to the south of Casino;

HOME BUSH BA

GRANVILLE NSW

2142

NSW

• Upgrades to the Lismore Substation and Dumaresq Switching Station. Upgrades would be within the existing sub/switching station footprints;

Telephone: (02) 8741 5555

Facsimile: (02) 8741 5550

- establishment of a new 330/132kV substation approximately 14km north east of Tenterfield to maintain the existing 132kV connection to the Tenterfield 132kV Substation;
- Establishment of access tracks both within the easement and outside the easement for the purposes of transmission line construction and operational maintenance; and
- Replacing and restringing the existing earthwire between the new Tenterfield 330kV Substation and existing Tenterfield 132kV Substation with optical ground wire (OPGW).

The RFS has no objection to the proposal as outlined in the Environmental Assessment and Statement of Commitments and requests the following statements be included in the final Statement of Commitments.

1. During construction work (on all lands associated with the Far North NSW Project, except managed lands) where cutting, grinding or welding of metal materials is to be undertaken:
 - Construction crew and maintenance staff would be trained on basic first response fire fighting techniques including notification of fires and reporting.
 - On all days of construction, 1,000 litres of fire fighting water, extinguishers, knap-sacks and rakehoes would be available on each construction site.
 - All trained personnel would be provided personal protective equipment suitable for the fire activities.
2. On days of Total Fire Ban or days of Catastrophic Fire Danger days, 4WD striker unit(s), extinguishers, knap-sacks and rakehoes would be available to respond to any bushfire fire threat.
3. Transgrid (or the operating company) shall provide route/infrastructure plans, bushfire management plan and contact details to all District Fire Control Centres that the project traverses through.

For any enquiries regarding this correspondence please contact Alan Bawden on 6655 7002.

Yours faithfully

Alan Bawden
Team Leader
Development Assessment & Planning

The RFS has made getting additional information easier. For general information on *Planning for Bush Fire Protection 2006*, visit the RFS web page at www.rfs.nsw.gov.au and search under *Planning for Bush Fire Protection 2006*.

22814 John Finlay of Department of Planning & Infrastructure - North Coast Office

G'day Anna

I asked Craig Diss from our Tamworth office to provide comments about the Transmission line impact as it applied to his region which included the Tenterfield and Inverell LGA. His comments are included below.

As far as the Far North Coast region including Kyogle, Richmond Valley and Lismore, my comments are as follows.

- All the Council areas are included in the Far North Coast Regional Strategy endorsed by the former Minister in January 2007.
- Kyogle has completed a Growth Management Strategy that identifies its anticipated growth up to 2030's. In this regard, the transmission line runs through an identified rural residential release area north of Tabulam. It may be desirable to move the line to miss this area. The line also goes close to a release area north of Mummulgum, south west of Kyogle that may need to be investigated.
- The other two council areas do not have a Growth Management Strategy in place at this stage, but both have land release strategies that have been developed prior to the requirements for GMS.
- All three LGA have prepared and exhibited comprehensive LEP's. Kyogle and Lismore's draft LEPs are presently on exhibition, Lismore's for the second time. The Richmond Valley draft LEP has been exhibited and is with us for reporting to the Minister. We are presently waiting for revised maps.
- The line generally goes through rurally zoned land under all the LEP's, either RU1 or RU2. Some of the land in the Kyogle Shire is zoned E3 under the exhibited draft LEP. And as advised above, land north of Tabulam is included in a R5 Large Lot Residential under the draft Kyogle LEP.
- As Craig has suggested, comments should be canvassed from each of the Councils regarding preliminary strategic work they may have undertaken to date about their future growth expectations.
- I understand that there has been similar concerns raised in the media about the transmission corridor and its impact on the communities it passes through.

Trust these comments are helpful.

Regards

John

John Finlay
Local Planning North Coast Office
Department of Planning

>>> Craig Diss 27/09/11 14:23 >>>

Hi John

My main comments for the New England Tableland LGAs affected by the proposal are:

- Neither Tenterfield or Inverell have Department endorsed Local Growth Management Strategies. Both councils are still in the process of preparing their LGMS.
- Both Tenterfield and Inverell have resolved to prepare new comprehensive LEPs in the SI LEPformat but both are still at s62 and have not yet requested a certificate to exhibit the plans.
- Comment should be sought from Council in regard to any preliminary strategic work they may have undertaken to date regarding the proposed future planning controls for the areas affected by the proposal.
- A number of articles have appeared in the local media raising community concerns in Tenterfield about the location of the proposed transmission corridor and its potential impacts particularly on the environment, land values and rural lifestyle.

Appreciate you agreeing to include our comments into a single Northern Region response.

cheers

Craig



REF: OUT11/18809

Mr Neville Osborne Team Leader –Energy
Infrastructure Projects
Dept of Planning & Infrastructure
GPO Box 39
SYDNEY NSW 2001

Dear Mr Osborne

**Re: MP09_0150 Environmental Assessment for Dumaresq to Lismore
Transmission line**

Thank you for your letter of 31 August 2011 requesting the Fisheries Division within the Department of Primary Industries (DPI Fisheries) to provide advice and recommend conditions of approval for the above Environmental Assessment (EA).

OPI Fisheries is responsible for ensuring that fish and fish habitat are protected and conserved for future generations and that key fish habitats are maintained or improved. DPI Fisheries has reviewed the EA and has identified the matters outlined below for amendment prior to final determination. DPI Fisheries has recommended three issues need to be addressed via specific conditions of approval.

Waterway crossings

DPI Fisheries' initial correspondence in relation to Director-General's Requirements provided on 8 September 2009 highlighted the Department's policy requirements with regard waterway crossings as detailed in our policy and guidelines for fish friendly waterway crossings available on the internet at:

http://www.dpi.oswego.gov.au/data/assets/pdf_file/0005/226868/Fish-friendly-waterway-crossings_Policy-and-guidelines_FN-1181.pdf

Poorly designed road crossings of waterways that obstruct the free passage of fish are also captured within the scope of a key threatening process listed under Part 7 A of the Fisheries Management Act 1994 (FM Act), specifically:

"Installation and operation of in-stream structures and other mechanisms that alter natural flow regimes of rivers and streams~.

Where waterway crossings are necessary, the FM Act and government policy require new or upgraded structures be designed to adequately allow for the free passage of fish. Details of assessment procedures, design standards and construction techniques are provided in our publication; Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (Fairfull and Witheridge 2003).

Waterway prioritisation

OPI Fisheries acknowledges the layout of access tracks has been designed to avoid crossings of high quality fish habitat as depicted in Figures '2-1a' to '2-1ae' Appendix E "Surface Water and Hydrology". Specifically: Beardy Waters, Reedy Creek, Tenterfield Creek, Cataract River, Plumbago Creek, Clarence River, Tarban Creek, Tunglebung Creek, Shannon Brook and the Richmond River.

However, where waterway crossings are proposed, the EA does not apply the habitat classification scheme provided in Fairfull and Withe ridge (2003; see Attachment 1), instead using a modified version with three rather than four categories. The classification scheme used in the EA is presented in, Table 3-2 Waterway Classification Scheme on page 22 of Appendix E "Surface Water and Hydrology". Using this classification, the EA identifies four Class 1 waterways, two Class 2 waterways. All the remaining waterways are considered as "Unlikely fish habitat".

DPI Fisheries believes the classification used in the EA does not accurately reflect the fish habitat value of the sites and the upstream waters. This is particularly the case for sites known or likely to have threatened species present.

Many of the waterways classified as "unlikely fish habitat" within the EA contain in-stream aquatic vegetation, a defined channel and generally permanent pools. Using the Fairfull and Witheridge (2003) classification some of these waterways would be considered Class 1 or 2, major or moderate fish habitat, respectively.

In addition, some of the waterways classified as "unlikely fish habitat" within the EA are known habitat for threatened fish species; Purple Spotted Gudgeon (*Mogumda adspersa*), Agassizi's Glassfish (*Ambassis agassiz/*) and Eel Tailed Catfish (*Tandanus tandanus*). Using the Fairfull and Witheridge (2003) classification waterways that form the habitat of a threatened fish species are categorised as Class 1 waterways.

By incorrectly classifying the value of certain waterways the current proposal will result in unacceptable impacts on threatened species and significant fish habitats. As such the "Statements of Commitments" (C6 -C8) within the EA would not be achieved.

To assist the proponent DPI Fisheries has reviewed and amended the classification system to accord with current departmental policy using the Fairfull and Witheridge (2003) scheme for waterways (see Attachment 2). The presence of threatened fish species, as recorded by the Department's research programmes, are identified.

Proposed works to access tracks and waterway crossings Consistent with the policies discussed above, where existing structures that form a barrier to fish passage in key fish habitats are upgraded DPI Fisheries requires redesign of the structure to improve fish passage outcomes.

The EA does not specify the nature and scope of works to be undertaken at each particular waterway crossing, rather, broad categories are used to describe the works required. It should be noted that works such as widening or raising the height of existing crossings are considered upgrades.

The department recommends several conditions of approval to address these issues.

Sediment and erosion control during construction DPI Fisheries recommends the soil and water management plan prepared as part of the 'Statement of Commitments' (B4) incorporate the preparation, by an appropriately qualified person, of site specific erosion and sediment control plans for each crossing location.

Effective implementation of sediment and erosion controls requires site specific knowledge and DPI Fisheries consider this appropriate due to the potential for sediment and erosion impacts on threatened fish species, DPI Fisheries recommend that this intent be incorporated into the 'Statement of Commitments',

Agricultural issues

DPI Agriculture's infrastructure guide may be of assistance to the proponent. It is available at:
www.dpi.nswl.gov.au/data/assets/pdf_file/0020/359030/infrastructure-proposals-on-rural-lands.pdf

Minerals issues

The proposal raises no obvious mineral conflicts with the western route. Similarly there are no obvious mineral or coal and petroleum conflicts with the eastern route.

Conclusion

DPI Fisheries has significant concerns that the proposal, as outlined in the EA, will result in barriers to fish passage being installed or maintained within the known habitat of threatened fish species.

The 'Statements of Commitments' C6, C7 and C8 within the EA are considered inadequate in addressing these issues. It is recommended that the preferred project report include a classification of waterways using the Fairfull and Witheridge (2003) waterway classification and also include a description of the specific crossing type proposed at each site. These amendments should be made in consultation with DPI Fisheries.

If approval is granted, DPI Fisheries recommends the following conditions of approval be included: Designs for new crossings of Class 1 and 2 waterways (Fairfull and Witheridge's classification) be reviewed by DPI Fisheries to ensure they provide for fish passage consistent with Fish Friendly Waterway Crossing Policy and Guidelines (Fairfull and Witheridge, 2003).

Designs for upgrading or modifying of existing crossings of Class 1 and 2 waterways (Fairfull and Witheridge's classification) be reviewed by DPI Fisheries to ensure that the new design provides for fish passage consistent with Fish Friendly Waterway Crossing Policy and Guidelines (Fairfull and Witheridge, 2003).

Future maintenance, upgrading or modifications of Class 1 and 2 waterway crossings (Fairfull and Witheridge's classification) be reviewed by DPI Fisheries to ensure they provide for fish passage consistent with Fish Friendly Waterway Crossing Policy and Guidelines (Fairfull and Witheridge, 2003).

Should you require further information please contact Fisheries Conservation Manager, Patrick Dwyer, on (02) 6626 1397.

Yours sincerely

Bill Talbot
Director Aquaculture, Conservation & Marine Parks

21 October 2011

Attachment 1

Fairfull and Witheridge scheme for classification of the fish habitat value of waterways and recommendation of a minimum design to achieve an appropriate level of fish passage for those waterways (Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings. Fairfull and Witheridge, 2003).

Classification	Characteristics of Waterway Type	Minimum [1] Recommended Crossing Type
Class 1 Major Fish Habitat	Major permanently or intermittently flowing waterway (e.g. river or major creek), habitat of a threatened fish species	Bridge, arch structure or tunnel
Class 2 Moderate Fish Habitat	Named permanent or intermittent stream, creek or waterway with clearly defined bed and banks with semi - permanent to permanent waters in pools or in connected wetland areas. Marine or freshwater aquatic vegetation is present. Known fish habitat and/or fish observed inhabiting the area	Bridge, arch structure, culvert [2] or ford
Class 3 Minimal Fish Habitat	Named or unnamed waterway with intermittent flow and potential refuge, breeding or feeding areas for some aquatic fauna (e.g. fish, yabbies). Semi - permanent pools form within the waterway or adjacent wetlands after a rain event. Otherwise, any minor waterway that interconnects with wetlands or recognised aquatic habitats	Culvert [3] or ford.
Class 4 Unlikely Fish Habitat	Named or unnamed waterway with intermittent flow following rain events only, little or no defined drainage channel, little or no flow or free standing water or pools after rain events (e.g. dry gullies or shallow floodplain depressions with no permanent aquatic flora present)	Culvert [4], causeway or ford.

- 1) In all cases bridges are preferred to arch structures, culverts, fords and causeways (in that order).
- 2) J High priority given to the "High Flow Design" procedures presented for the design of these culverts -refer to Design Considerations section of this document, or engineering guidelines (Witheridge, 2002).
- 3) J Minimum culvert design using the "Low Flow Design" procedures; however, "High Flow Design" and "Medium Flow Design" should be given priority where affordable (refer 10 Withe ridge (2002)).
- 4) Fish friendly waterway crossing designs possibly unwarranted. Fish passage requirements should be confirmed with the local fisheries department/authority.

Attachment 2

Amended waterway classification to accord with DPI Fisheries policy using the Fairfull and Witheridge (2003) scheme

Waterway	Proposed works	Classification in EA	DPI Fisheries classification	DPI Fisheries justification
Black Creek	Creek crossing upgrade required, access track cat 2	Class 3 (Unlikely fish habitat)	Class 2	Catchment Area
Gulf Creek	Creek crossing upgrade required, access track cat 2	Class 3 (Unlikely fish habitat)	Class 2	Catchment area
Mole River	Existing creek crossing, access track cat 2	Class 2	Class 1	Departmental records of Glass Fish (<i>Ambassis agassizi</i>)
Deadmans Creek	Existing creek crossing, access track cat 2	Class 3 (Unlikely fish habitat)	Class 1	Departmental records of Purple Spotted Gudgeon
Ten Mile Creek	Existing creek crossing, access track cat 2	Class 3 (Unlikely fish habitat)	Class 1	Departmental records of Purple Spotted Gudgeon
Whalans Creek	Creek crossing upgrade required, access track cat 2	Class 3 (Unlikely fish habitat)	Class 1	PSG
Sunnyside Creek	Creek crossing upgrade required, access track cat 2	Class 3 (Unlikely fish habitat)	Class 2	Departmental records of Purple Spotted Gudgeon
Gosling Swamp Creek	New creek crossing required, access track cat 2	Class 3 (Unlikely fish habitat)	Class 2	PSG
Rem Swamp Creek	Creek crossing upgrade required, access track cat 3	Class 3 (Unlikely fish habitat)	Class 1	Departmental records of Purple Spotted Gudgeon
Black Swamp Creek	New creek crossing required, access track cat 2	Class 3 (Unlikely fish habitat)	Class 2	Catchment area
Tea Tree Creek	New creek crossing required, access track cat 2	Class 3 (Unlikely fish habitat)	Class 2	Catchment area
Mummulgum Creek	Creek crossing upgrade required, access track cat 1	Class 3 (Unlikely fish habitat)	Class 2	Catchment area
Walshes Creek	Creek crossing upgrade required, access track cat 1	Class 3 (Unlikely fish habitat)	Class 2	Catchment area



Office of Water

Major Development Assessments
Department of Planning
GPO Box 39
SYDNEY NSW 2001

c: Elizabeth Cala
t: 02 4904 2533
f: 0249042501
e: elizabeth.cala@water.nsw.gov.au

25 October 2011

Our ref: ER 20757
Your ref: MP 09_0150

Attention: Anna Timbrell!

Dear Ms Timbrell

Exhibition of Environmental Assessment for Dumaresq to Lismore Transmission Line (Far North NSW Project) (MP 09_0150)

I refer to your letter of 31 August 2011 inviting a submission on the above proposed project.

The NSW Office of Water (NOW) provides the following advice on the basis that the former legislative provisions under Part 3A of the *Environmental Planning and Assessment Act 1979* apply to this proposed project.

Overall, NOW considers that the proposed project should have a minimal impact on water sources and their dependent ecosystems, provided it is carried out in accordance with the mitigation measures and commitments proposed in the EA and NOW's recommended conditions of approval below.

1. Water sharing plans

The *Water Act 1912* is being gradually phased out and replaced by the *Water Management Act 2000* as water sharing plans commence for particular water sources.

The EA correctly identifies that the *Water Sharing Plan for the Tenterfield Creek Water Sources 2004* applies to part of the proposed project in the Border Rives Catchment Area.

The EA fails to identify that the *Water Sharing Plan for the Richmond River Area Unregulated, Regulated and Alluvial Water Sources 2010* applies to part of the proposed project in the Richmond River Catchment Area. The EA also fails to identify that the *Water Sharing Plan for the NSW Border Rivers Unregulated and Alluvial Water Sources* and the *Water Sharing Plan for the NSW Murray-Darling Basin Fractured Rock Groundwater*

Sources are due to commence in the near future (early 2012) and will apply to part of the proposed project in the Border Rivers Catchment Area. This issue was previously raised in NOW's correspondence on the adequacy of the EA for the proposed project dated 16 May 2011.

2. Water licensing requirements

The EA provides that water required during the construction phase of the proposed project will be sourced from town water supplies and artificially constructed dams. Licence and approval requirements apply to some dams. The proponent must consult with NOW to ensure that the taking of water from any artificially constructed dam for the proposed project is appropriately authorised.

In relation to dewatering for footing structures, the EA identifies that outside water sharing plan areas a water licence under Part 5 of the Water Act 1912 is required. It should be noted that in water sharing plan areas an aquifer access licence under the Water Management Act 2000 is required. The proponent must consult with NOW to ensure that dewatering for any footing structure is appropriately authorised under the relevant water legislation.

3. Impacts on watercourses

NOW considers that a key water management issue for the proposed project is the impact of watercourse crossings on surface water sources and their dependent ecosystems. NOW considers that this issue is adequately addressed by the mitigation measures and commitments proposed in the EA, and NOW's recommended conditions of approval below.

4. Acid sulfate soils

The EA provides that the potential for acid sulfate soils to occur within the study area is low. NOW accepts this assessment but considers that a precautionary approach is required to ensure that land degradation is avoided or minimised should acid sulfate soils be identified in the construction phase of the proposed project.

It is unclear from the EA whether the Proponent proposes to prepare a management plan for acid sulfate soils. Section 7.2.5 in the Main Report of the EA provides that " ... the CEMP would include measures for managing Acid Sulfate Soils should they be identified during construction". In contrast, section 3.3 in Appendix E of the EA provides that " ... an ASS Management Plan is not deemed necessary". As a precautionary approach, NOW recommends that the CEMP should include a management plan with prescribed contingency actions for any acid sulfate soils identified during construction.

5. Groundwater dependent ecosystems

Section 8.4.3 in the Main Report of the EA provides that "The closest groundwater dependent ecosystem to the Project is located approximately 10 km to the east of Lismore Substation ... ". However, in NOW's correspondence on the adequacy of the EA for the proposed project, Gibraltar Springs and Basket Swamp were identified as high priority groundwater dependent ecosystems in proximity to the proposed project. The EA should have assessed the potential impact of the proposed project on Gibraltar Springs and Basket Swamp.

6. Recommended conditions of approval

NOW is satisfied with the draft Statement of Commitments in the EA. If the proposed project is approved, NOW recommends the Statement of Commitments form part of the conditions of approval.

In addition, NOW recommends the following also be included as conditions of approval:

Water Supply

- The Proponent must ensure that all water supplies for the project are sourced from an authorised and reliable supply.
- The Proponent must ensure that the taking of water for purposes other than water supply, such as dewatering during construction, is appropriately authorised.

CEMP

- The CEMP must be prepared in consultation with NOW.
- The CEMP must include an Acid Sulfate Soils Management Plan.

Watercourse crossings

- The Proponent must undertake a geomorphic assessment of the watercourse prior to the design and construction of any watercourse crossing .
- Watercourse crossings must be designed, in consultation with NOW, so as to maintain the geomorphic stability of the watercourse.

If you require further information please contact Elizabeth Cala, Planning and Assessment Coordinator on (02) 4904 2533 at the Newcastle office.

You rs sincerely



Mark Mignanelli
Manager Major Projects, Mines and Assessment



The Team Leader –energy
Infrastructure Projects
Planning and Infrastructure
GPO Box 39
SYDNEY 2001

Attention: Ms. Anna Timbrell!

Dear Ms. Timbrell

**Subject: Exhibition of Environmental Assessment for Dumaresq to Lismore
Transmission Line (Far North NSW Project) (MP 09_0150)**

As discussed on the telephone. thank you for the extension of time to respond to the above project.

The detailed Environmental Assessment Report acknowledges our Catchment Action Plan (CAP)(2006) which is a whole of government natural resource management plan for the Northern Rivers region.

Consistent with the CAP. we recommend that soil. water, flora and fauna management practices be implemented which achieve the following outcomes:

- Minimise soil loss and disturbance from the site and associated access tracks during construction and post construction
- Minimise disturbance of riparian zones particularly at river and creek crossings to ensure river and creek bank stability
- Minimise the clearing of native vegetation and habitat along the route to reduce the impact on the area's biodiversity values.

For your records, please note we have a new General Manager -Ms. Deb Tkachenko.

If you require any further information, please contact Simon Proust in our Coffs Harbour office on 66530111 or email: simon.proust@cma.nsw.gov.au.

Yours faithfully

Royce Bennett
Program Manager

4 November 2011

22822 John Alexander of RTA

PCU027166



Our Ref 430.5365 File No. (I 1403DP)

David Pattison

Your Ref MP 09_0150

Department of
Planning
Received
24 OCT 2011
Scanning Room

Department of Planning Received
Department of Planning and Infrastructure
GPO Box 39
Sydney NSW 2001

Attention: Neville Osborne

Dear Neville

Bruxner Highway and Summerland Way. Environmental Assessment for Dumaresq to Lismore Transmission Line.

I refer to your letter of 31 August 2011 forwarding an environmental assessment report of proposed transmission line.

The Roads and Traffic Authority (RTA) has considered the proposal and provides the following advice. Please note that the information, as provided, in no way constitutes formal approval to the proposed works:

Where the proposed power-line crosses a public road, under Section 138 of the NSW Roads Act 1993, the proposed works would require formal approval from the appropriate Council. Council is the roads authority (consent authority) for all public roads within its area. On a classified road, the RTA must concur before any consent may be given by a Council. As such, detailed information on the proposed works would be required to be submitted to both Council and the RTA to enable a determination to be made.

If you require further information please contact Mr David Pattison on telephone 02 6640 1078 or email GraftonRegionalOffice@1a.nsw.gov.au.

Note: All correspondence relating to utilities in the road reserve should be addressed to the 'Asset Manager'.

Yours sincerely

John Alexander
Acting Regional Manager, Northern Region

21 OCT 2011

INVERELL SHIRE COUNCIL



Our Ref: 518.6.2
Your Ref: MP 09_0'50
Author: Chris Faley, Planning Officer

24 October 2011

Major Projects Assessment
Department of Planning & Infrastructure
GPO Box 39
SYDNEY NSW 2001

Dear Sir/Madam.

**APPLICATION NO. MP 09_0'50 -DUMARESQ TO LISMORE TRANSMISSION LINE
(FAR NORTH NSW PROJECT)**

Reference is made to the exhibition of the Environmental Assessment for the Dumaresq to Lismore Transmission Line (Far North NSW Project) by the proponent TransGrid.

Council has received correspondence during the exhibition period from concerned parties objecting to the proposed transmission line development. The Environmental Assessment was assessed in relation to the Inverell Shire and the correspondence, with the resolution that Council has no objection to the proposal.

Whilst Inverell Shire Council has no objection to the development, a copy of the correspondence is enclosed for your consideration during the assessment process.

If you require any further information, please do not hesitate to contact Council's Planning Division by telephoning 67288202.

Yours faithfully,

**ANTHONY ALLISTON
MANAGER DEVELOPMENT SERVICES**

Message: 2011 /18133

To: Council, cQuncif From: julia harpham
@lenterfield.nsw.gov.au
Cc: bjm245@live.com.au, Tom Peters
Sent: 9/10/2011 at 5:16PM
Received: 9/10/2011 at 5:13 PM
Subject: Request for council to place an objection to the Proposed Transgrid line

Attachments: [Re Bonshaw to Lismore Transgrid Line Proposal.doc \(95 KB\)](#)
[Eastlink recommendations compared with Transgrid proposal.doc \(84 KB\)](#)

Objection to the Transgrid line Proposal Bonshaw to Lismore

Dear Council

We , as affected landholders from the Upper Dumaresq Action Group, would like to request you to place an objection to the building of the line. Objections to the line must be placed before October 24th.

I attach the objections papers from us (personally) as landholders , as well as a comparison between the Senate findings into the Eastlink proposal and their recommendations to Transgrid, in which you will find more information relating to the areas of objection below. Of particular interest to you as a Council might be the effects on land values , and the effects on the roads , but we feel all areas of the proposal will impact negatively upon us as landholders and dwellers in this valley.

We would like you to note that all attachments must be in PDF form.

Ne request you to place an objection to the building of this line

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=3472

for any or all of the following reasons :

strategic planning and project justification.

land use planning impacts

socio-economic impacts

ecological impacts -soils, surface water, biodiversity

human amenity impacts (noise and vibration, air quality, traffic impacts)

heritage impacts -aboriginal sites and also non-indigenous

hazard and risk

noise impacts

visual amenity

construction related impacts (noise, water quality, weed management , soil and erosion)

traffic and roads

consultation process

We would particularly like you to note

Strategic planning and project justification The proposal is inadequate in that it does not comply with AER - a complaint which we made to the NER [to which the NER agreed]. It does not adequately justify the need it insists it has. It is also running against current environmental practices by the use of coal fired power Land use planning impacts It glosses over the current use of land, as something that won't change.

Access tracks will be an ongoing burden since we are already experiencing difficulty with unauthorised persons entering our properties. It does not adequately address the issue of health effects -farmers will have to work close to the line, and will have no choice. The effects of EMF's on cow and sheep

fertility, and to crops grown in proximity to the line have not been properly researched. Agriculture restrictions (centre pivots etc) are well known. It does not take into account any future subdivisions and the lines affect on these.

The socio-economic impacts would be hugely negative as a result of land values diminishing. Rates would probably fall as a result. The compensation offered in no way reflects the value of the land. It will particularly affect landholders who wish in the future to sub-divide their landholdings. Those who are attempting to run a tourism related business will find it particularly difficult, since the visual amenity issues will affect their businesses.

Ecological impacts - The proposal's environmental impact survey is very inadequate without using proper sampling methods. The sampling methods used during the flora and fauna survey were very inadequate, and in some cases done from a plane. Dry Rainforest is one threatened community found in our region, but is missed out. Departmental guidelines for threatened species surveys were not followed adequately. Listed on the TSC Act are species such as such as Ribbon Gum -Mountain Gum -Snow Gum and Inland Grey Box which occurs but has not been mentioned. It has not identified several species of flora and fauna protected under the Act which appear within the proposal's easement. Weeds and future erosion on our properties have been identified by them, but the proposal does not adequately address how much future work will be done over the easements life, and it is likely that landholders will have ongoing issues with faults which occur and Transgrid's obligations being fulfilled.

Human amenity impacts -the line will create an untenable nuisance value to those who live close to construction, or on roads used by construction workers. Those of us on unsealed roads with trucks roaring by for months will have massive dust problems. Radio, TV and mobile phone coverage (already poor) will be adversely affected by the line after it is built.

Heritage impacts -we do not believe the line was adequately surveyed for aboriginal heritage, and Kamilaroi people were not consulted. Hazard and risk -the effects of EMF's are largely disregarded by the proposal in that they suggest a policy of prudent avoidance will overcome any negative effects. There is no research which supports the idea that there are no negative health effects, and mounting evidence that there are. Bushfire risks are stated, but played down, and does not take in to account the lack of a localized Disaster Plan for us as landholders to access in the event of a crisis. We have formed a local Fire Brigade, but really need a local SES in order to make local decisions on a needs basis _ The proposal suggests that any fire could be dealt with adequately, which was not the experience when we had the bush fires in the Torrington Reserve adjacent to most of our properties. The line will cross areas of very high fire risk, and potentially may cause fires. Flood risks In the proposal it is stated that nowhere crossing the proposed line is there a likelihood of flood -untrue, Beardy River, Reedy Creek and Mole River would all have flooded across the proposed sites of pylons. In the January floods broken lines were cut and dropped in to the river providing a further risk which has since not been removed. Transgrid accepts that there is no rural floodplain management plan in use, and we would think that there needs to be one before a further impact from the line is put in place. Dust and noise occurring as a result of large vehicles and road access will impact on those of us suffering from asthma.

Noise from the building using jackhammers etc as described in the proposal I'll affect animals grazing within the area, and negatively impact the many rare and protected species which occur within the easement, and whose habitat we would like to see protected

The proposal says the Visual Amenity will not be noticeable from over a kilometre which is ridiculous given you can see the Westlink line for 10 km. For those whose houses are close it will be a constant blight on the landscape, as well as a detrimental effect on the future value of the land. Roads and Traffic. The proposal states that within the Tenterfield LGA, the Bruxner Hwy is a classified State road, and the RTA has the responsibility to fund, prioritise and carry out works. It does not mention Inverell. This is incorrect!! The state of the road is already dangerous and could not support a massive increase in vehicles, most of which would be large. Consultation Process and Compensation Transgrid has paid lip service to a fair and equitable consultation process. The initial posting of their intention to build was done without affected landowners having the opportunity to object. We have only had this opportunity to object since the Planning Department required an EIS to be done. Much of their consultation they demand to be secret. Transgrid is still following the practice of one-by-one basis negotiations, and making landowners sign a privacy agreement with them to not disclose the amounts being offered to each landholder. The compensation provisions say they are fair, but the only side to which they favour is obviously Transgrid itself. Perhaps the ACCC could look into this, or the Dept of Fair Trading. Transgrid uses harassment and bullying techniques, and landowners are not made aware of their rights. At present they are trying to intimidate landowners into signing agreements even though this proposal has not been passed by the Planning Department. If the costing of the Transgrid proposal included proper compensation, and compensation for future land use, the cost would be more than double its advertised cost (\$270Million). In any case the future cost to the region (negative impacts and impeded land use) is not accounted for by the proposal. Compensation offered is inadequate in relation to land values

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OBJECTIONS TO BONSHAW TO LISMORE TRANSGRID LINE PROPOSAL

PROJECT JUSTIFICATION:

Since the publication of the Environmental Impact Study on the preferred route we would like to voice our concerns re the current proposal and to call upon you to withdraw the \$270 million proposal.

In the light of the current political climate, it seems extraordinary that any government could be considering a proposal which is clearly against current thinking (focussed on reducing demand and upon energy efficiency and the use of renewable energy). To quote from the Government leaflet What a carbon price means to you, "the world is moving to a clean energy future". Surely the independent body the Government will create, the Climate Change Authority, would advise strongly against such a project.

It seems ridiculous that monies raised from a Carbon Tax would be offsetting a massively expensive proposal which would be responsible for the release of a massive amount of carbon, both in the production of power, and the carrying of it, to say nothing of the cutting down of huge numbers of trees and bushes in its construction.

With the enormous amount of money focussing on the research and development of geo thermal and solar power, as well as wind power and wave power, one can only wonder if the future of the coal powered electricity industry is very safe at all. One cannot turn on any form of media without hearing eminent scientists agreeing on how Australia ought to be heading on energy supply and consumption. The recent publication of the Flannery Report makes it clear that as a nation we must do something about reducing carbon emissions. The cost of electricity is currently being driven upward not by a carbon tax, but by the cost of infrastructure. The potential cost of carbon taxing may well bankrupt the coal fired energy producers in the future, which would in turn render this line unnecessary.

The building of such infrastructure requires at least a 25 year life for it to be viable, and there is no forward planning which could guarantee that life span for this infrastructure. Transgrid's proposal says it will have a 50 year life. In 20 years time, experts agree that the sources and infrastructure supplying households could look very different from today's models.

Not only that; but the millions of dollars which Transgrid is proposing to spend, could be better spent on building and encouraging more environmentally friendly electricity supplies. The network system favoured by Transgrid is totally out-dated. Clearly, also, the stated cost which was based on finishing the project by 2011, is now much higher than the original costing (although Transgrid provides no figures on this). Transgrid has made no effort to update their costing of the project, or if they have, they certainly have not made it public.

NON COMPLIANCE

We as a group made a complaint to the NER about Transgrid's non-compliance with mandatory procedures, and the NER published a deeply critical report of the proposal. We are at present (through the ACCC) pursuing the reasons why they did not demand the proposal to be withdrawn completely, and are still hopeful that the proposal will be withdrawn. Surely the legislation which protects electricity supply and gives Transgrid the right to build could not be held up if the proposal was not satisfactory according to its own legislation?

The AER's letter of 22 December 2010 states that the AER's decision not to require TransGrid to comply with clause 5.6.6 is based on the belief that "a fundamentally different outcome was unlikely" and that this conclusion was reached because the RFP "contained sufficient information to enable prospective providers of non-network (and network) solutions to formulate alternative options."

Since the RFP did NOT seek proposals for alternatives to the construction of the 330kV line, how can the AER possibly maintain the RFP enabled prospective providers of non-network (and network)

solutions to formulate and submit alternatives to the construction of the 330 kV line? This is simply and plainly not true!

i.e. the AER have based their conclusion (about the unlikelihood of a fundamentally different outcome) on an understanding about the RFP that was totally incorrect.

Note: the purpose of clause 5.6.6 is to ensure that consultation to elicit alternative proposals is effective. As explained by the AEMC:

the objective of achieving efficient investment outcomes would require an obligation on NSPs to assess all investment alternatives, irrespective of whether these are network or non-network options or undertaken by an NSP or market participant... In the absence of such a requirement, NSPs may give preference to an investment option that would increase their asset base or otherwise suit their commercial interests, rather than reflect the public interest in an option that is most efficient⁵

NEED

As we have many times pointed out, Transgrid's argument that the proposal is necessary because of a "need" is quite ridiculous in the light of changes in renewable energy suppliers, and energy efficiency. The UTS report clearly supports that electricity does not have to be supplied over long lines carrying coal fired power, which lose up to 15% of their power in being transported,

Not only that, but we have demonstrated the statistics and maths used in the proposal to be incorrect, and did prove that the need exists. If anything the need is reducing.

They have then started to talk about "peak demand" as the reason for building. It does seem incongruous that a government would spend such a huge sum on a possibility of need for 3 days of the year -this possibility being exactly that.

Also, as the cost of electricity climbs, the use of electricity will decline because consumers are more careful with their usage.

While TransGrid forecast an increase in peak demand of 46% between 2008 and 2017, demand has actually decreased for the past 3 years.

NORTH COAST ENERGY FORUM

The inaugural North Coast Energy Forum was held in Bellingen in 2010. It was an interactive event that sought to lay the foundations for a regional approach to meeting stationary energy needs, which make up 40% of Australia's greenhouse emissions.

In 2011 the NCEF was held in Mullumbimby on 3 June. About 100 people explored how the NSW north coast could meet more of its stationary energy needs through a mix of reducing and managing demand, improving energy efficiency and increasing the local generation of renewable energy. It was very popular, and received a lot of local and media interest. More information on it can be found at <http://www.ncenergyforum.org>.

It was organised for the benefit of dwellers in the very area which the Transgrid proposal is meant to "benefit". Dwellers in the area are traditionally very environmentally conscious, and are likely to not condone building something which transports coal-fired power at such a huge cost to the environment.

As well, the North Coast Energy Forum: the Sustain Northern Rivers collaboration (www.sustainnorthernrivers.org) is currently investigating funding opportunities to develop a regional energy strategy to transition to a low carbon energy economy in this region.

COAL SEAM GAS FIND AT CASINO

The needs of the near north coast could be supplied by coal seam gas from Casino, which apparently has enough to supply the area for a long time into the future. Very little has been said about using a

cleaner source of energy at the place where it is needed. Transgrid clearly is supporting coal fired energy sources at the expense of the environment.

Enough gas has been found by Metgasco and Red Sky Energy to power the whole of Australia for 6 months (based on the companies' 2P/2C figures, ie 50% probability), and far more than enough to account for any increase in demand on the North Coast by 2017. It would be extraordinary if the coal seam gas at Casino were exported (which would require the building of a pipeline across areas of EPBC, and in an area where the residents are very aware of environmental concerns and would no doubt object furiously.)

The cost of power since the Eastlink Senate Report was written (1995) has risen massively, so one really can't say that there has been greater efficiency at all as a result of interconnection. As well, the only beneficiaries of the scheme appear in the long term to be the coal mines, the power generator suppliers, and the carriers notably Transgrid! And, as far as a competitive national electricity market is concerned, Transgrid has no competition at all, which leads it to make arrangements with the power generator suppliers for its own interests. Clearly this must be the reason why the requests for RFP's are on such a low priority, and are not properly investigated. The monopoly situation Transgrid enjoys as the carrier has created a situation which may well have forced prices up.

Transgrid's primary business is the building and carrying of coal fired electricity, and their proposal reflects their main interests. They have a conflict of interest in that they cannot propose a project and weigh up the benefits of alternative supplies and demand management adequately.

LAND USE PLANNING IMPACTS

It glosses over the current use of land, as something that won't change. Access tracks will be an ongoing burden since we are already experiencing difficulty with unauthorised persons entering our properties. It does not adequately address the issue of health effects -farmers will have to work close to the line, and will have no choice. The effects of EMF's on cow and sheep fertility, and to crops grown in proximity to the line has not been properly researched. Agriculture restrictions (centre pivots etc) are well known. It does not take into account any future subdivisions and the lines affect on these

THE SOCIO-ECONOMIC IMPACTS

RURAL LANDHOLDERS

It is unfair and inequitable that the proposal involving supply of electricity to the near North Coast should be at the expense of rural landholders, for whom the supply will never be of any practical use since it will not supply to any of the landholders. The damage and impact on our community (already struggling) after years of drought, bushfires and now floods will be catastrophic.

LAND VALUES

Transgrid undertakes to compensate landholders with a monetary amount. However, this monetary amount IN NO WAY reflects the loss of value to landholders, or the future saleability of their landholdings. Already many sales have fallen through as a result of the proposal, and landholders who in the last few years have had to suffer bushfire and serious flooding cannot afford to have the value of their property seriously diminished.

Not only that, but land valuations done by Transgrid do not reflect future land valuations should properties be subdivided.

Whereas, in past times, land values perhaps did not diminish as much as a result of power lines being built over them, there is now much more public antipathy, which makes the land far less valuable. Many landowners are relying on their land values as their superannuation, and cannot afford a drop in value of any kind, let alone the dramatic one from this, or in fact the possibility of being unable to sell at all.

In North Queensland I understand that land valuations dropped by as much as 2/3 after the line was built.

Once built, the value of the land can never be regained, nor can the environmental damage be undone.

Transgrid points out that there would be some temporary flow-on benefits to the local community during power line construction through expenditure by work crews and subcontractors. Expenditure would include purchase of fuel, equipment, services, haulage, and construction camp supplies. This is hardly likely to benefit any rural landholder over whom the line passes. Such benefits (to the local town) would be outweighed by a detrimental impact, especially by heavy construction vehicles which would use local roads and farm access tracks. Who is going to repair and maintain our existing minor roads after heavy Transgrid vehicles and trucks loaded with steel materials and machinery, travelling on them have worn them away? We can't see the local shire council doing a great lot as we've contacted them on several occasions, asking for a grader to repair our road, but have hardly seen them at all. Roads are already a disaster after the January floods and we have made many complaints to the local shires. We are currently missing 3 bridges between the Beardy River and Tenterfield, and potholes in the road make driving extremely dangerous. Our own property access roads would be badly affected also.

ANIMAL HEALTH EFFECTS

No study to my knowledge has taken place, but there is anecdotal evidence of still born calves, and other health problems occurring in paddocks where cattle graze under lines. One issue unresolved is whether the lines will affect the price of cattle and other livestock grazing under the lines, especially if research shows that there are definitely health issues for animals in proximity. In any case, there is likely to be a consumer backlash towards our products, since consumers are increasingly wishing to buy organically grown products (which in our own case we currently supply). We can well do without another threat to our beef industry... we must have a written assurance from Transgrid that we will be satisfactorily compensated for losses of income should it subsequently happen that stock that have been subject to Electro-Magnetic Radiation become unsaleable. There may also be an economic impact on crops grown close to lines in the future.

There is also no research on the health effects on the rare and endangered species living across the proposed easement.

TENTERFIELD AND INVERELL SHIRES

As far as our shires are concerned the line offers no net gain to the shires as a whole, not even improved supply, and in fact will be detrimental in terms of land values dropping, and rates therefore falling. It will also impact upon our blossoming tourism business.

ECOLOGICAL IMPACTS

EPBC

Some of the areas over which the line is currently meant to pass are areas of Environmentally Protected Bio-Diversity Communities, with, as the name suggests, critically endangered wild life and plants. This will require signing off by the Federal Government, and the current government will find themselves under pressure from environmentalists to preserve these unique areas.

The proposal's environmental impact survey is very inadequate and does not follow proper sampling methods. The sampling methods used during the flora and fauna survey were very inadequate, and in some cases done from a plane. Dry Rainforest is one threatened community found in our region, but is missed out. Departmental guidelines for threatened species surveys were not followed adequately. Listed on the TSC Act are species such as Ribbon Gum -Mountain Gum -Snow Gum and Inland Grey Box which occurs but has not been mentioned. It has not identified several species of flora and fauna protected under the Act which appear within the proposal's easement.

We know for a fact that Woodland Birds such Brown Tree Creepers, Grey Crowned Babblers, Squatter Pigeons and Diamond Firetails have communities within the easement. Birds of Prey such as the Red Goshawk, Spotted Harrier, Little Eagle and Square Tailed Kite are in the easement as well. We see bitterns near the creek, and there is a community of Black tailed Cockatoos as well. The Spotted Tailed Quoll being nocturnal is not often seen, but we have seen them several times. Of more importance, we have found scats and tracks which belong to them. Bush Stone Curlews can be seen and heard frequently. There are several varieties of honeyeaters, all protected. Frogs are not mentioned at all in surveys, but there are many different varieties in the creek. Koalas are seen infrequently (but are present), and scratchings can be found along the easement area. Various varieties of bats and flying foxes exist in the study area but were not investigated. Various different native mice are found in the study area. We have a least 3 different types of owls (all protected). We have many varieties of small parrots, gliders, wallabies small and large, kangaroos, and snakes. I could go on listing, but my point is that the survey of the area was very inadequate. We regard the area of our property over which the easement will run as an area of potential National Heritage, because so many rare and vulnerable species exist within it. Almost every species expected to be found in the area is there, as a result of its never having been disturbed by the landholders who have owned it for the past 150 years. One option would be to gift the entire area to National Parks in order to protect it.

The health effects on native wildlife, many of whom are rare and endangered, have never been studied. The proposal does not identify this as an issue at all. Indeed, at a public meeting in Tenterfield, a Transgrid employee said birds were known to nest on the line. Naturally, he would not provide an answer when asked how many live fledglings hatched.

Weeds and future erosion on our properties has been identified as a future problem by them, but the proposal does not adequately address how much future work will be done over the easements life, and it is likely that landholders will have ongoing issues with faults which occur and Transgrid's obligations being fulfilled.

Clearly, in the case of the Bonshaw to Lismore Line, Transgrid drew a line on the map and had no idea what it actually crossed across. On the original proposal, it went over houses, sheds and of course it still crosses areas of national environmental significance falling under the EPBC Act. They have not changed their practices here either, in that the siting of the position of the line took place well before any EIS. Their choice of easement was clearly on economic grounds, and as engineers, what would be the easiest and cheapest for them. The choice of easement is another example of sloppy planning.

We as landholders are very concerned about the impact of noxious weeds, fragmentation of habitat, erosion, and loss of trees will have, and fear the building of access tracks will give easier access for shooters and hunters who have no permission to be there. We also strongly object to its crossing areas falling under the EPBC act.

The power authorities have acknowledged that some environmental damage will occur during construction but they believe that minimal impact construction practices will prevent any serious damage and that, after the construction phase is complete, rehabilitation of disturbed areas will ensure that the impact doesn't continue. On our soil types, any disturbance, however minimal, requires ongoing work for years to remove the damage. Our fear is, that any rehabilitation work will be slipshod and not on-going, and we will be left with the expense of rehabilitation, working underneath the power lines (and where is the prudent avoidance there?) We would probably have to spend months on literally hand weeding along the line.

Indeed, for many landholders, the droughts, floods and bush fires have highlighted the fragility of the environment in which we live. We have struggled to retain ground cover, to reduce the potential for erosion, and to protect our farm from the vagaries of the weather. We have protected the EPBC areas to the best of our ability, and are proud of the many and varied rare species of flora and fauna found here. But while we can accept the impact of these weather events, because we have no control over the weather, we are at a loss to understand why anyone would intentionally place stress on the environment in which we live, when there appears to be many more benign and globally desirable alternatives. As practitioners of environmentally sustainable farm management practices, we are appalled at the thought of having this line foisted upon us. The sampling methods used during the flora and fauna survey were very inadequate, and in some cases done from a plane. The young ladies who came to our place spent a couple of hours here, when the line will cross several kilometres. Any thorough environmental impact study would have spent a considerable time looking at what was known to be a significant area. The Transgrid employee accompanying them, was rushing them, and did not give them time. He scoffed when they found koala scratchings (which we know exist in the corridor). The young ladies were not experts in this kind of landscape, and I personally showed them several species which they were unable to identify, since they did not know what to look for. I also lent them a reference book (of which they were unaware existed) on flora species found in the area (Native plants of the NW Slopes of NSW Traprock Country by Lyn Lacey).

We are also concerned that that the areas of EPBC will no longer

be regarded as EPBC simply because of the building of the line. These areas need protection since there are so few of them left which can be classified as EPBC's. It is a Catch 22 that these communities exist because they have not been damaged. This would also impact on the value of our property, which is in part because of its environmental classification.

GREAT DIVIDING RANGE

The line passes over the Border Ranges which has been designated as a wildlife corridor and a World Heritage listed area, in order to protect species along it. The line would greatly impact upon this.

The Environmental Assessment (EIS) was not accepted by the Planning Department over inadequacies found within it. We feel strongly critical of assessments done just on our own property, which were not thorough, nor done by experts in the field. On our property the entire corridor passes over areas of EPBC and areas of heritage significance, and it has not identified many threatened species or Dry Rainforest which occurs in the creeks.

HERITAGE IMPACTS

We do not believe the line was adequately surveyed for aboriginal heritage, and Kamilaroi people were not consulted.

As an example of sloppy research, or compliance, no Aboriginal people were invited to inspect the site on our property, even though it is known to be a site of considerable importance. A student from a University (not Aboriginal) came to do the survey (for a couple of hours), and I felt that my knowledge of aboriginal customs and places might have been far superior. In any case she failed to identify anything, even though she was standing under a marked tree at one point.

HAZARD AND RISK

HEALTH

The effects of power lines on human and animal health are increasingly considered a danger. As more studies are completed, scientists are increasingly aware of the dangers. Some studies are fairly conclusive in linking health problems with high voltage power lines (childhood cancers, Alzheimers Disease) and researchers surmise that as more statistics become available, there will be no doubt. In the future, the NSW Government is running a huge risk of lawsuits claiming negligence. Legal advice obtained by us suggests that the building of anything which is known to pose a threat to human health in the future is a huge gamble to be undertaken by any government.

In terms of health effects, there has been a real increase in anxiety and stress related syndromes to many people living on the proposed line. Mental health issues have become an increasing problem since the proposal was instigated. There is no recognition of the detrimental effects from fear and the impact this new proposal is clearly having upon individuals within our own valley, let alone the rest of the line. The extra pressure from severe floods and bush fires, and the subsequent damage sustained, has only served to heighten anxiety.

The findings of the Senate Committee investigation into Eastlink 1995 made it clear that there was such conflicting evidence that the Committee could not make a finding either way as to the effects of high voltage lines on health. However, it is clear that prudent avoidance is not an option for landholders and their stock working under them, because they have no choice. Transgrid's insistence (in the new proposal) that it is no different to normal household emissions is like comparing apples with oranges -as well as the fact that there is choice within a household what appliances one will use. Graziers working in the paddock for long periods (as we must) will be exposed to a far higher risk, and do not have any choice.

LYSSAVIRUS

In 9.17 (D.16) it states only vaccinated ecologists with lyssavirus inoculation would handle microbats. There is no such thing as a dedicated lyssavirus inoculation, it is actually a rabies virus antitoxin usually administered as an anti-dote. In any case the increase in Hendra virus is potentially thought to be a result of increased stress amongst the flying fox population, which exists in quite high numbers in this area. Obviously removal of habitat would greatly increase stress amongst the species, thereby increasing the risk of Hendra virus.

This is yet another example of an incorrect statement in the Proposal.

BUSH FIRE THREAT

The recent findings in Victoria re the bushfires there indicated that power lines should not be built in areas known to be threatened by bushfires. This corridor passes through areas close to the Torrington Reserve in which bushfires raged out of control for weeks in December 2009.

The Transgrid proposal plays down the real threat of bushfires, places the likelihood as quite low, and does not take in to account the lack of a localized Disaster Plan for us as landholders to access in the event of a crisis. In the December bushfires, the areas which were burnt out resembled those in Victoria -total annihilation of everything in its path. We have no local SES, and whilst we have formed a local fire brigade, we are hampered in that without a telecommunications tower we risk losing communications. As mentioned elsewhere, the line will adversely affect Radio, TV and mobile phone coverage (which is already poor). Since without a local SES to make decisions we are at the mercy of people making decisions without knowing what is happening, and too much of a time lapse.

We simply cannot risk a higher risk of bushfire from that which we already have.

FLOOD RISKS

In the proposal it is stated that nowhere crossing the proposed line is there a likelihood of flood - untrue, Beardy River, Reedy Creek and Mole River would all have flooded across the proposed sites of pylons. In the January floods broken lines were cut and dropped in to the river providing a further risk which has since not been removed. Transgrid accepts that there is no rural floodplain management plan in use, and we would think that there needs to be one before a further impact from the line is put in place. They have not assessed for flood risk adequately.

Dust and noise occurring as a result of large vehicles and road access will impact on those of us suffering from asthma.

NOISE

The proposal states that there would be no major effect on households due to noise, vibrations or reduced air quality -we shall be quite severely affected, as will most dwellers in the valley. It will also impact on the rare and endangered species whose habitat is being destroyed.

VISUAL AMENITY

Laws governing the effect of such lines on visual appeal of landscapes appear to favour those persons whose lives are affected by the sight of unsightly lines spread across the landscape. The proposal states that beyond a 1 km view catchment it is unlikely!!! to appear as a dominant visual element. The present Westlink line is clearly and dominantly visible from 10 km, so that's just rubbish. There are a number of dwellings which would be negatively affected, and future subdivisions of properties on the easement would also be affected by a drop in land value.

ROADS AND TRAFFIC

ACCESS AND TRAFFIC

Most land owners in the Dumaresq Valley have enough trouble with unauthorised shooters and piggers, and theft of animals, without extra road access along the line to provide these people with a highway through our back country which we cannot police.

The proposal states that within the Tenterfield LGA, the Bruxner Hwy is a classified State road, and the RTA has the responsibility to fund, prioritise and carry out works. This is incorrect. This is a Shire Road not a State road, and we have consistently complained, even before the floods, about the state of the road. Since the floods we have made representations on a personal and as a group (Mingoola Progress Association) about the dangerous state of the roads. This road is unsafe now, without a massive increase in large vehicles carrying heavy loads, as well as workers transport.

The noise and vibration from vehicles, as well as the dust from passing vehicles on the unsealed Reedy Creek Road within 10 metres of our house would be insupportable for the period of time we would be affected. There is no compensatory measure they could make which would make their access less negative on our daily lives.

Who is going to repair and maintain our existing minor roads after heavy Transgrid vehicles and trucks loaded with steel materials and machinery, travelling on them have worn them away? We can't see the local shire council doing a great lot as we've contacted them on several occasions, asking for a grader to repair our road, but have hardly seen them at all. Roads are already a disaster after the January floods and we have made many complaints to the local shires. We are currently missing 3 bridges between the Beardy River and Tenterfield, there are 3 diversions, and potholes in the road make driving extremely dangerous. Our own property access roads would be badly affected also, and unsealed public roads such as Mole River Road and Reedy Creek Road, as well as the two roads accessing both sides of the Beardy River, which are inadequately maintained now, would become impassable. Even now if it rains a lot our neighbours at the back of Moorabinda (Maids Creek) cannot access their property.

CONSULTATION PROCESS AND COMPENSATION

Transgrid has paid lip service to a fair and equitable consultation process. The initial posting of their intention to build was done without affected landowners having the opportunity to object. We have only had this opportunity to object since the Planning Department required an EIS to be done. Much of their consultation they demand to be secret, which is not a legal requirement. Transgrid is still following the practice of one-by-one basis negotiations, and making landowners sign a privacy agreement with them to not disclose the amounts being offered to each landholder.

They say that few people registered complaints to them -mostly because early in the process it became clear that all complaints simply received the same rote replies full of the same twaddle and inaccuracy that we have complained of elsewhere. It was not worth the time and energy to complain. However, I think State and Federal MP's would have received a massive number of complaints over the period of time. I alone have written more than 100 letters. During the period of the last NSW government, Ministers referred complaints to Transgrid who sent us the same rote replies..... That government relied upon advice from the very Corporation we were complaining about.

It is worthwhile to remember that Transgrid exists to carry power, and would probably not exist if smart grids and local supply solutions were developed. They clearly have a vested interest as a Corporation to continue to operate in the way they were originally set up.

The compensation provisions in the proposal say they are fair, but the only side which agrees is obviously Transgrid itself. I have yet to speak to landholder who agrees with their valuations. Perhaps the ACCC could look into this, or the Dept of Fair Trading.

Transgrid uses harassment and bullying techniques, and landowners are not made aware of their rights. At present they are trying to intimidate landowners into signing agreements even though this proposal has not been passed by the Planning Department. If the costing of the Transgrid proposal included proper compensation, and compensation for future land use, the cost would be more than double its advertised cost (\$270Million). In any case the future cost to the region (negative impacts and impeded land use) is not accounted for by the proposal. Compensation offered is inadequate in relation to land values.

SUMMATION

In short, the planning for this proposal is flawed. It is full of incorrect statements and sweeping 'motherhood' statements made in the hope no one will ask them to prove them. I would almost go so far as to say they (Transgrid) drew a few lines on a map, with little regard for where it passed, tried justifying it with some shonky maths which a year 10 student could see through, and just hoped that the landholders over whom it passed would be submissive and accept it as a fait accompli. I note that another option (shorter and cheaper), to build from Grafton to Lismore, was deemed too "controversial", and not continued with, because it was thought that the landholders affected would make too big a fuss.

By some spurious reasoning, they define prudent avoidance of negative impacts as that which affects the fewest people. If one person is impacted negatively, that is still a negative impact, and there is no way we will accept being sacrificed in the name of prudent avoidance or, in reality, convenience.

We as landholders affected intend to continue our fight against this proposal. We intend not to give in to the intimidation of Transgrid, and to continue to fight against the proposal with all the means available to us.

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On 30 March 1995, the Senate referred the matter of

On 30 March 1995, the Senate referred the matter of the Eastlink High Voltage Power Line to the Economics References Committee. The Terms of Reference were then advertised in national newspapers and submissions called for by 2 June 1995. The Committee received 274 submissions from a range of individuals and organisations (Appendix I). Many of the submissions were from areas most affected by the proposed line. Almost all of the submissions received from private individuals and community groups opposed Eastlink. Those few submissions in favour of Eastlink were from the two power authorities and from several individuals.

Eastlink: The Interconnection of NSW and Queensland Electricity Grids with a High Voltage Powerlink

December 1995

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In this summation I shall attempt to briefly sum up whether or not Transgrid has followed any of the recommendations of the Senate Economics References Committee. In brief, it is quite obvious that they have not followed any of them.

Chapter 1

The benefits of interconnection are clearly out of date and do not take into account the advances in renewable energy. If Transgrid is basing its proposal on the benefits of interconnection, then it is clear they are also basing their proposal on coal fired power. This policy, whilst at the time may have been apposite, is now no longer one which would benefit Australians.

Chapter 2

Health and Electro-Magnetic fields

The findings made it clear that there was such conflicting evidence that the Committee could not make a finding either way as to the effects of high voltage lines on health. However, it is clear that prudent avoidance is not an option for landholders and their stock working under them, because they have no choice. Transgrid's insistence (in the new proposal) that it is no different to normal household emissions is like comparing apples with oranges - as well as the fact that there is choice within a household what appliances one will use. Graziers working in the paddock for long periods (as we must) will be exposed to a far higher risk, and do not have any choice.

There is no recognition of the detrimental effects from fear and the impact this new proposal is clearly having upon individuals within our own valley, let alone the rest of the line. Mental health issues are quite high since the proposal was first instigated. The extra pressure from severe floods and bush fires, and the subsequent damage sustained, has only served to heighten anxiety.

As with human health, the Committee accepts that evidence line impact on the health of stock and crops grown within the vicinity of the line is equivocal. In the absence of extensive field studies on livestock, the Committee is not able to conclude that high voltage power lines affect the health of livestock and crops, nor is it able to conclude that they do not. The Committee therefore recommends that scientific studies should be carried out in Australia on the possible effects of high voltage powerlines on stock and crops. (Paragraph 2.72).

No study to my knowledge has taken place, but there is anecdotal evidence of still born calves, and other health problems. One issue unresolved is whether the lines will affect the price of cattle and other livestock grazing under the lines, especially if research shows that there are definitely health

issues for animals in proximity. In any case, there is likely to be a consumer backlash towards our products, since consumers are increasingly wishing to buy organically grown products (which in our own case we currently supply). We can well do without another threat to our beef industry... we must have a written assurance from Transgrid that we will be satisfactorily compensated for losses of income should it subsequently happen that stock that have been subject to Electro-Magnetic Radiation become unsaleable.

Tire Committee therefore concludes that compensation by power authorities should be extended to those property owners who suffer all economic loss as a result of the construction of Eastlink, regardless of how that loss is brought about. (Paragraph 2.74). There may well be an economic impact on stock and crops, if in the future it is proven that there is a detrimental effect.

There is no mention of any compensation for anyone suffering an economic loss as a result of construction in the new proposal.

Chapter 3 -Environmental Impact

The Committee accepts that there will be some direct environmental impact associated with the construction of this high voltage powerline. The primary impact will be loss a/trees through clearing of casement and resultant fragmentation of habitat. Other potential environmental impacts include soil erosion, the introduction of noxious weeds during construction and maintenance activities, the use of herbicides to control vegetation regrowth along casements, the unfavourable visual impact a/ the line. and impact on special heritage areas.

Of greater concern to the Committee is, however, the action of the power authorities in determining the preferred corridor, then carrying out the Environmental Impact Statement. While the final impact statement is not due to be completed until mid-1996, it is clear that the power authorities have already chosen a specific route.

The Committee questions the practice of carrying alit all environmental impact assessment of proposal; when alternatives have not been included in the detailed Environmental Impact Statement and when siting of the line is clearly going ahead before the Environmental Impact Statement is complete. (Paragraph 3.75),

Transgrid Proposal:

Clearly, in the case of the Bonshaw to Lismore Line, Transgrid drew a line on the map and had no idea what it actually crossed across. On the original proposal, it went over houses, sheds and of course it still crosses areas of national environmental significance falling under the EPBC Act. They have not changed their practices here either, in that the siting of the line took place well before any EIS. Their choice of easement was clearly on economic grounds, and as engineers, what would be the easiest and cheapest for them.

We as landholders are very concerned about the impact of noxious weeds, fragmentation of habitat, erosion, and loss of trees will have, and fear the building of access tracks will give easier access for shooters and hunter who have no permission to be there, We also strongly object to its crossing areas falling under the EPBC act.

The power authorities have acknowledged that some environmental damage will occur during construction but they believe that minimal impact construction practices will prevent any serious damage and that, after the construction phase is complete, rehabilitation of disturbed areas will ensure that the impact doesn't continue. On our soil types, any disturbance, however minimal, requires ongoing work for years to remove the damage. Our fear is, that any rehabilitation work will be slipshod and not on-going, and we will be left with the expense of rehabilitation, working underneath the power lines (and where is the prudent avoidance there?) We would probably have to spend months on literally hand weeding along the line.

Indeed, for many landholders, the droughts, floods and bush fires have highlighted the fragility of the environment in which we live. We have struggled to retain ground cover, to reduce the potential for erosion, and to protect our farm from the vagaries of the weather. But while we can accept the impact of these weather events, because we have no control over the weather, we are at a loss to understand why anyone would intentionally place stress on the environment in which we live, when there appears to be many more benign and globally desirable alternatives.

As practisers of environmentally sustainable farm management practices, we are appalled at the thought of having this line foisted upon us.

The sampling methods used during the flora and fauna survey were very inadequate, and in some cases done from a plane. The young ladies who came to our place spent a couple of hours here, when the line will cross several kilometres. Any thorough environmental impact study would have spent a considerable time looking at what was known to be a significant area. The Transgrid employee accompanying them, was rushing them, and did not give them time. The young ladies were not experts in this kind of landscape, and I personally showed them several species which they were unable to identify, since they did not know what to look for.

As an example of sloppy research, or compliance, no Aboriginal people were invited to inspect the site on our property, even though it is known to be a site of considerable importance. A student from a University came to do the survey, and I felt that my knowledge of aboriginal customs and places might have been far superior. In any case she failed to identify anything, even though she was standing under a marked tree at one point.

Chapter 4 -Social and Local Economic Impact

The Eastlink proposal. perhaps more than any other high voltage power line in Australia's history. has resulted in high levels of community opposition. The large number of critical submissions received was a strong indication to the Committee that the communities affected do not want Eastlink to proceed.

Impact on Agricultural Land

Property owners "were concerned that the position of the line "....would have a detrimental impact on the efficient operation of their businesses through interference with /activities and with aerial agriculture. The Committee recommends that all detrimental impact Oil farm operations should be the subject of compensation.(Paragraph 4.97).

Local Economic Impact

Eastlink has already had an impact on the real estate market for properties along the Western corridor. in addition, the value of (properties along the corridor may well be reduced by the advent of the powerline. It is clear that some people are currently being economically disadvantaged by the proposal.

Regional economics may feel a flow-on effect from the stagnation of the rural real estate market and the unwillingness of property owners in general to make any further capital investment in the properties. The visual impact of the power line may also affect regional tourism.

The power authorities involved have noted that real estate devaluations sometimes occur when a power line is first proposed, but suggested that the market will regain its previous level at some stage after the power line has been completed. The Committee notes, however, that this information does not help property owners who want to sell now, or who are planning to sell in the near future.

The Committee holds the view that, if the power authorities are so sure that the property market will return to normal after Eastlink is completed, they should buy now, at pre-Eastlink valuation, any property that has been pm the market and that has not achieved a sale because of speculation about Eastlink. (Paragraph 4.101).

Transgrid proposal:

Again, Transgrid, has not followed any recommendations. Furthermore, we have already experienced a down turn in markets and an inability to sell properties along the route. There is also no sign that property markets on the Westlink project have in fact returned to normal, and clearly since many people in our area would be thinking in the future of making subdivisions and selling lifestyle blocks, it would cause a real devaluation of previous land values.

This would also cause the local shire to lose income from rates in the long term. In the new proposal, Transgrid outlines a minor positive economic impact for the areas it passes through, based on some spurious reasoning.

Transgrid points out that there would be some temporary flow-on benefits to the local community during power line construction through expenditure by work crews and subcontractors. Expenditure would include purchase of fuel, equipment, services, haulage, and construction camp supplies. This is hardly likely to benefit any rural landholder over whom the line passes

Such benefits (to the local town) would be outweighed by a detrimental impact, especially by heavy construction vehicles which would use local roads and farm access tracks. Who is going to repair and maintain our existing minor roads after heavy Transgrid vehicles and trucks loaded with steel materials and machinery, travelling on them have worn them away? We can't see the local shire council doing a great lot as we've contacted them on several occasions, asking for a grader to repair our road, but have hardly seen them at all. Roads are already a disaster after the January floods and we have made many complaints to the local shires. We are currently missing 3 bridges between the Beardy River and Tenterfield, and potholes in the road make driving extremely dangerous.

In the case of our own property, Moorabinda, the future value of the property will be greatly affected by issues such as visual impact, the loss of the EPBC areas. That community presently existing on our property will no longer fall under the act, since it will have been disturbed. We regard the value of our property is greatly enhanced by its natural beauty and the many rare and endangered species which exist here. This value would be seriously diminished if this increasingly rare habitat was destroyed.

Transgrid has recognised that there would be other, uncompensated impacts such as disturbances to communications systems (2-way radios and mobile phones, essential during emergencies such as bushfires) and to TV and radio reception; increased fire frequency, and damage to the surrounding natural environment. After the recent floods and bushfires, our local community has formed the Mingoola Progress Association, and one of the issues of highest priority is our lack of a recognised, localised disaster management plan. The admission that there could be increased fire frequency is especially worrying after the fires in the Torrington Reserve which border our country. The Transgrid proposal brushes over the issue of fires, and appears to think that any fires could easily be managed, something which is completely laughable, given our past experience,

We also have little or no mobile reception and poor radio and TV reception, It would be quite inequitable that these imposts be imposed upon us.

Compensation

It is the usual practice of power authorities to offer compensation for the use of easements and to offset any losses associated with reduced amenity of facilities on individual farms. However, there is a general community belief that in the case of Eastlink, the level of compensation would be inadequate.

Compensation

The Committee is concerned that the practise of negotiating compensation arrangements on a one-by-one basis, without any requirement for public disclosure of the total amount, or the factors included in the summation, favours the power authorities and enables them to achieve minimum levels of compensation. Were public disclosure compulsory and if landowners had access to a simpler and cheaper avenue of conciliation than the courts, the level of compensation paid may appear more equitable to those seeking compensation for the intrusion of Eastlink.

The Committee recommends wider and more comprehensive compensation provisions, which may include provision for an independent conciliation process for individuals or groups affected.

(Paragraph 4.105).

Transgrid proposal:

Transgrid is still following the practice of one-by-one basis negotiations, and making landowners sign a privacy agreement with them to not disclose the amounts being offered to each landholder, The compensation provisions say they are fair, but the only side to which they favour is obviously Transgrid itself. Perhaps the ACCC could look into this, or the Dept of Fair Trading. Transgrid uses harassment and bullying techniques, and landowners are not made aware of their rights,

If the costing of the Transgrid proposal included proper compensation, the cost would be more than double its advertised cost,

Community Consultation & Social Impact

While the power authorities made every effort to consult the people directly affected by the proposal, both those individuals and the broader community have rejected the consultation process as completely inadequate. People believe that because they were never given the choice of 'no Eastlink' the consultation process was intrinsically flawed. It appears to the Committee that a significant cause of community disharmony and rancour has been the practice of holding discussions with individual property owners who were disadvantaged by the fact that they were ignorant of what had been said to neighbouring property owners, while the power authority officers had the advantage of knowing what offers had been made to other landholders. More significantly the fact that the power authorities made changes to the proposed route led to suspicion that improper influence had been brought to bear. This created antagonism between neighbours and in some instances rifts have formed within rural areas that will take a long time to heal.

The Committee concludes that while the power authorities put a large effort into public consultation, the methods used were not accepted by many of those people affected by the proposed power line. The cumulative effect has been considerable social disquiet and stress. (Paragraph 4.108).

Transgrid proposal:

All I can say is, that in our experience, nothing has changed, They continue in their tactics of divide and secrecy, and the consultation process is quite lacking. Furthermore, landholders were never given a chance to object to the original proposal since they were simply not aware of the proposal until it had already passed the objection date. Our first knowledge was when they contacted us as individual landowners that we were on the path of the easement. I cannot see that it is fair to put up a proposal when those on the path have no idea that it exists. The proposal was on their website, and we were naturally unaware of it until it was too late,

State Parliamentary Review Procedures

This Committee and its predecessor, the Standing Committee on Industry, Science and Technology, has over the last few years noted a lack of informed and detailed debate on matters relating to power generation developments. In particular, the Committee has noted that state governments could play a stronger role in meshing policy with community needs and opinions.

The Committee suggests to all state governments that there would be merit in establishing a process whereby communities and professionals could be more directly involved in debate on energy matters. Through such a process, parliaments could monitor community reaction to energy projects, as well as provide a more accessible and flexible grievance mechanism. (Paragraph 4.111))

Again, it would appear that this advice has not been followed. Transgrid has clearly made all the decisions prior to the proposal's publication.

Chapter 5 -Economic Considerations

The Senate Standing Committee on Industry Science and Technology recommended in its report on Gas and Electricity that any interconnection between NSW and Queensland should not go ahead until it was proven to be economic. While opponents of Eastlink have argued that this has still not been proven, the fact that two State Governments, with the support of the Federal Government, are going ahead indicates that it is considered by them to be economic.

The Committee accepts that the analysis carried out by the Australian Bureau of Agricultural and Resource Economics examined the general economics of interconnection through a high voltage power line, and was not sufficiently detailed to draw conclusions about the specific case of Eastlink. The Committee further accepts that the model demonstrated, in general terms, that electricity interconnection through a high voltage power line would be economic. (Paragraph 5.20).

However, because a specific cost/benefit analysis for Eastlink was not available, the Committee is unable to comment on the specific case of this proposal. (Paragraph 5.21).

The total cost of Eastlink has been stated by the power authorities to be in the region of \$3.00 million. However, information given by the authorities does not include a breakdown of what expenses have been included. Lack of detailed information has contributed to public confusion and misunderstanding about the

relative costs and benefits of Eastlink and therefore to a lack of understanding of the full economic impact.

The Committee believes that, in the interests of good public relations, the power authorities involved should make available to the public a more detailed cost/benefit analysis of Eastlink. (Paragraph 2.23).

Transgrid Proposal:

In our complaint to the AER we have made it clear that not only did they not comply with the regulations, but also that their economic modelling was incorrect. We have detailed how this proposal is not viable in that there are far more economically sustainable avenues to follow than building a power line. As we have many times pointed out, Transgrid's argument that the proposal is necessary because of a "need" is quite ridiculous in the light of changes in renewable energy suppliers, and energy efficiency. The UTS report clearly supports that electricity does not have to be supplied over long lines carrying coal fired power, which lose up to 15% of their power in being transported. Not only that, but we have demonstrated the statistics and maths used in the proposal to be incorrect. If anything the need is reducing. The original proposal was based upon spurious statistics and incorrect mathematical modelling.

They (Transgrid) have, since having pointed this out to them, started to talk about "peak demand" as the reason for building. It does seem incongruous that a government would spend such a huge sum on a possibility of need for 3 days of the year this possibility being exactly that.

Also, as the cost of electricity climbs, the use of electricity will decline because consumers are more careful with their usage. While TransGrid forecast an increase in peak demand of 46% between 2008 and 2017, demand has actually decreased for the past 3 years.

The building of such infrastructure requires at least a 25 -to 50 year life for it to be viable, and there is no forward planning which could guarantee that life span for this infrastructure. In 20 years time, experts agree that the sources and infrastructure supplying households could look very different from today's models. We are concerned that even within 5 years, this proposal could be a massive waste of money. It is worthwhile to remember that Transgrid exists to carry power, and would probably not exist if smart grids and local supply solutions were developed. They clearly have a vested interest as a Corporation to continue to operate in the way they were originally set up.

Chapter 6 -Electricity Consumption and Greenhouse

The question of impact on greenhouse gas emissions hinges on whether Eastlink will increase the use of coal fired power stations. Because there is almost no data available which relates specifically to Eastlink, the Committee is unable to make a decision as to which is the more likely outcome. However, the Committee notes that the potential does exist for greenhouse gas emissions to increase. The Committee therefore recommends that the Commonwealth Government investigate in detail the likely impact of Eastlink on coal consumption and the implications of any change in that consumption for greenhouse gas emissions having regard to its international obligations. (Paragraph 6.29).

Transgrid proposal: We have not seen any sign that Transgrid has followed this recommendation in any way. Our own work on the proposal makes it clear that in fact they have ignored it. They insist that the best way to provide electricity to the Far North is through high voltage transmission lines carrying coal fired electricity.

Chapter 7 -Renewable Alternatives

Throughout the current inquiry, the Committee was impressed by the knowledge and enthusiasm that community groups and individuals hold for alternative renewable forms of electricity generation. The Senate Standing Committee on Industry, Science and Technology in its 1992 report, Gas & Electricity – Combining Efficiency and Greenhouse, stated that Queensland would be an ideal place to further research on renewables and recommended that the development of a national grid must not preclude the further development of options such as demand management, co-generation and new technologies. Despite the outcome of the Eastlink interconnection, the Committee reiterates the opinion expressed in the Report on Gas and Electricity that Queensland would be an ideal place for increased research and development of renewable energy options. (Paragraph 7.33).'

Transgrid proposal:

From our complaint to the NER (see below) one can see that the above recommendation for the development of options in demand management, co-generation and new technologies was ignored by Transgrid.

I see no recognition of the inaccuracy of their demand forecasts for the last 3 years in forecasting future demand. In other words, the project justification remains dubious.

NON COMPLIANCE COMPLAINT We as a group made a complaint to the AER about Transgrid's noncompliance with mandatory procedures, and the AER published a deeply critical report of the proposal. We are at present (through the ACCC) pursuing the reasons why they did not demand the proposal to be withdrawn completely, and are still hopeful that the proposal will be withdrawn. Surely

the legislation which protects electricity supply and gives Transgrid the right to build could not be held up if the proposal was not satisfactory according to its own legislation?

The AER's letter of 22 December 2010 states that the AER's decision not to require TransGrid to comply with clause 5.6.6 is based on the belief that "a fundamentally different outcome was unlikely" and that this conclusion was reached because the RFP "contained sufficient information to enable prospective providers of non-network (and network) solutions to formulate alternative options."

Since the RFP did NOT seek proposals for alternatives to the construction of the 330kV line, how can the AER possibly maintain the RFP enabled prospective providers of non-network (and network) solutions to formulate and submit alternatives to the construction of the 330 kV line? This is simply and plainly not true!

i.e. the AER have based their conclusion (about the unlikelihood of a fundamentally different outcome) on an understanding about the RFP that was totally incorrect.

Note: the purpose of clause 5.6.6 is to ensure that consultation to elicit alternative proposals is effective. As explained by the AEMC:

the objective of achieving efficient investment outcomes would require an obligation on NSPs to assess all investment alternatives, irrespective of whether these are network or non-network options or undertaken by an NSP or market participant... In the absence of such a requirement, NSPs may give preference to an investment option that would increase their asset base or otherwise suit their commercial interests, rather than reflect the public interest in an option that is most efficient.⁵

The cost of power since this report was written has risen massively, so one really can't say that there has been greater efficiency at all. As well, the only beneficiaries of the scheme appear in the long term to be the coal mines, the power generator suppliers, and the carriers – notably Transgrid! And, as far as a competitive national electricity market is concerned, Transgrid has no competition at all, which leads it to make arrangements with the power generator suppliers for its own interests. Clearly this must be the reason why the requests for RFP's are on such a low priority, and are not properly investigated. The monopoly situation Transgrid enjoys as the carrier has created a situation which may have forced prices up.

SUMMATION:

Issues of Greatest Concern

4.5 Of the 274 submissions sent to the Committee, the vast majority were letters from individuals or families directly affected by the Eastlink proposal. The points most commonly raised were:

- that there were perceived dangers to health from exposure to ENTE particularly for children living in close proximity to the power line
- that the money spent on Eastlink would be better spent on alternative renewable energy generating systems, or on research on such systems;
- that interconnection through Eastlink would continue the use of large generating systems and in particular large coal fired power stations, which would not only not reduce greenhouse gas emissions but may increase them;
- that the visual impact would detract greatly from the natural beauty of the areas through which it passed;
- that the impact on land values would not be properly recognised by the power authorities and that therefore compensation would be inadequate;

- that already the proposal was having a detrimental impact on landholders trying to sell their properties, on the mental and physical health of landholders along the proposed route and on their marital relationship and
- that there would be other, uncompensated impacts such as disturbances to communications systems (2-way radios and mobile phones, essential during emergencies such as bushfires) and to TV reception; increased fire frequency, and damage to the surrounding natural environment.

4.63 The Northern Rivers Energy Action Network submitted that a comprehensive social impact statement for Eastlink was essential before any decision could be made as to the desirability of the project and that a social impact statement should have preceded the decision to build the Eastlink power line. The submission argued that a comprehensive social impact assessment would:

- A assist in improving the social well-being of the community by moving away from the 'lip-service' consultation currently practiced;
- acknowledge the community belief that the need for Eastlink has not been proved;
- enable the true cost of the Eastlink project to the community to be assessed; (especially to future values)
- allow an assessment of the relative levels of employment generated by alternative renewable energy sources and demand side management pro-rams as opposed to that generated by Eastlink;
- assist in deciding the best way for Australia to meet its greenhouse gas emission targets;
- allow an energy strategy to be devised which would resolve the issues of equity, sustainability efficiency and environmental quality;
- allow a true assessment of the alternative options for supplying energy needs for both NSW and Queensland;
- look at the social barriers to increased energy efficiency; and
- look at the impact of today's energy decision on future generations.

All of the above apply equally to this proposal. The EIS recently published is sloppy, full of motherhood statements and inadequacies, and in no way follows any of the Senate recommendations from the Eastlink report. This power line is not needed, not wanted, a huge cost to taxpayers and consumers, and I suspect, harbouring a hidden agenda to privatise the national grid to the detriment to small consumers, the environment, and our carbon emissions. Given the enormous amount of money which will be expended on this Far North Bonshaw to Lismore High voltage Power line, we believe the governments involved should reconsider their commitment to the proposal until such time as the concerns outlined in this been adequately investigated. Such investigations must be open to public input and scrutiny. Transgrid has not followed any of the recommendations of the Senate Committee, and must be called to account for continuing to do business in a way which our Senate was clearly critical of.

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Message: 2011/18379

From: [John Rodwell](#)
To: council@tenterfield.nsw.gov.au, Council
Cc:
Sent: 12/10/2011 at 8:12 AM
Received: 12/10/2011 at 8:09 AM
Subject: Support for request from Julia Harpham

Attachments: [AER final report.pdf \(145 KB\)](#)

Dear Councillors of Tenterfield Shire Council and Inverell Shire Council

Recently Julia Harpham of Upper Dumaresq Action Group (UOAG) wrote to you. Julia requested that the two councils make a submission to the Department of Planning and Infrastructure regarding the proposed Dumaresq to Lismore transmission line. Julia's letter and the documents she attached present a powerful argument against the proposed line.

I am writing in support of Julia's request. I am Media Officer for Transgrid Action Group which, together with UDAG, has led opposition to the proposal. Both groups have presented evidence that the proposal is unnecessary (even on Transgrid's demand projections). In addition, it is undeniable that Transgrid's application did not conform to the National Energy Rules (NER). This was clearly outlined in the Australian Energy Regulator's (AER) report which I have attached to this email. Put simply, Transgrid did not investigate alternatives as required. The so-called "Request for Proposals" (RfP) did not satisfy NER requirements. Indeed the RfP was only issued after Transgrid was investigated by the AER (following referral from UDAG and TAG).

Therefore under the Director General's (NSW Planning and Infrastructure) Environmental Assessment Requirements for Strategic planning and project justification the proposal is manifestly unacceptable. This is before any of the other Environmental Assessment Requirements are considered. Careful reading of Julia's documents clearly demonstrates major concerns in all eleven other requirements.

In a nutshell: If the proposal is approved, our region would be presented with a major disturbance to the environment and this disturbance is based on unacceptable planning and justification. No-one would build a costly and environmentally unfriendly piece of infrastructure without very strong justification. There is no justification.

Specifically, the proposal has many negative consequences for local governments, as outlined in Julia's correspondence.

Please assist the maintenance of the character of our shires by making a submission against the proposal.

Yours faithfully

John Rodwell
Media Officer
TAG

Investigation Report
Compliance with the planning and network
development provisions of the National Electricity Rules
TransGrid
September 2010

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SUMMARY.....	iv
1 INTRODUCTION.....	1
1.1 Background to the investigation.....	1
1.2 Clause 5.6.6 of the Electricity Rules.....	2
1.3 Regulatory test.....	2
1.3.1 Intent of the regulatory test.....	3
1.4 Review of planning and consultation process.....	5
1.5 Revenue application review.....	5
2 REVIEW OF COMPLIANCE	7
2.1 Needs analysis.....	7
2.1.1 AER's assessment of TransGrid's needs analysis	7
2.2 Range of options considered	8
2.2.1 Options considered in the application notice.....	9
2.2.2 AER's assessment of options considered by TransGrid in the application notice	9
2.2.3 AER 's assessment of options considered by TransGrid in the final report.....	11
2.2.4 TransGrid's Request for Proposals Process	12
2.3 Other issues identified	13
2.3.1 Material inter-network impact	13
2.3.2 Treatment of submissions	15
2.3.3 Projects and scenarios -regulatory test	16
2.3.4 Nature of final report	18
3 OUTCOMES OF THE INVESTIGATION	20
3.1 Enforcement options	20
3.2 Commitments received from TransGrid	21
3.3 Future compliance monitoring	22

Summary

This report completes the Australian Energy Regulator's (AER) investigation into the compliance of TransGrid with clause 5.6.6 of the National Electricity Rules (Electricity Rules) in regard to a proposed 330kV transmission line from Dumaresq to Lismore.

Clause 5.6.6 of the Electricity Rules requires an applicant who proposes to establish a "new large transmission asset" to comply with various planning and consultation procedures, including undertaking the regulatory test (at the time version 3 of the regulatory test was in place).

These processes aim to ensure that planning for new investment is transparent, that consultation to elicit alternative proposals is effective. In addition, these processes aim

for non-network alternatives (such as generation and demand management) to be considered on a level playing field with network options and that market participants and users are confident decisions are made on grounds of economic efficiency.

The AER has found shortcomings in the process conducted by TransGrid in reaching its decision to build the line. Key areas of concern are that:

- the application notice did not contain an adequate analysis of all reasonable network and non-network options
- neither the application notice (April 2008) nor the final report (March 2009) adequately examined the potential for material inter-network impacts
- the final report did not summarise or respond to submissions on the application notice
- the decision to limit the Regulatory Test analysis to a single reasonable scenario was inadequately justified and did not meet the requirement to provide a detailed description on why TransGrid consider the asset passed the Regulatory Test.

However, further consultation has now been undertaken by TransGrid through the issue of a Request for Proposal (RFP) in May 2010.

Following consideration of the alleged Rule breaches and their potential impact and the further action by TransGrid, the AER has decided not to institute proceedings against TransGrid. However, given the importance of these issues, the AER has decided to issue this public report on the outcomes of this investigation.

Whilst TransGrid has not admitted any breach of the Electricity Rules, it has provided the AER with a series of commitments to improve future processes.

1 Introduction

1.1 Background to the investigation

TransGrid first raised the issue of emerging network limitations on the New South Wales far north coast in its *1999 Annual Planning Statement*, which noted that demand growth in the area was the highest in the state. The report concluded that the "preferred network option is the development of an additional 330 kV line to the area" and that the shortest and potentially least-cost option was a transmission line between Dumaresq and Lismore. TransGrid made similar statements in subsequent annual planning reports.

In August 2003, TransGrid published *Emerging Transmission Network Limitations on the New South Wales Far North Coast* which outlined demand growth and the capabilities of the existing transmission system in the area. It called for options to address the emerging limitations, but did not elaborate on the options previously identified in the annual planning documents.

In April 2008 TransGrid published an application notice (under clause 5.6.6(c) of the Electricity Rules) outlining two "feasible network options" to address the network limitations.

Option 1 (preferred) was a new transmission line between Dumaresq and Lismore, as first outlined in the 1999 planning statement

Option 2 was a transmission line between Annidale and Lismore.

The notice outlined four other network augmentation options, but ruled them out from the further analysis.

In March 2009 TransGrid released its final report on the development of supply options to the NSW far north coast. Drawing heavily on text from the application notice, the report concluded that the option best satisfying the regulatory test was the construction of a 330 kV transmission line from Dumaresq to Lismore, at a cost of \$227 million (± 25 per cent).

In May 2010 TransGrid commenced a Request for Proposals (RFP) process seeking non-network alternatives which would reduce the loading on the network at critical times for a period of five years. This process is discussed in section 2.2.4.

1.2 Clause 5.6.6 of the Electricity Rules

Clause 5.6.6 as it appeared in version 29 of the Electricity Rules was the relevant provision at the time of TransGrid's transmission investment assessment.¹⁷ Since that time the Australian Energy Market Commission (AEMC) has approved rule changes which have amended clause 5.6.6.

Clause 5.6.6 establishes a consultation process in relation to new large transmission network assets. The consultation process includes publication of an application notice and final report, in relation to which there are detailed minimum information and analysis requirements (discussed below). The application notice and final report must also include a statement on why the proposal satisfies the regulatory test.

¹⁷ Unless otherwise stated, all references in this Report to the Electricity Rules is to Version 29 of these Rules.

1.3 Regulatory test

The regulatory test is an analysis tool that network service providers must apply in relation to new large transmission network assets. The regulatory test assesses whether the investment is efficient. In 1999 the ACCC developed the first regulatory test to replace the customer benefits test. After the initial stages of its operation, the ACCC undertook a comprehensive review of the regulatory test and released the regulatory test version two in 2004.

In October 2005, the Ministerial Council on Energy (MCE) lodged a rule change proposal with the AEMC to amend the Electricity Rules to include a series of regulatory test principles¹⁸. Under the proposal the AER was required to follow these principles when promulgating the regulatory test. While under these principles the broad approach to the regulatory test remained, the AER was required to incorporate new concepts for new large transmission network investments assessed under the market benefits limb of the test. The AER issued version three of the regulatory test and regulatory test application guidelines in November 2007.

Version three of the regulatory test consists of two limbs:

- *The reliability limb* – applied to investments which are required to meet service standards obligations in the Electricity Rules, jurisdictional legislation, regulations or statutory instruments. A reliability augmentation will satisfy the test if it is the least cost option compared to a range of alternatives in a majority of reasonable scenarios.
- *The market benefits limb* – applied to non-reliability driven investment. New investment will satisfy the test if it maximises the net present value of the market benefits having regard to alternative options, timing and market development.

1.3.1 Intent of the regulatory test

The regulatory test is applied by Network Service Providers (NSPs) and is based on a cost-benefit analysis framework which is used to assess and rank different investment options.

Policy makers have agreed that transparency in the provision of information is one of the cornerstones for driving competitive and efficient investment outcomes in the energy market. The discussion below highlights the importance of transparency in the context of clause 5.6.6 of the Electricity Rules and the regulatory test.

The Energy Reform Implementation Group (ERIG) reviewed the role of the regulatory test. In its report to the Council of Australian Governments (COAG) in January 2007, ERIG stated that:

"The application of the regulatory test today is an obligation on TNSPs that has value through its role as a consultative mechanism and which provides some transparency on the TNSP's decision making particularly in respect to the ranking of various project options."¹⁹

ERIG further stated that, where there is insufficient transparency in the application of the regulatory test, investors may interpret decisions in the regulated sector as being based on grounds other than economic efficiency.²⁰

In its final determination on the reform of the regulatory test principles in 2006, the AEMC supported ERIG's view that the regulatory test is an important consultative mechanism which improves the transparency with which network investment decisions are made.²¹

¹⁸ MCE, National Electricity Rules—Rule change application reform of the regulatory test principles, 2005.

¹⁹ Energy Reform Implementation Group, Energy Reform: The Way Forward for Australia -A report to the Council of Australian Governments, January 2007, p183.

²⁰ ER IG, Ibid. p 169

²¹ Australian Energy Market Commission (AEMC). Reform of the regulatory test Principles, Final Determination, 2006, p48 6 AEMC, Ibid, p49 7 AEMC, Ibid, p49 8 AEMC, Ibid. p45

The AEMC considered that the application of the regulatory test by Transmission Network Service Providers (TNSPs), as a public planning and consultation process, increases the chance of developing an efficient solution to network investment²² In its Final Rule Determination, it stated that transparency would help to elicit "alternative investment proposals that may be more efficient than those put forward by the proponent of network investment."²³

It also stated that transparency would assist in creating an environment in which market participants would be more willing to trade and invest.

In regards to competitive neutrality, the AEMC noted that:

"From an economic perspective, "competitive neutrality" is essentially a means of achieving an overarching efficiency objective. It seems clear that the objective of achieving efficient investment outcomes would require an obligation on NSPs to assess all investment alternatives, irrespective of whether these are network or non-network options or undertaken by an NSP or market participant (that is, a competitive neutrality obligation). In the absence of such a requirement, NSPs may give preference to an investments option that would increase their asset base or otherwise suit their commercial interests, rather than reflect the public interest in an option that is most efficient.

Therefore, the Commission has determined that an objective of competitive neutrality should form pan of the regulatory test principles."²⁴

When developing the regulatory test, the ACCC and the AER also relied on the principles of economic efficiency and competitive neutrality. Given this, the test is designed to ensure that network and non-network investments (such as generation and demand side management options) are considered equally.²⁵

This policy history is instructive in understanding the intent of the regulatory test and clause 5.6.6 of the Electricity Rules. In summary, the two key relevant principles are transparency and competitive neutrality.

1.4 Review of planning and consultation process

As part of its ongoing compliance and enforcement process, the AER began reviewing TransGrid's compliance with clause 5.6.6 of the Electricity Rules in October 2009 in regard to its proposed 330kV transmission line from Dumaresq to Lismore.²⁶

²² AEMC, Ibid, p49

²³ AEMC, Ibid, p49

²⁴ AEMC, Ibid, p45

²⁵ ACCC, regulatory test for new interconnectors and network augmentations, 15 December 1999, p.4.

²⁶ TransGrid 's conduct of the regulatory test was the subject or a dispute notice lodged with the AER on 30 July 2009. However. the Electricity Rules did not allow the AER discretion to consider the dispute notice (including whether or not the complainant met the definition of an "interested party") as 1110re than 30 business days had passed since the publication of the final report.

Shortly after the decision to commence the compliance review, the AER received correspondence alleging two specific breaches of the Electricity Rules by TransGrid in relation to the project. The complainant alleged that TransGrid breached:

- clause 5.6.6 (c)(iii) by failing to provide a detailed description of all other reasonable network and non-network alternatives
- clause 5.6.6(h) by failing to summarise the submissions received from interested parties and TransGrid's response to each submission.

1.5 Revenue application review

In considering TransGrid's 2009-2014 revenue proposal the AER accounted for estimated capital requirements for the Dumaresq-Lismore project. As part of this assessment, the AER received an independent review from PB Associates.²⁷

There is a distinction between an AER assessment of capital expenditure requirements under chapter 6A of the Electricity Rules and a compliance review of the relevant provisions of chapter 5. In relation to chapter 6A, the AER must determine whether it is satisfied that the forecast capital expenditure represents:

- the efficient costs of achieving the expenditure's objectives
- the costs a prudent operator in the circumstances of the relevant service provider would incur to achieve those objectives
- a realistic expectation of the demand forecast and cost inputs required to achieve the objectives.

This is a separate process from the planning and consultation procedures governed by chapter 5. The fact that the forecast capital expenditure included in the 2009 revenue determination was in part justified by the inclusion of an allowance for the Dumaresq to Lismore line, does not demonstrate compliance with chapter 5. TNSPs are still required to complete a compliant planning and consultation process under chapter 5, regardless of whether the project was examined as part of a revenue reset process under chapter 6.

That said PB Associates highlighted significant issues in its report that are relevant to this assessment of TransGrid's compliance with clause 5.6.6. These issues are discussed in section 2 of this report.

2. Review of compliance

2.1 Needs analysis

Clause 5.6.6(c)(i)(ii) of the Electricity Rules requires that, in its application notice and final report, TransGrid provide a detailed description of the reasons for proposing the new asset, including a description of all load forecasts and assumptions used.

As outlined in the application notice, with all lines in service, the TransGrid network is currently capable of meeting demand over a 10-year planning horizon. However, TransGrid found that some augmentation to its existing network---or a non-network alternative---would be needed to meet N-1 criteria, which requires that demand be met with any one element or the network not in service.

2.1.1 AER's assessment of TransGrid's needs analysis

While TransGrid did conduct a needs analysis, the AER is concerned that it did not provide sufficient information to enable a prospective provider of non-network alternatives to formulate a proposal.

²⁷ PB Associates, TransGrid revenue reset -An independent review, November 2008

TransGrid relied on prospective proponents requesting further information regarding the service that would be required to defer the preferred network option.

The AER considers that a key reason for the needs analysis is to provide sufficient information so that all options to address the need can be adequately explored. This in turn will assist in ensuring that all reasonable non-network alternatives are considered both in the final report and the regulatory test. For example, the application notice should have outlined the extent to which the reliability standard was not being met in terms of maximum demand, duration in hours and energy not supplied in order to enable assessment of alternative non-network options such as for a local generator, or the location of the most effective demand side solutions.

In response to questions on this issue, TransGrid noted that it does not routinely use the application notice to request commercial proposals. Instead, TransGrid relies on a separate Request for Proposals (RFP) that sets out the service being requested and seeks appropriate non-network alternatives. Further discussion of this issue is provided below.

In regards to the jurisdictional planning standards that apply in this case, clause 5.6.6(c)(1)(ii) requires that TransGrid provide a detailed description of the "network performance requirements set out in schedule 5.1 or relevant legislation or regulations of a participating jurisdiction."

As part of previous revenue determination processes, the AER has accepted that TransGrid's use of the N-I criteria as the basis for planning solutions is appropriate.

However, the Electricity Rules requirement to transparently establish the need for the project with reference to relevant legislation or regulation in the application notice and final report remains.

The AER does not consider that TransGrid's references to the expectations of the NSW jurisdiction or the statutory requirements on a distribution business meets the requirements of clause 5.6.6(c)(1)(ii). Whilst TransGrid did not admit a breach of the Electricity Rules in this area, it did recognise that more information could have been set out in the application notice to further enable assessment of alternative non-network options.²⁸

2.2 Range of options considered

Following the justification of the need for a solution to an emerging network limitation, clause 5.6.6(c)(1)(iii) requires that the application notice provide a detailed description of all other reasonable network and non-network alternatives to address the identified constraint.

The AER notes paragraphs 14 and 15 of the regulatory test version 3 define alternative options that may be considered as a generation option, demand side management/response option, network option, the substitution of electricity by the provision of alternative forms of energy or a combination of these. To be considered as part of the regulatory test an option must be a "genuine alternative."

This is a separate requirement to clause 5.6.6(c)(1)(iii) that requires that all reasonable network and non-network alternatives be described in detail. Clause 5.6.6(c)(1)(iii) provides that these alternatives include, but are not limited to, interconnectors, generation options, demand side options, market network service options and options involving other transmission and distribution networks. Clause 5.6.6(c)(1)(iii) does not limit the description of options to those that have a proponent.

2.2.1 Options considered in the application notice

The TransGrid application notice proposed two "feasible" network options to address the constraint: a new line from Dumaresq to Lismore or a line from Armidale to Lismore.

The notice briefly considered other network solutions, including:

²⁸ TransGrid letter, 4 August 2010

- a new Armidale -Kempsey Area 330 kV line
- a new Ebenezer -Lismore 330 kV line
- a new Armidale -Coffs Harbour -Lismore 330 kV line and
- various 132 kV line developments.

The application notice noted that no non-network alternative proponents had come forward in response to the previous public documents. It concluded that: "None the less (sic) proponents of non-network developments which may relieve the limitations in the transmission network are encouraged to submit proposals in response to this document."²⁹

2.2.2 AER's assessment of options considered by TransGrid in the application notice

A clear policy intention underpinning clause 5.6.6 and the regulatory test is to ensure a robust and transparent process for the selection of projects to meet clearly identified needs.³⁰

Despite the requirements of clause 5.6.6(c)(1)(iii) to describe all reasonable network and non-network alternatives to address the identified constraint, the application notice did not describe the sorts of non-network alternatives that would address the emerging network limitation.

Further, TransGrid did not provide sufficient detail in its public documents to support its conclusions on the inappropriateness of some options. For example, the AER was provided with internal TransGrid planning documents that considered a range of broader options that were not published as part of the application notice. The AER notes that during its investigation, TransGrid has provided further information on its assessment of options. The AER considers that much of this information should have been in the application notice.

This mirrors concerns raised by PB Associates during the revenue determination process that "except as what appeared to be retrospective technical and economical analysis, TransGrid could not support its position with a detailed internal report on the matter."³¹

Further, PB Associates noted that "a number of options were dismissed on the grounds of costs, environmental issues, technical issues, etc. without sufficient rigour and transparency."³² PB Associates noted that such forms of analysis ran the risk that "then, maybe a chance that TransGrid misses a more efficient project by dismissing options at too early a stage within its assessments."

In some cases, TransGrid ruled out options on the basis that it would be difficult to obtain an easement. However, difficulty in obtaining easements is not uncommon with new transmission line developments. The AER considers that further explanation and justification is required over and above a simple statement on the likely difficulty in obtaining easements. Without this further analysis, decisions to dismiss an option on such a basis lack transparency and cannot be independently tested.

In response, TransGrid noted its belief that there were no reasonable non-network alternatives available at the time the application notice was published. However, the AER considers that TransGrid has not correctly interpreted the requirement to provide a detailed description of all other reasonable network and non-network alternatives (clause 5.6.6(c)(1)(iii)).

The AER considers that TransGrid is required to detail all reasonable network and non-network alternatives, regardless of whether there is a proponent for these options. This allows potential providers to come forward in response to the application notice if they believe they can provide the services identified in the application notice.

²⁹ Application notice, Development of Supply to the NSW Far North Coast, p. 181

³⁰ AEMC. Ibid

³¹ PB. Ibid, pg. A57

³² PB, Ibid, pg. A56

The AER considers that the regulatory test (version 3) requirements that a non-network alternative must have a proponent and be a genuine alternative, are a quite separate issue. These requirements fulfil a different purpose to the application notice, as described above.

Without conceding a breach of the Electricity Rules, TransGrid has accepted that more detailed information could have been included in the application notice.

2.2.3 AER's assessment of options considered by TransGrid in the final report

On 15 February 2010, the AER wrote to TransGrid seeking a detailed explanation and supporting materials relating to its assessment of options in the final report, including non-network alternatives. In its response of 12 March 2010, TransGrid provided a copy of each of the submissions received in response to the application notice.

TransGrid stated that it did not prepare supporting documentation or materials setting out its analysis of the non-network alternatives in its final report because it was 'obvious on the face of the submissions' that the non-network alternatives proposed were not realistic alternatives.³³

The AER is concerned that the planning and consultation process used by TransGrid in this instance reflects a bias towards considering only those options which TransGrid had already unilaterally decided were appropriate. In this case, TransGrid issued an application notice which did not facilitate commercial non-network alternatives coming forward. The subsequent final report then did not assess any non-network alternatives, as they did not in TransGrid's view represent viable non-network alternative options.

The intent of the regulatory test process is that network and non-network alternatives are considered together on a level playing field. For this to occur, commercial offers must be sought prior to the publication of the final report.

Further, the AER is concerned by TransGrid's statement that it does not routinely use the application notice to seek commercial proposals and that this will always occur through the issuing of an RFP.³⁴ The AER is concerned that, in cases where a RFP is conducted after the final report, there is a risk that not all reasonable non-network alternatives can be described in the final report as required by clause 5.6.6(h).

To assure stakeholders that there is no systemic bias against the consideration of non-network solutions, the AER sought further evidence from TransGrid of similar processes that allowed reasonable non-network solutions to be described in the final report and, where applicable, included in the regulatory test assessment. TransGrid did not respond to this request.

This area will be a particular focus of the AER in future compliance assessments. In addition, the AER expects this issue to be addressed by TransGrid in future.

2.2.4 TransGrid's Request for Proposals Process

As outlined above, TransGrid do not routinely use the application notice to seek commercial proposals that could be assessed in the final report. The Final Report stated that submissions from parties interested in providing network support had been received in response to the application notice, and that discussion were continuing with those parties. A RFP was issued for the NSW far north coast in May 2010³⁵

³³ TransGrid letter to the AER, 12 March 2010

³⁴ TransGrid letter to the AER, 25 June 2010

³⁵ The AER notes that the prospect of an RFP process was not mentioned by TransGrid in any of its public documents, prior to the release of the invitation to tender documents in May 2010.

In a letter to the AER in July 2010, TransGrid noted that three facts had changed in the 15 months after the final report that led to the publication of the RFP:

- the proposed project delivery date had slipped
- the peak load forecast had been revised down
- Directlink (now called Terranora) had become more unreliable.

In regard to the requirements of clause 5.6.6(c)(i)(iii), the AER considers that at least some of the previously non-public information set out in this recent RFP, should have been included in the application notice, such as:

- Potential (but not exhaustive) types of possible non-network solutions
- Geographic location for network support
- Magnitude of network support required
- Timing, duration and frequency for which the service would be required.

It is this kind of information that would have assisted in making the 5.6.6 and regulatory test process conducted by TransGrid more transparent and competitively neutral as between network and non-network options. The final report should then have assessed the network options on the same footing as any non-network options that had been proposed, leading to a firm statement on which option minimises the costs and thereby passes the regulatory test.

This approach also better aligns with the requirements of clause 5.6.6(h) that the final report both summarise and respond to submissions received on the application notice. The requirements of clause 5.6.6(h) are discussed further in detail below.

2.3 Other issues identified

2.3.1 Material inter-network impact

At the time this project was developed, clause 5.6.6(c)(5) required an augmentation technical report be prepared by the Inter-regional Planning Committee (IRPC), if there was likely to be a material inter-network impact and if consent to build the asset had not been received from all materially affected networks.

The IRPC published criteria to guide network service providers in determining whether a project has a material inter-network impact. Clause 5.6.6(d) requires that these criteria are considered in assessing whether there is a material inter-network impact.

The criteria define that a material inter-network impact for a transmission augmentation occurs if:

- there is a decrease in power transfer capability between transmission networks or in another TNSP's network of more than the minimum of 3% of maximum transfer capability and 50 MW, or
- there is an increase in power transfer capability between transmission networks of more than the minimum of 3% of maximum transfer capability and 50 MW.³⁶

TransGrid's application notice and final report stated it had "determined that none of the options... would impose power transfer constraints or adversely impacts on the quality of supply to adjoining transmission networks."

The AER considers that the Electricity Rules required that TransGrid undertake an analysis to determine the impact on other networks and then assess the materiality of any impact with regard to the criteria above. TransGrid has not provided evidence that this analysis occurred. Rather, TransGrid has simply stated that there is no material inter-network impact and as a result no augmentation technical report was required.

Further, TransGrid has noted that its assessment of the materiality of any inter-network impact was not set out in the application notice. However, TransGrid contend that it was not a requirement of clause 5.6.6 that a detailed assessment be set out in the application notice. Whilst clause 5.6.6(c)(5) of the Electricity Rules is unclear whether TransGrid was required to provide a detailed assessment of the materiality of any inter-network impact in its application notice, the AER considers that TransGrid's approach falls well short of best practice and is counter to the intent of an open and transparent process envisaged by clause 5.6.6.³⁷

In addition, TransGrid also contends that even if there was likely to be a material inter-network impact, an augmentation technical report would not have been required as it had received consent to proceed with the construction of the line.

However, the AER wrote to TransGrid on 15 February 2010, requesting details of any communication with either Directlink or Powerlink regarding the proposed options, including details of the consent referred to in clause 5.6.6(c)(5)(ii) or agreement that there was no material inter-network impact.

In its response of 12 March 2010, TransGrid stated:

"Joint planning is a well established process and the benefits it delivers are self evident to the participants. Consequently, formal documentation of those benefits, which include inherently managing inter-network impacts, is rarely undertaken. In this instance there is no formal documentation specifically relating to inter-network impacts.

In addition, TransGrid provided two e-mails from Powerlink in response to drafts of the application notice and final report. Following consideration of these e-mails, the AER does not consider that they constitute consent to the construction of the asset as required by clause 5.6.6(c)(5)(ii) -as they refer exclusively to comments on the application notice and final report, with no mention of construction of the asset.

However, TransGrid's reference to a lack of formal documentation highlights a serious deficiency in the process conducted by TransGrid. Poor quality information can have significant ramifications for other market participants, who rely on operational and planning publications by network operators for the purposes of their operational and investment decisions.

As discussed below, TransGrid has committed to reporting on its new compliance systems to ensure future compliance with the new clause 5.6.6 and RIT-T processes. Given the importance of high quality information on the impact on power transfer capability for the efficient functioning of the market,

³⁶ Pg 16, Final Determination: Criteria for Assessing Material Inter-Network Impact of Transmission Augmentations, IRPC. 2004

³⁷ See, for example, clause 5.6.6(d) of the Electricity Rules.

the AER will give further consideration to the adequacy of the information disclosure required in this area.

2.3.2 Treatment of submissions

The Electricity Rules provide for a period of 30 business days following publication of the application notice for parties to make submissions.

It is a requirement of clause 5.6.6(h) that the final report summarise submissions and TransGrid's response to each submission. TransGrid's final report did not contain such a summary. The only statement in the final report about submissions was:

"In response to the application notice, TransGrid received submissions from parties interested in providing network support. Discussions are continuing with those parties to determine whether a cost effective network support arrangement can be achieved."

The AER does not accept that this constitutes either a summary of submissions or a response to them.

TransGrid argued that the submissions did not raise realistic options. However, clause 5.6.6(h) does not require that submissions meet any particular standard. Rather, it just requires that all submissions be summarised and responded to. TransGrid's final report did not meet this requirement.

TransGrid noted that one submission was marked "commercial in confidence" and considered the author could not be identified. TransGrid also explained that the identity of parties providing submissions was not revealed "in line with normal commercial practice and TransGrid's purchasing policies."

The AER considers that an appropriate course of action in these circumstances is to approach the party in question to seek agreement on a summary that does not reveal the source. For example, the summary could perhaps describe the service that was offered, without describing in detail the nature of the technology used to provide it.

It should also be emphasised to the submitting party that the Electricity Rules require a summary to be published. If these steps fail, a TNSP could approach the AER and explain the apparent "conflict" faced in trying to comply with the Electricity Rules. The AER could then provide guidance on the appropriate course of action in the specific circumstances. It is not adequate for participants to simply cite commercial practices as a reason for non-compliance with the requirements of the Electricity Rules.

Without admitting a breach in this area, TransGrid has recognised that more information could have been provided in the final report on the submissions received.

2.3.3 Projects and scenarios -regulatory test

The reliability limb of the regulatory test is satisfied if the option minimises the costs of meeting the requirement in a majority of reasonable scenarios. TransGrid determined that only a single reasonable scenario should be assessed as:

- it considered that a variation in load forecast made no difference to the project needs date
- no local generation was suitable for reliance as a substitute for network services and no information was provided that indicated that the local generators would be able to increase their reliability levels

- no new generation projects or demand side response projects of sufficient magnitude were committed or advanced to be included in a scenario that may influence the outcome of the analysis.³⁸

The AER considers that, given the considerable cost of the proposed project, TransGrid should have considered a full range of scenarios. While TransGrid undertook a sensitivity analysis, as part of the regulatory determination in 2008, PB Associates noted that these sensitivities were applied evenly across each project, meaning that the relative costs of the projects did not change. The AER agrees with PB that it is likely that some options are more sensitive to cost pressures than others. For example, the cost of obtaining easements is not likely to be equally sensitive across a range of projects.

With regard to load forecasting, paragraph 19(a)(i) of the regulatory test effectively requires that reasonable scenarios include a reasonable and mutually consistent forecast of "electricity demand (modified where appropriate to take into account demand-side options, economic growth, weather patterns and price elasticity):"

TransGrid assessed that the date the project was needed did not alter under any of the low, medium or high growth scenarios.³⁹ PB Associates noted it "would have expected some degree of discussion within the application notice regarding the sensitivity of the constraint and the project timing to the range of demand forecasts."⁴⁰

The AER considers that the process used by TransGrid to arrive at the conclusions on the impact of demand forecast should have been explained in greater detail in the public documents.

TransGrid has accepted that "its approach to, and analysis of, determining the number and characteristics of any reasonable scenario was not set out in detail in the Application Notice or Final Report." TransGrid contends that this was not a requirement of clause 5.6.6.

However, the AER disagrees with TransGrid's interpretation or the requirements in this clause. Clause 5.6.6(c)(6) requires a detailed analysis of why the applicant considers that the asset satisfies the regulatory test and, where the applicant considers that the asset satisfies the regulatory test as a reliability augmentation, analysis of why the applicant considers that the asset is a reliability augmentation.

Paragraph I of the regulatory test (version 3) states that a reliability driven augmentation satisfies the regulatory test if the option minimises the costs of meeting those requirements, compared with the alternative options in a majority of reasonable scenarios.

Reading these two provisions together, it is clear that TransGrid had a requirement to detail why it considered that the asset satisfied the regulatory test by explaining the matters set out in the previous paragraph in detail. Accordingly, the AER considers that the failure to provide a detailed analysis in relation to the reasonable scenarios is contrary to the requirements of clause 5.6.6(c)(6) of the Electricity Rules.

2.3.4 Nature of final report

In many areas the final report relies on text from the application notice. To some extent this repetition is a consequence of clause 5.6.6(h) which requires the final report to set out the matters dealt with in the application notice. However, the reproduction of text from the application notice draws into question the report's status as a "final" document.

³⁸ TransGrid letter to the AER, 12 March 2010

³⁹ These low, medium and high growth scenarios were presented to the AER as part of TransGrid's 2009-2014 revenue determination

⁴⁰ PB, Ibid pg A57

For example, the final report states that it:

"[H] as been prepared to provide a basis for TransGrid and Country Energy to consult with registered participants and interested parties to identify options for the development of electricity supply to the far north coast area of New South Wales."

While this may have been true of the application notice, (which made the same statement), the final report should have presented the results of the consultation.

In addition, given that clause 5.6.6(c)(6) requires that the final report outline why the asset satisfies the regulatory test, the reference to continuing negotiations with potential non-network providers is problematic as it is not clear what process would be undertaken if a more cost effective solution were to be found.

TransGrid has accepted that the quote re-produced above was more appropriate for the application notice and not the final report. However, TransGrid consider that the final report did reach a clear final conclusion, despite references to on-going negotiations.

3 Outcomes of the investigation

This investigation into the process undertaken by TransGrid in its development of a new transmission line has identified a lack of transparent analysis and limited public disclosure of data underpinning key conclusions.

Clause 5.6.6 is designed to provide transparency and accountability in planning and consultation processes and to ensure competitive neutrality between network and non-network alternatives.

This investigation report has found shortcomings in the process conducted by TransGrid in reaching its decision to build the 330kV transmission line between Dumaresq and Lismore:

- the application notice did not contain an adequate analysis of all reasonable network and non-network options (clause 5.6.6(c)(iii))
- neither the application notice nor the final report adequately examined the potential for material inter-network impacts, (clauses 5.6.6(c)(5) and 5.6.6(d))
- the final report did not summarise or respond to submissions on the application notice (clause 5.6.6(h))

the decision to limit the analysis to a single reasonable scenario was inadequately justified (regulatory test version 3, paragraph 19) and thus did not meet the requirement for the application notice to set out a detailed analysis of why the regulatory test was satisfied or, alternatively, if the asset satisfied the regulatory test as a reliability augmentation, why the asset was a reliability augmentation (clause 5.6.6(6)).

3.1 Enforcement options

An infringement notice cannot be issued to TransGrid because clause 5.6.6 or the Electricity Rules is not a civil penalty provision. However, it is open to the AER to consider instituting proceedings against TransGrid and seeking appropriate orders from a Court.

However, in this instance it appears unlikely that a fundamentally different outcome would be achieved even if the shortcomings of the process were addressed. As noted above, a RFP was issued to seek non-network alternatives in May 2010. The AER considers that the RFP contained sufficient information to enable prospective providers of non-network solutions to formulate alternative options. TransGrid are currently considering the responses received.

Accordingly, on this occasion, the AER has decided that the appropriate response on this issue is to:

- seek commitments from TransGrid to improve future compliance
- publish this public investigation report
- commit 10 future audits of clause 5.6.6 processes.

3.2 Commitments received from TransGrid

To address the compliance concerns that have been outlined by the AER, TransGrid have provided a range of commitments on future compliance.

TransGrid has committed to:

1. Completing a review of TransGrid 's planning, documentation, and compliance systems, including governance arrangements, for the new RIT-T framework within three months of this report being published with the assistance of expert external input from NERA.
2. Ensuring that this review has expressly considered the processes and systems needed to ensure:
 - Adequate publication of the data and analysis that underpins TransGrid's decision making in future RIT-T assessments
 - Submissions are properly responded to in public reports
 - Requirements in relation to material inter-network impacts, inter-regional impacts and material inter-regional network impact, as set out in the Rules for the RIT-T, are clarified and appropriately addressed

Consideration of a sufficient range of market development scenarios

3. Implementing any findings of the above mentioned review by March 2011
4. Providing reports to the AER:
 - At the completion of the initial review proposed in point 1
 - On the implementation of the new procedures as per point 3.

In addition, TransGrid has committed to engaging with the AER where confidentiality issues arise that may conflict with Electricity Rule requirements.

3.3 Future compliance monitoring

To encourage better performance in this area across the sector, the AER will undertake compliance checks of future planning and consultation processes. This will include random audits of processes based on publicly available information, including how network service providers have sought to apply the regulatory test, (or the new regulatory investment test for those that commenced after 1 August 2010).

Future work by the AER will focus on ensuring that the processes used by TNSPs are competitively neutral and that there is an appropriate quantity and quality of publicly available analysis used to justify conclusions.

Specifically, application notices should contain sufficient information to assist non-network proponents to compose commercial offers. Any submissions to the application notice must be summarised and responded to in the final report in detail. In the event that the TNSP does not consider that any of the proposed options are not technically feasible, this decision and associated detailed reasoning should be included.

The regulatory test included in the final report must then rank any commercial offers for non-network alternatives alongside network options. This is the competitively neutral approach envisaged by policy makers and is the intent behind clause 5.6.6.

Analyses of whether a material inter-network impact exists should be made with reference to the relevant criteria and supported by data analysis. It is not sufficient to simply state that there is no material impact.

More generally, each of the key decisions in the final report must be explained in full with all underlying assumptions included. The AER expects significant improvement in the conduct of future planning and consultation processes. This includes an improvement in the quality of information provided by network service providers in their documents required under clause 5.6.6 (the application notice and final report) and other supporting documentation.



19th October 2011

Department of Planning & Infrastructure
GPO Box 39
Sydney
NSW 2001

ATTN: Anna Timbrell

Dear Ms Timbrell

RE: Exhibition of Environmental Assessment for Dumaresq to Lismore Transmission Line (Far North NSW Project) (MP 09_0150)

Thank you for the opportunity to make a submission on the above project. The Border Rivers -Gwydir Catchment Management Authority (CMA) provided comments on the key issues and environmental assessment requirements for the proposed project on 16 September 2009. The following information outlines how these comments have been addressed in the Environmental Assessment.

Any proposed mitigation measures involving offsets for loss of native vegetation should be calculated using the Department of Environment, Climate Change and Water (DECCW) biobanking method

The Border Rivers -Gwydir CMA is satisfied that detailed discussions have commenced with the Office of Environment and Heritage (formerly DECCW) in relation to confirming the scale, geographic location, and biodiversity assets that would need to be reflected in an agreed offset outcome.

The *BioBanking Assessment Methodology and Credit Calculator Operational Manual* (DECC 2009) has been utilised in the design of all field surveys.

Impacted areas identified as ecologically significant should be mapped at a suitable scale. This should include CPS reference points for significant species.

Areas of ecological significance, including identified threatened flora and fauna species and Endangered Ecological Communities have been mapped at a scale which is deemed suitable by the Border Rivers -Gwydir CMA. CPS reference points should be provided at a more detailed scale during the Construction Process to more accurately represent location and extent of ecologically significant areas and individual species.

An assessment of matters listed under the Environmental Protection and Biodiversity Conservation Act (7999) should also be undertaken.

The EA outlines that the Project required assessment under the EPBC Act. The Border Rivers -Gwydir CMA is satisfied that matters have been addressed through conditions stipulated under the Supplementary Director-General's Requirements provided in Appendix A of the EA.

The Border Rivers -Gwydir CMA is also concerned with the ongoing potential spread of weeds and likely soil erosion issues during the construction and maintenance phases for this type of

development. Any proposed mitigation measures should be best practice and have detailed procedures for how this information will be disseminated to all contractors etc.

The EA stipulates that mitigation measures have been developed to provide best available practices within a statutory and policy framework. Detailed procedures for continuing management, mitigation and monitoring programs would be developed following the public exhibition of the EA and if the Project is approved. The Border Rivers -Gwydir CMA reiterates that the process for disseminating this information to all contractors and others responsible for implementation should be stipulated in detail prior to the next phase of design.

I trust this information assists the Department in assessing the Project and should you require any additional information, please do not hesitate to contact me on 02 6728 8025.

Yours sincerely

Paul Hutchings
General Manager

TRENAYR Submission to NSW Planning Department on TG EIS

We, Sandra and Robert Smith are property owners on the Mole River west of Tenterfield and, should Transgrid's proposal for a 330kV transmission line go ahead, would have 16 structures traversing nearly 7 km diagonally across the property. We have very strong objections to the building of this transmission line. We are members of UDAG (Upper Dumaresq Action Group), UDEN (Upper Dumaresq Environment Network) and the Mingoola Progress Association. We fully endorse the submissions put forward by these groups as additions to our individual submission.

Strategic Planning and Justification

-The Project is not justified. Forecast future demand on the Far North Coast has been grossly overestimated/exaggerated. TG originally warned of supply shortfalls by 2012 and now they have put this out to 2018-2020. Forecast demand has fallen substantially.

-Non-network alternatives **to the construction of the line** were **never** sought. TG did put out a Request for Proposals (very belatedly ie. May 2010) for potential service providers to supply electricity for any excess demand that **might** occur in the annual peak period **before the completion** of the Dumaresq-Lismore transmission line and therefore TG did not comply with the National Electricity Rules (clause 5.6.6) in this matter.

-There are cheaper, more environmentally responsible alternatives to spending at least \$227m of taxpayers' and electricity consumers' money. This price tag has no doubt gone up considerably as eg. steel prices and fuel prices have risen since this estimate was put out. The Carbon Tax will increase steel and cement and goodness knows what else prices as well.

-TG has not adhered to the recommendations of the Eastlink Enquiry.

Land Use Planning Impacts

There will be a massive devaluation of our property. The proposal has 7 kms going **diagonally** across our property. This country is not easy to manage and therefore the most lucrative way to sell properties such as ours is to sub-divide into lifestyle blocks—this would no longer be an option as tree changers definitely don't like powerlines. All the lifestyleurs in this area, except those who have bought a block that includes an existing home already connected to the grid, have solar power. Removing the option of subdivision could well take (at least I have been told by real estate agents) \$300,000 off the sale price of our property and the compensation that has been indicated will be offered is an insult and should be an annual payment not a once-off payment.

Ecological Impacts

The proposed line passes over country that it would be a travesty to clear regardless of whether or not there are threatened species involved.

Human Amenity Impacts

To quote from Allan Jones (MBE, Chief Development Officer, Energy and Climate Change for the City of Sydney) in his issues paper submission for the Prime Minister's Task Group on Energy Efficiency—"It is unfair that rural communities are affected by the supply of power to people in cities. Centralised power generation and the grid transmission upgrades needed to meet the growing energy needs in cities bring environmental damage, pollution and displacement of land in rural communities. These energy needs would be better and more equitably supplied by installing decentralised energy in the cities and urban areas where it is needed".

Even if the line was necessary it is very unfair that a few individuals have to pay such a high price for something that will have zero benefits and many negatives for us. Our properties will be severely devalued and this not only has an impact when trying to sell, it also has ramifications for our equity levels with our banks.

Hazards and Risk Impacts

TG states in the EIS that they will earth gates and fences the line passes over—this suggests that EMFs are a real concern for those of us who will have to work under the line and our livestock. A fellow who comes here camping with his family told me that an associate of his had to change his heifer calving paddock after a HV transmission line was put across his property because a significant number of his heifers had stillborn and/or deformed calves. Perhaps this was just an amazing coincidence but it never-the-less concerns us that our livestock could be at risk from camping and grazing under the line.

The access roads which will have to be benched across the slopes will be difficult, if not impossible, and therefore dangerous to cross when mustering livestock. Most of our land is hilly terrain, so most of the access roads they would build here would be benched.

Visual Amenity Impacts

Because the line crosses diagonally across our property, we would be able to see part of it from almost everywhere. There would be 16 structures on our place and we would also be able to see quite clearly another 7 on our neighbours' properties. All our good viewing points where we take visitors would have their views ruined by the line and the scars in the landscape caused by the roads that would be constructed to build and service the line. There is a very popular photo stop of the lower Mole valley and beyond that would be destroyed with the powerline in the foreground.

Construction Related Impacts

-We and our livestock would be disrupted and disturbed not to mention stressed for quite a long period of time during construction.

-There would be considerable permanent degradation of our land to allow the erection of the towers or poles eg. access roads have to be good enough and not too steep or have sideways slope, to get heavy transport vehicles to the structure sites. Our land ranges from 400m to 700m with many ridges and gullies so it would not be easy or straightforward. This access road would create a "highway" from the uninhabited back of our property to Mole River Road which I am sure trespassing hunters and four-wheel drivers would be very pleased about. Locks don't deter some of these people. The hill country in this area is steep and the topsoil is shallow. With the topsoil intact and reasonable grass cover it is surprisingly stable but once the topsoil is gone it is highly erodible. The access roads that would be built would never be stable and we would therefore have to endure maintenance crews and machines coming through for as long as the line was here. Also these benched in roads will be difficult if not impossible and therefore dangerous to cross when mustering livestock.

-There is also the issue of weeds being introduced and spread by earthmoving gear, vehicles, etc and this would be ongoing for as long as the line has to be serviced.

Summation

In conclusion, for all the reasons stated above and more, we hope that TG's proposal for a HV Transmission Line will not be approved.

There is simply no need, at least for some considerable time, to desecrate our landscape at enormous cost to us as individuals and to taxpayers as a whole while there are very real alternatives to augment supply of electricity on the Far North Coast which are fiscally and environmentally more sustainable and sensible.

Dear Madam/ Sir,

I do strongly believe, that the proposal will significantly affect the ecological communities and fauna and flora species listed in the EIA. . In times, when our only chance of meeting our Kyoto targets was to stop clearing of native vegetation, it seems obvious, that the clearing of over 300 ha of native vegetation for a highly carbon intensive technology, a technology which promotes the use of the most carbon intensive and energy wasting technology namely coal fired power stations and a centralized power supply, is an issue of national significance and should never be approved neither by the State planning minister nor the federal environment minister.

I am particularly worried about the White Box, Yellow Box, Blakely's Red Gum Woodland around Reedy Creek. My property is just east of the proposed line and has remnants of this EPBC listed Woodland on it, which I try to look after to the best of my abilities and resources. The construction and maintenance of the line will increase the risk of importation of weeds and diseases which will affect the ecological balance in a negative way. I am also particularly worried about the impact of the line on the Squatter Pigeon *Geophaps Scripta* and the Turquoise Parrot *Neophema Pulchella* which breeds on my place very near to the proposed line. Birds are particularly vulnerable to HV power lines not only because they tend to fly into them, but the radiation disturbs their orientation and tends to impact negatively on their breeding.

Similar concerns are valid for the Grey Headed Flying Fox *Pteropus Poliocephalus*, which I see regularly on my property. The main reason for it's decline is clearing and fragmentation of remnant forest and "other vegetation remnants used for roosting sites." (Threatened Species of the New England Tablelands and North West Slopes of NSW ;NSW NPWS 2003) Exactly what would happen if the project is to go ahead. The Spotted- tailed Quoll likes to try to get to my chooks but the fence is too sturdy. I therefore like to watch him and would like to do so in future. The main threat to it is "loss of habitat through clearing." (NPWS 2003) The Brush-tailed Rock Wallaby is threatened by "loss and fragmentation of habitat"(dito) through clearing and frequent fires. Both incidents are likely due to the proposed line. This animal is a frequent sight in the proposed corridor.

There is no mention of the impact of the presence of the HV line on flora and fauna and the ecological balance of these highly sensitive Woodlands. There is still not enough scientific data on the impact of HV transmission lines on the environment to completely ignore the possibility of significant impacts.. The precautionary principle should be applied and therefore an impact on the listed communities and species considered as likely. (See the comments of the Parliament of Australia: Senate: Committees: Economics Committee: Eastlink 1996 Chapters 2, 3 and 4 on similar issues.) TransGrid fails to point out the danger of the introduction of weeds and other noxious plants and disease species as well as ignoring the impact the line will have on the listed species and communities once it is up and running.

TransGrid lists the activities undertaken for the field surveys. From this it is not evident, that they have not been on Moorabinda a rather large property on the corridor and one of the very few in the world where the Ovenden's Ironbark Eucalyptus *Caleyi* subsp. *ovendinii* occurs. Any threat to this extremely rear tree is very significant. According to NPWS 2003 the main threats are

- "Invasion of habitat by invasive introduced grasses..." an increased risk due to frequent visits to the area by cars during construction and maintenance of the line.
- "Clearing and fragmentation of grassy woodland.." Exactly what would happen with the transmission line.
- "Frequent fires" an increased risk due to the power line.

The recommended Conservation actions are the prevention of the above actions. I.e. the prevention of the building of the line.

TransGrid completely neglects the impact the sole existence of the line has on habitats and the balances in the environment. Their approach to conservation of species and Vegetation communities is far too simplistic and needs to be closely looked at by the federal environment minister. In addition to the already said I want to add the high risk of bushfires started by power lines, (see recent history in Victoria, NSW, and WA) and the catastrophic impact this would have on the surrounding areas.

There is absolutely no justification in this day and age to jeopardize such a significant ecological community as the White Box, Yellow Box, Blakely's Red Gum Woodland for a completely unnecessary and highly carbon polluting project. The assumption of the enormous growth of electricity consumption is based on questionable figures and the belief that the federal and state government efforts to reduce electricity use, efforts like your "Smart Grid Smart Cities Initiative" are completely useless. The take-up of alternative energy sources and subsidies for solar hot water etc. are particularly high in the target region of the project. But even if we assume the figures to be right, I would like to bring to your attention a study by Jay Rutovitz and Chris Dunstan from the Institute for sustainable Futures (UTS 2009) (Please find attached) They clearly state, that there is absolutely no need for more centralized transmitted power generated by coal fired power stations to meet the future demands of NSW. (Also TAG summary)

There is no greater common good which could justify the destruction of these unique environments and endangerment of all those species.

The use of centralized energy (i.e. transporting electricity long distances from where it is produced to where it is used) is a major, and unnecessary, contributor to climate change - 60% to 70% of the energy is lost in the generation process and further losses (up to 40%) occur during transmission (see "Getting off the Grid", Saturday Extra, Radio National, 2008)

There are existing alternatives which could meet the predicted growth in demand for power in Northern NSW (e.g. a combination of local networks and renewables) which would produce approx. 70% less green house gasses and be more sustainable and economically viable than transporting electricity from centralized coal fired power stations (see "Big Ideas", Radio National, June 2008; SMH "Flicking the Switch" 22 July 2008 and UTS 2009 also TAG summary)

Thank you for the opportunity to express my views to you.

Sincerely

Sandor von Kontz



Zoe Lagarde
Secretariat to the Task Group on Energy Efficiency
C/- Department of Climate Change and Energy Efficiency
GPO Box 854
CANBERRA ACT 2600

Dear Ms Lagarde

The Premier has asked me to forward to you a submission on behalf of the NSW Government to the Prime Minister's Task Group on Energy Efficiency. The NSW Government has a strong commitment to energy efficiency, and is continuing to develop and implement innovative policies to help NSW transition to a low carbon economy.

NSW believes the key drivers for energy efficiency to be:

- National coordination and leadership, including the need for clear goals and measurement of energy efficiency across sectors;
- Enhancing demand-side measures to address energy shortages, rather than only focusing on supply; and

The need for long-term market signals to encourage energy efficiency.

As this is an early stage in the development of ideas to achieve step change in energy efficiency, NSW would welcome opportunities to provide further input and can also provide additional information on existing NSW energy efficiency related programs.

Should you require further information regarding this submission, please contact Ms Liz Moore or Dr Jane Mallen-Cooper of the Department of Premier and Cabinet on 9228 4317 or 92284260.

Yours sincerely

Chris Raper
A/Director General

NSW Government Submission Prime Minister's Task Group on Energy Efficiency: Issues Paper

NSW welcomes the Prime Minister's desire to see a "step change" in energy efficiency. There is a significant opportunity available to Australia to build on existing work and realise the economic and environmental benefits of energy efficiency.

The NSW Government has a strong history of commitment to energy efficiency, and has developed innovative policies like the National Built Environment Rating System (NABERS), the Building Sustainability Index (BASIX), and the Energy Savings Scheme.

Key goals of energy efficiency include facilitating energy security by managing demand and providing cost effective greenhouse gas abatement. Improved energy efficiency also helps reduce energy bills, assists businesses and families adjust to a low carbon economy, and helps to maximise the benefits from existing energy infrastructure. While energy efficiency measures may lead to overall benefits to some consumers, there can be cost impacts passed on to the entire customer base and it is important to be cognisant of impacts on vulnerable customers, who might be least able to reduce electricity consumption.

NSW considers energy efficiency to be an important part of mitigating greenhouse gas emissions, and a critical adjunct to setting a carbon price through a market mechanism such as the Carbon Pollution Reduction Scheme.

Outline of NSW energy efficiency related programs

NSW has a long history in developing and implementing energy efficiency initiatives. These initiatives include capacity-building and grant programs and market-based schemes. The NSW State Plan includes a target of implementing 4,000 GWh of annual electricity savings through NSW energy efficiency programs by 2014.

NSW is also working with the Commonwealth and other States and Territories to implement the National Framework on Energy Efficiency (NFEE) and the National Strategy on Energy Efficiency (NSEE).

NSW Energy Efficiency Strategy

The NSW Government has developed and is implementing the NSW Energy Efficiency Strategy. The purpose of the strategy is to reduce greenhouse gas emissions from energy consumption in NSW and lessen the impact of rising energy prices on businesses and the community by lowering energy consumption.

The NSW Energy Efficiency Strategy comprises the following programs:

- NSW Energy Savings Scheme creates a financial incentive for companies to undertake energy efficiency activities in a variety of residential, commercial or industrial settings. Mandatory participants such as electricity retailers are required to meet an energy savings target by obtaining and surrendering tradable Energy Savings Certificates. The energy savings target started on 1 July 2009 at 0.4% of electricity sales in NSW and ramps up to 4% by 2014. Up-front accreditation of companies as Accredited Certificate Providers locks in quality assurance and audit arrangements before credits for energy savings are claimed. The Scheme is regulated and administered by the Independent Pricing and Regulatory Tribunal (IPART) using guidelines developed by Industry and Investment NSW and the Department of Environment, Climate Change and Water. Over the next decade, the scheme will help reduce future rises in household electricity bills by growing energy efficiency industry by up to \$1 billion.

- **Energy Efficiency Training Program.** Training tradespeople and professionals to ensure NSW has the skilled workforce is necessary to improve business management and practice in a low carbon economy. This \$20 million program addresses skills gaps to support the energy efficiency and sustainability of products, services and practices in industry, government and the community.
- **Low-income Household Refit Program.** This \$63 million program delivers home energy audits and free energy savings kits to 220,000 low-income families. Householders will have energy-efficient light bulbs, water-saving showerheads and low-flow tap aerators installed in their homes and receive tailored advice on other ways to save energy. It's estimated this will help cut the average annual power bill by up to 10% or \$95.
- **Energy Efficiency for Small Business Program.** This \$15 million program will provide onsite advice for 6000 small and medium businesses. It will offer rebates to assist measures such as lighting upgrades and improvements to air-conditioning and refrigeration. As a result, the average small business is expected to save \$7850 on power bills over 10 years.
- **Expansion of the Sustainability Advantage Program.** An extra \$20 million has been allocated to work with an additional 800 medium to large businesses. This will cut energy use in these businesses by at least 10%.
- **Energy Efficiency Community Awareness Program.** \$15 million has been allocated to a community awareness program which will provide practical advice on how to save energy at home and work.
- **Data and Evaluation Program** to measure and report on the performance of the Strategy and also to address broader energy efficiency data collection and development needs (\$2 million).
- **Public sector energy savings.** The NSW Government Sustainability Policy includes a target to reduce emissions from energy use in government-owned or tenanted buildings to 2000 levels by 2019-20. The NSW Government is also committed to being carbonneutral by 2020 (with Cabinet achieving this by mid-2009).

Other energy savings initiatives

The NSW Government's energy savings initiative commenced in 2005 to encourage businesses, government and households to use energy more efficiently. The initiative includes requirements for certain high energy users to prepare Energy Savings Actions Plans. The plans involve assessing current energy use and identifying ways to save. The \$700 million Climate Change Fund has also been established to provide financial support for businesses, industry, government agencies and local councils to implement projects which will save energy.

Building energy efficiency - commercial

How buildings are operated can affect their energy efficiency. The National Australian Built Environment Rating System (NABERS) is a performance-based rating system for existing buildings, in particular, commercial buildings. Greenhouse gas (GHG) emissions from Australia's commercial building sector are growing by 3% to 4% each year, but by implementing energy efficiency practices many buildings can save 20% to 40% on their energy bills and reduce the emission of greenhouse gases.

NABERS rates a building on the basis of its measured operational impacts on the environment, and provides a simple indication of how well these environmental impacts are managed compared with peers and neighbours. NABERS measures environmental performance against key impact categories including energy use and greenhouse emissions.

NABERS has been developed to:

- Rate the environmental performance of operational buildings and homes.
- Provide separate ratings for the different stakeholders within a building (such as landlords and tenants) where appropriate.
- Provide an explicit and consistent rating system methodology, with a clear performance based structure and methodologies and defaults where necessary.
- Provide a realistic rating scale that recognises and rewards current performance levels, and encourages and promotes best practice.
- Allow for voluntary self-assessment, with the option of seeking a certified rating from an accredited provider if desired.
- Use measured quantities as the primary means of assessment. Where measurement is not feasible, then practice-based or default scores may be acceptable in some categories.
- Contain appropriate adjustments for factors such as climate and occupancy patterns.

DECCW manages the operation and development of accredited NABERS rating systems throughout Australia, on behalf of the Commonwealth Government and other States and Territories. This is overseen by the NABERS National Steering Committee, which is comprised of representatives of the Australian and State and Territory Governments, and the Australian Sustainable Built Environment Council as an observer. NABERS is available throughout Australia, with accredited assessors available to perform accredited ratings in every State and Territory.

Building energy efficiency - residential

The NSW State Environmental Planning Policy - Building Sustainability Index (BASIX) has been in operation since July 2004 and in that time has influenced the design and construction of over 120,000 new dwellings throughout NSW.

The policy provides a direct incentive to developers and builders to improve the energy efficiency of residential premises through the building's design and the selection of energy efficient technologies and practices. The BASIX regulatory scheme requires all new dwellings in New South Wales to comply with greenhouse gas emission reduction requirements, and to meet minimum performance levels for thermal comfort. Major alterations and additions must also meet some BASIX energy and water requirements, which are sensitive to climate and flexible.

BASIX takes the form of an on-line tool that assesses a new house or multi-unit building design and compares the estimated water and energy use of the dwelling against a benchmark for the relevant building type and climatic zone. Compliance with BASIX is monitored through the development approval and certification process administered by local governments.

BASIX sets targets for energy efficiency compared with a benchmark based on historic greenhouse gas (GHG) emissions. Every development application for a new home must be submitted to Council with a BASIX Certificate. BASIX uses information such as site location, house size, type of building materials and fittings for hot water, cooling and heating. Commitments made during the BASIX process are shown on the final certificate and must be marked on the plans, and adhered to during the building process.

As a result of BASIX, NSW has achieved a reduction in GHG emissions from new houses of close to 40%, and the savings on energy bills over time are greater than the initial cost for building in energy efficiency technologies as part of new builds. BASIX demonstrates the type of step change that can be achieved using an outcomes-based approach to building standards.

Energy Efficiency in Energy Markets

NSW has implemented some demand-side measures, including those which improve energy efficiency, in accordance with the NSW *Electricity Supply Act 1995*. The demand management regulatory framework applied to electricity network businesses is implemented at both jurisdictional and national levels. The regulatory measures at a state level are influenced by the national regulatory measures, which set the revenue requirements for the network businesses. The Australian Energy Market Commission has undertaken a number of reviews into the role of demand management in the National Electricity Market:

- Review of National Framework for Electricity Distribution Network Planning and Expansion; .
- Review of Energy Market Frameworks in Light of Climate Change Policies; and • Review of Demand Side Participation in the National Electricity Market

The NSW *Electricity Supply Act 1995* requires that before extending or increasing the capacity of its distribution network, a Distribution Licence Holder must carry out investigations to ascertain whether it would be cost-effective to avoid or postpone the expansion by implementing demand management. In NSW, this requirement is repeated in the licence conditions imposed by the Minister for Energy.

The *Demand Management 'for Electricity Distributors NSW Code of Practice* gives guidance on how a distributor can meet this obligation. The Code generally has the following requirements:

- The distributor publishes an annual Electricity System Development Review which describes the state of the network and identifies any constraint which will occur over the next 5 years;
- The distributor determines if it is 'reasonable' to proceed to issue a 'Request for Proposals';
- Should it be decided that demand management may be able to resolve the identified constraint the distributor calls for proposals from the public offering demand management; and
- The proposals are evaluated and demand management is selected if appropriate.
- Energy efficiency options may be offered as one method of achieving the required demand reduction.
- The results for 2008/2009 are taken from the distributors' Electricity Network Performance Reports which are published on each distributor's web site:
- Country Energy reduced demand by 15 MW for an expenditure of over \$1 OM or \$35 per customer. .
- EnergyAustralia reduced demand by 17 MW for an expenditure of almost \$8M or almost \$5 per customer.
- Integral Energy reduced demand by 11 MW for an expenditure of \$1.34M or \$1.56 per customer.

A key determinant in the network businesses undertaking demand management activities is their ability to appropriately recover costs. The Australian Energy Regulator determines network businesses cost allowances for demand management through the Demand Management Incentive Scheme (DMIS).

The DMIS for the NSW distribution businesses in the 2009-14 network determination consists of two elements:

- Adoption of the existing NSW d-factor network demand management financial incentive arrangements; and
- • A Demand Management Innovation Allowance, which is a learning-by-doing fund. Over the regulatory control period, the Allowance will allow recovery by distributors: \$1 million per annum by EnergyAustralia; and \$600 000 per annum by both Country Energy and Integral Energy.

The Australian Energy Market Commission has finalised its report on a national distribution framework, which the Ministerial Council on Energy is currently considering. It is proposed that the requirements of the Code would be incorporated into this framework.

Transport energy efficiency

The National Strategy on Energy Efficiency identifies a number of measures to reduce emissions and improve energy efficiency of Australia's vehicle fleet. One of the most significant areas to be addressed is the energy efficiency of heavy vehicle fleets. According to the Bureau of Infrastructure, Transport and Regional Economics, by 2020 greenhouse gas emissions from light commercial vehicles will increase by 43 per cent, rigid trucks by 16 per cent, and articulated trucks by 46 per cent. These increases far exceed the rate of increase predicted from passenger vehicles.

The NSW and Victorian Governments are working together to pilot a voluntary program focussing on diesel engines and involving the freight industry. The pilot is proposed to be modelled on the United States SmartWay Program, which encourages the use of fuel efficiency devices and technologies in the heavy vehicle fleet, including through idle reduction, improved aerodynamics, freight logistics, tyres, driver training and other strategies and technologies. Whilst strategies such as public transport are important, passenger vehicles account for a significant proportion of the Australia's overall energy use. Electric vehicles are expected to come onto the Australian market in 2011, although there will be global supply constraints until 2012. These vehicles have the potential to increase energy efficiency in the transport sector, reduce transport sector emissions of greenhouse gases and other air pollutants, decrease reliance on imported transport fuels and complement an increase in embedded and distributed generation, although there are also concerns that the vehicles will place additional demands on the grid.

The NSW Government has established the Electric Vehicles Taskforce to examine ways to support the electric vehicle industry. The Taskforce is due to report back later in 2010.

Options for consideration by the Task Group

There are many opportunities for energy efficiency and demand reduction (including peak demand) available at low cost. Many of these measures can be implemented more efficiently and at a lower cost than adding to supply.

There has been progress on energy efficiency in existing inter-governmental forums, for example, through the National Framework on Energy Efficiency, National Strategy on Energy Efficiency, and the Australian Energy Market Commission.

Traditional funding, grants and rebate programs have led to changes in investment patterns by consumers, but have been subject to fluctuating demand levels that do not allow industries to establish themselves and be commercially tested over longer time frames.

Progress to date has been incremental, rather than offering step change. Step change in energy efficiency would involve embedding energy efficiency in all aspects of our economy, from energy generation through to demand for and use of energy, and could be demonstrated through the setting of defined goals, for example, a goal for new residential buildings by 2015 to reduce overall energy use by 25% and reduce total GHG emissions by 50% from typical 2005 domestic energy use. NSW has already achieved close to a 40% reduction in GHG emissions for new housing through BAS IX.

NSW believes the key drivers for the uptake of energy efficiency improvements to be:

- National coordination and leadership, including the need for clear goals and measurement of energy efficiency across sectors;
- Enhancing demand-side measures to address energy shortages, rather than only focusing on supply; and

- The need for long-term market signals to encourage energy efficiency.

To unlock the greatest potential for a step change improvement in energy efficiency in Australia over the next decade the following options are proposed to the Task Group, for its consideration:

1. More effective governance for energy efficiency
2. A market incentive for energy savings
3. Improving demand management in the National Electricity Market
4. Innovative financing models for commercial property upgrades
5. Establishing and implementing a national outcomes-based building framework
6. Options for improving transport energy efficiency

More detail on these options is below.

1. More effective governance for energy efficiency

To improve governance of energy efficiency there is an urgent need for evidence of which energy efficiency measures work best and an appropriate governance model to identify and drive implementation of the opportunities for step change. The Task Group could consider a proposal to establish an Energy Efficiency Commissioner with connections to industry and the energy sector.

There is currently a fragmented approach to energy efficiency. For example, in relation to the energy efficiency of new buildings, a number of Ministerial portfolios are involved in improving the sustainability of buildings including the planning, building, environment, climate change, and utility ministers. A new national governance structure - like an Energy Efficiency Commissioner - would assist to develop a range of consistent policies and programs to improve new building standards, reduce consumption in occupied buildings, and reduce life-cycle costs and emissions associated with construction, demolition and refurbishment. This national governance body would oversee building energy efficiency policies, funding and programs, and would take overall responsibility for improving the sustainability of Australian buildings (commencing with reducing energy consumption). Policies or programs could still be implemented through existing arrangements (e.g. the Building Codes Board could continue to implement new building standards), but in accordance with direction and advice from this new body. A key component of this new arrangement would be reporting outcomes from building energy efficiency work in real terms (Le. actual energy/C02 reductions).

An Energy Efficiency Commissioner, perhaps reporting to a relevant Ministerial Councilor attached to the Department of Climate Change and Energy Efficiency (but with a whole-of government remit), could be responsible for:

- identifying and driving uptake of energy efficiency opportunities in Australia; providing advice on the best use of the Australian Carbon Trust (including the Energy Efficiency Trust) and working with organisations and industry bodies to accelerate implementation of energy efficiency;
- advising and working with relevant Ministerial Councils and high level Working Groups to ensure they are aware of, and implement available opportunities (including in the areas of building, vehicle and appliance standards and reforms to energy, building and transport markets);
- benchmarking Australian sectors' energy efficiency compared to other OECD countries, and researching and highlighting the market failures that impede improvement;
- developing and disseminating innovative ideas and international best practice measures for possible implementation in Australia;
- developing energy savings or, energy productivity targets and other performance indicators, and reporting against them; .

- co-ordinating research on energy efficiency technologies in areas relevant to Australia but not covered elsewhere;
- evaluating the success of energy efficiency measures in achieving outcomes – this needs to be equally robust as the data used to quantify energy supply; and
- reporting annually on evaluations of outcomes of measures occurring in Australia, overall progress towards targets and indicators and Australia's progress compared to other jurisdictions ..

An Energy Efficiency Commissioner could have the responsibility and resources to drive change at the national level. The position could be a statutory position, reporting annually to the Australian Parliament on Australia's performance in realising the energy efficiency opportunities. It would cover all forms of energy use and sources, including transport energy.

An Energy Efficiency Commissioner could provide a circuit breaker for some existing processes which may not be achieving their maximum potential in improving energy efficiency.

This consideration of better and ongoing governance arrangements for energy efficiency should form part of the Australian Government's response to the Hawke Review of Ministerial Councils.

2. A market incentive for energy savings

The NSW Energy Savings Scheme creates a financial incentive for companies to undertake energy efficiency activities through obtaining and surrendering tradable Energy Savings Certificates to meet energy savings targets. A national scheme would provide a market incentive and investment certainty for businesses specialising in energy saving. It would provide the incentive for a range of energy intensive industries to improve their energy efficiency. A recent evaluation of the UK energy savings scheme found that it was effective in delivering large scale, cost-effective energy savings and in triggering market transformation and innovation.

A national scheme could provide a "long, loud and legal" market incentive for energy savings:

- Long-term: a market mechanism can provide the same kind of investment certainty for businesses specialising in energy saving that the Renewable Energy Target will provide for renewable energy businesses.
- Loud: clear targets set in terms of outcomes i.e. energy savings. For example, the NSW Energy Savings Scheme has a target that equates to approximately three million Megawatt-hours of annual energy savings by 2014.
- Legal: to ensure compliance, liable parties (e.g. electricity retailers) would have to set up long term contracts with reputable suppliers, avoiding the problem with new businesses trying to make a quick profit with untrained employees.

A national energy savings scheme is also consistent with the criteria set out in the Task Group's Terms of Reference, being:

- Economically effective: a market mechanism can seek the lowest cost energy savings from a broad range of options. For example, modelling of the NSW Energy Savings Scheme estimated that it will deliver up to \$1.3 billion net cost savings to NSW energy customers. It does this by driving wholesale electricity price reductions that are in excess of the costs to retailers of investing in energy efficiency projects.
- Environmentally effective: a market mechanism can be outcomes-based i.e. only allow the energy savings from an activity to be claimed, rather than paying a fixed amount based on estimates of the cost of the activity.
- Complementary to national emission reduction measures and Renewable Energy Target: a market mechanism can make the emissions reduction task achievable at lower cost.

- Measurable energy savings: a market mechanism can use transparent rules on which activities are eligible and how to measure savings. These rules could be modelled on NSW Energy Savings Rule and similar Victorian and SA rules.
- Costed energy savings: the market can set the price. The market mechanism can have a price cap below the full cost of providing new electricity generating and network capacity, including carbon and other environmental and health costs.
- Broad spectrum of technologies and sectors: a market mechanism can cover many energy saving technologies in the commercial, industrial, government and residential sectors, and possibly some in the transport sector. It could also measure and reward peak demand savings.
- International and interstate best practice: the NSW Energy Savings Scheme drew on lessons from similar schemes in the UK, Italy, France, and Belgium, a number of states in the USA, including California, as well as Victoria and South Australia. In the European Union, national energy savings schemes work alongside the EU Emissions Trading Scheme.

3. Improving demand management in the National Electricity Market (NEM)

Demand management in the NEM could assist in improving energy efficiency. Some observers believe that despite existing demand-side measures, the way in which the National Electricity Market is currently structured favours new supply when responding to increases in demand for electricity, rather than managing demand.

The Australian Energy Market Commission (AEMC) has undertaken a significant volume of work over the last few years looking at demand management issues in the NEM. The AEMC in its review of demand-side participation in the NEM found that the NEM framework does not materially bias against the use of demand-side participation and that the overall costs and opportunities to participate provided by the framework are appropriate.

The AEMC has identified a number of areas for improvement as well as proposed additional analysis to understand how energy efficiency measures could be more widely adopted. The Ministerial Council on Energy is currently considering the AEMC's recommendations.

Given the work that is already being undertaken, the Task Group could focus on areas not already covered, such as barriers to investment in demand management outside of NEM frameworks, embedding demand-side management more effectively in the NEM, and if any market failures are found to be occurring, investigating options for addressing them.

The implications of using price signals, such as time of use pricing, need to be carefully considered in the context of energy being an essential service. Price signals will only assist consumers adjust consumption behaviour where their consumption is discretionary. The Task Group should consider assistance for low income and vulnerable customers, where they are unable to adjust their energy consumption, in parallel to considering any such policy initiatives

4. Innovative financing models for commercial property upgrades

In assessing the options for practical and cost-effective activities to encourage the take-up of energy efficiency measures, due consideration should be given to the significant imbalance in revenue-raising powers between the Commonwealth and States, which constrains States' capacity to provide innovative financing arrangements.

In other federations where financing arrangements were offered to encourage the uptake of energy efficiency measures by the private sector, for example California, the following factors were present, which are not necessarily the case in Australia:

- broad revenue-raising powers of sub-national governments (including income, sales and property taxation); and
- generous federal grant programs and/or guarantee arrangements for energy efficiency and renewable energy initiatives offered by a broad range of federal departments. For example, in the United States, funding programs are widely available for state, local and tribal governments from the Departments of Agriculture, Labor, Housing and Urban Development, Energy, Environmental Protection Agency and the National Aeronautics and Space Administration.

Despite potential energy savings in the order of 30-40%, investment in large scale energy efficiency projects to upgrade existing commercial properties is not being widely implemented due to split incentives between landlords and tenants and other market barriers.

Property owners wishing to undertake energy efficiency projects face restrictions in passing on costs to tenants. Highly leveraged owners face difficulties borrowing for large scale projects with no asset base to act as security. Also, banks can be reluctant to lend for more than three years, and larger scale projects usually have paybacks of seven to ten years.

The Clinton Foundation, National Australia Bank and the Commonwealth Bank have all approached NSW with proposals for financing energy efficiency upgrades in commercial properties.

The Task Group could consider options which include whether the proposed Energy Efficiency Trust could be expanded to meet this need, as well as innovative financing models in place in other jurisdictions, for example:

- the UK Carbon Trust provides unsecured, government underwritten zero per cent interest loans for between £3,000 and £500,000 to help finance energy savings projects;
- in the United States, under the Property Assessed Clean Energy program, State and municipal governments (or finance companies) issue bonds and lend the proceeds to property owners to finance energy retrofits, who then repay their loans via an annual assessment on their property tax bill.

5. Establishing and implementing a national building framework

In regard to buildings, the NSEE proposes a national building framework to set a pathway towards increased energy efficiency in both residential and commercial buildings. A broad and outcomes-based framework along similar lines to BASIX could help deliver substantial energy savings from the buildings sector. The rating scale could include all building elements and energy uses, including non-fixed appliances, building materials and on-site energy generation (eg wind, solar, co/tri-generation). It could cover both residential and commercial buildings and be used for both existing and new buildings.

By linking mandatory disclosure of ratings to the framework, householders would have a better idea of how their house compares to both historical benchmarks and future targets at point of sale/rental. This would provide information to the market to encourage energy efficiency in Australia's existing residential and commercial building stock.

The Task Group could consider how it could best support rapid progression of the NSEE national building framework proposal.

6. Options for improving transport energy efficiency

The NSW and Victorian pilot of a SmartWay-style program to improve energy efficiency in the freight industry through voluntary measures is likely to be relatively small scale. However, there are opportunities for significant expansion and the projected improvements in energy efficiency in this sector are substantial. For the US SmartWay Program, projected savings are up to 150 . million barrels of oil per year (equivalent to taking 12 million cars off the road) and helping industry save nearly \$US10 billion in operating costs. An Australian program would be smaller given the relative size of our heavy vehicle fleet, but the Task Group could examine options for developing a full Australian program. This could include innovative financing, upgrade kits, and establishing industry partnerships and networks.

In regard to passenger vehicles, the Prime Minister's Task Group could consider how electric vehicles could potentially improve energy efficiency and how the Australian Government could support the electric vehicle industry, including in collaboration with States and Territories.



Meeting NSW Electricity Needs in a Carbon Constrained World:

Lowering Costs and Emissions with Distributed Energy



Jay Rutovitz, Chris Dunstan Institute for Sustainable Futures □ UTS 2009

Intelligent Grid Research Program

Project 4: Institutional Barriers, Economic Modelling and Stakeholder Engagement



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Table of Contents

EXECUTIVE SUMMARY	V	
1 INTRODUCTION	1	
2 ENERGY CONSUMPTION AND SUPPLY PROJECTIONS FOR NSW	3	
2.1 Owen (2007) projections and current (2008) projections	3	
2.2 Potential for Distributed Energy to eliminate the energy shortfall	5	
2.3 Potential for renewable energy to eliminate the energy shortfall		7
3 DEMAND AND CAPACITY PROJECTIONS FOR NSW	8	
3.1 Current projection and shortfall.....	8	
3.2 Non-scheduled generation included in projection		
4 CAPACITY OPTIONS – DISTRIBUTED AND RENEWABLE ENERGY	10	
4.1 Energyefficiency	10	
4.2 Cogeneration	13	
4.3 Demand Side Response.....	13	
4.4 Renewable energy	13	
4.5 CanDistributedEnergy meet the demand shortfall?	15	
5 CAPACITY OPTIONS – CENTRALISED GENERATION	16	
5.1 Gas turbines (excluding cogeneration).....	16	
5.2 Coal	16	
6 COST COMPARISON OF CAPACITY OPTIONS	17	
7 MEETING THE SHORTFALL – SCENARIOS	19	
7.1 Calculating cost and greenhouse emissions – method	19	
7.2 Cost and greenhouse comparison – results	23	
7.3 Demand growth – results.....	25	
8 POLICY INITIATIVES TO SUPPORT DISTRIBUTED ENERGY	27	
8.1 Market barriers to Distributed Energy.....	27	
8.2 Government policy measures to facilitate Distributed Energy	29	
9 CONCLUSION	34	
REFERENCES	35	
APPENDIX 1 – ASSUMPTIONS	38	

List of Tables

TABLE 1 SOURCE OF RENEWABLE GENERATION UNDER NEW RET (NIEIR 2008)	7
TABLE 2 NON-SCHEDULED GENERATION USED TO MODIFY THE NEMMCO PROJECTION	9
TABLE 3 NSW EXAMPLES OF ENERGY EFFICIENCY POTENTIAL	11
TABLE 4 AUSTRALIA WIDE ENERGY EFFICIENCY POTENTIAL	12
TABLE 5 COST COMPARISON OF CAPACITY OPTIONS	17
TABLE 6 GROWTH-RELATED NETWORK CAPITAL EXPENDITURE 2009–2014 (\$MILLION)	21
TABLE 7 NETWORK AUGMENTATION COSTS FOR DEMAND GROWTH, BY TECHNOLOGY	22
TABLE 8 AVERAGE GROWTH RATE IN NSW CAPACITY FOR RELIABILITY, 2011/12–2019/20	26

List of Figures

FIGURE 1 NSW ELECTRICITY TO 2020 – OWEN INQUIRY PROJECTION (2007)	4
FIGURE 2 NSW ELECTRICITY TO 2020 – TRANSGRID 2008 PROJECTION	4
FIGURE 3 POTENTIAL TO ELIMINATE PROJECTED ENERGY SHORTFALL WITH DISTRIBUTED ENERGY AND RENEWABLE ENERGY	6
FIGURE 4 NSW CAPACITY NEEDED FOR RELIABILITY, MAXIMUM SUMMER DEMAND TO 2020	8
FIGURE 5 CONTRIBUTION OF RENEWABLE ENERGY BY TECHNOLOGY AT 10% POE	14
FIGURE 6 NSW ACTUAL AND REQUIRED CAPACITY TO 2020, WITH DISTRIBUTED ENERGY	15
FIGURE 7 SCENARIOS INCLUDED IN THE ANALYSIS	20
FIGURE 8 CUMULATIVE COSTS TO 2020, NSW ENERGY SUPPLY	24
FIGURE 9 CUMULATIVE COSTS TO 2020 AND 2020 GREENHOUSE EMISSIONS	25
FIGURE 10 CAPACITY NEEDED FOR RELIABILITY BY SCENARIO	26
FIGURE 11 DEMAND GROWTH BY SCENARIO	26

Abbreviations

AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
CCGT	combined cycle gas turbine
CCS	carbon capture and storage
CEC	Clean Energy Council
CPRS	Carbon Pollution Reduction Scheme
DE	Distributed Energy
DSR	Demand Side Response
IGCC	integrated gasification combined cycle (coal power station)
MEPS	Minimum Energy Performance Standards
RET	Mandatory Renewable Energy Target
NEMMCO	National Electricity Market Management Company
OGT	open cycle gas turbine
POE	Probability of Exceedance
SOO	Statement of Opportunities

Glossary

Capacity for reliability	The capacity required to meet maximum demand at 10% POE plus the minimum reserve level.
Distributed Energy	Energy supply and management options close to where the energy is used. Distributed Energy includes: local generation, end use energy efficiency, and peak load management (also called 'demand side response', or DSR).
Native energy	The electrical energy supplied by both scheduled generating units and significant non-scheduled generating units.
Non-scheduled generation	A generating unit that is not scheduled by NEMMCO as part of the central dispatch process.
Non-scheduled demand	That part of the electricity demand supplied by non-scheduled generating units.
Peak Demand	The highest amount of electrical power required, or forecast to be required, over a defined period (day, week, month, season or year)
Probability of Exceedance (POE)	The probability, as a percentage, that a maximum demand (MD) level will be exceeded (for example, due to weather conditions) in a particular period. For example, for a 10% POE maximum for any given season, there is a 10% probability that the level will be met or exceeded. Consequently, 10% POE levels are expected to be exceeded, on average, 1 year in 10.
Scheduled generation	Generation from scheduled generators; that is, dispatched through NEMMCO's central dispatch process (so generators bid into the market).

Executive Summary

Communities in developed nations expect their governments to ensure the reliable supply of electricity. Reflecting these expectations, the NSW Government established an Inquiry into Electricity Supply in NSW in 2007, chaired by Professor Anthony Owen (the “Owen Inquiry”). This Inquiry was asked in particular to review the need and timing for new baseload supply.

The Owen Inquiry concluded that there was a potential shortfall in baseload supply from 2013/14, and recommended that planning for new power stations should commence immediately as the lead time for a coal-fired power station could be 6–7 years.

Since the Owen Inquiry, the projections for both electricity consumption and electricity generation have been modified significantly (Transgrid 2008), such that the findings of the Inquiry warrant substantial reconsideration.

It is beyond the scope of this report to review the merits of the privatisation plan proposed by the Owen Inquiry. However, it may well prove fortuitous for NSW that the Owen Inquiry’s recommendations were not adopted, as this means there is an opportunity to reconsider the options for securing the state’s electricity future.

This report examines the current projections for energy consumption and generation, and how they differ from the Owen Inquiry results. It then examines peak demand projections, and identifies when potential shortfalls may occur. Finally, three Distributed Energy and two centralised energy scenarios that meet potential shortfalls are compared for greenhouse gas emissions and costs.

Energy generation potential shortfall

At the time of the Owen Inquiry, a potential energy generation shortfall was identified of 2,500 GWh in 2013/14. This shortfall was expected to rise to 11,600 GWh by 2020. However, these forecasts have since been substantially revised. The projected shortfall now only appears in 2017, and by 2020 reaches only 3,800 GWh¹.

These changes are essentially because additional renewable generation has been included in the official projection to take account of the new national Renewable Energy Target (RET) for 20% renewable electricity by 2020, and because the projection for energy consumption is lower due to lower projected economic growth.

However, even the revised energy shortfall disappears if moderate energy efficiency measures are put in place. Rather than an energy shortfall, there is the possibility of a surplus of electricity generation potential of more than 12,000 GWh by 2019/20 provided the following conditions are met:

- Energy efficiency measures identified in this report are adopted. These include more efficient commercial lighting, and industrial and residential energy efficiencies. These measures will take the potential surplus supply to 3,900 GWh;
- 700 MW of cogeneration is put in place. This will take the potential excess supply to 9,700 GWh.
- 50% of the Snowy Mountains Hydro-Electric Scheme output is available to NSW, and a 12.5% proportion of Australia’s expected growth in scheduled renewable energy investment occurs in NSW. This takes the surplus in generation potential to 12,800 GWh by 2020.

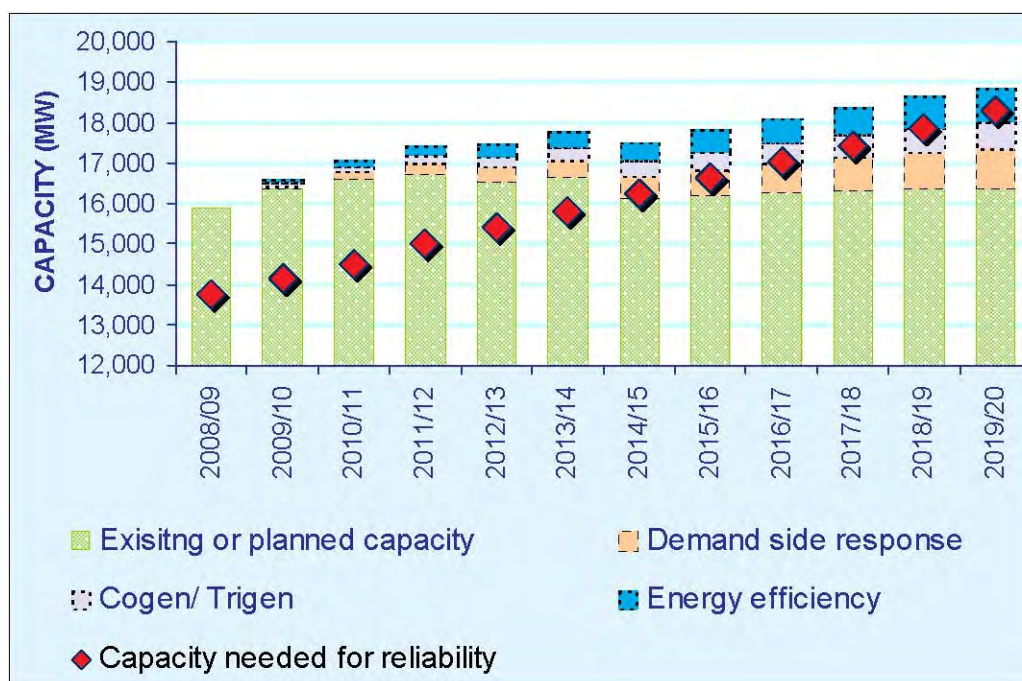
¹ These figures are from the 2007 and 2008 Transgrid Annual Planning Reports, which are the basis of the Owen report (Transgrid 2007) and the current projection (Transgrid 2008).

Peak generation capacity shortfall

While the revised forecasts have reduced or eliminated the expected shortfall in annual energy generation potential, there remains a significant expected shortfall in generation capacity to meet peak demand. This amounts to 390 MW in 2014/15, rising to 1,900 MW in 2019/20. This projection may overestimate the shortfall, as it assumes coincident maximum demand in all states. The shortfall corresponds to the capacity needed for reliable electricity supply, including both scheduled and non-scheduled energy, at 10% Probability of Exceedance (POE). The projections are from the NEMMCO 2008 Statement of Opportunities, and are likely to be revised downwards as a result of the global economic slowdown.

However, the current projected capacity shortfall can be comfortably met by “Distributed Energy” options, even with the conservative assessment of resources identified in this report. Distributed Energy refers to energy supply and management options deployed close to where the energy is used, and includes local generation, end use energy efficiency, and peak load management (also called ‘demand side response’, or DSR).

Potential of Distributed Energy to meet forecast capacity needs to 2020.



The scenarios

This Report considers five scenarios:

- Scenario A.** **Coal:** a coal fired power station comes online in 2017/18, followed by additional open cycle gas turbines from 2018/19. This is the closest to the scenario suggested by the Owen Inquiry, although the investment date suggested in Owen was earlier and the energy shortfall greater.
- Scenario B.** **Gas:** a combination of open cycle (OCGT) and combined cycle gas turbines is used to meet capacity shortfalls as assumed in the 2008 NEMMCO projections.
- Scenario C.** **Cogeneration and demand side response:** the shortfall in capacity is met by a combination of cogeneration and demand side response.
- Scenario D.** **Energy efficiency and demand side response:** the shortfall in capacity is met by a combination of energy efficiency and demand side response (DSR).
- Scenario E.** **Combined Distributed Energy:** the measures identified in this report (energy efficiency, cogeneration, and demand side response) are all adopted, and coal fired power capacity is reduced by 1000 MW in 2014/15.

Costs and greenhouse emissions

The most expensive scenario is the one closest to the Owen Inquiry recommendations, namely building a new coal fired power station (\$30.7 billion cumulative cost). This is also the most greenhouse intensive option. The gas scenario, is the next most expensive at \$29.8 billion.

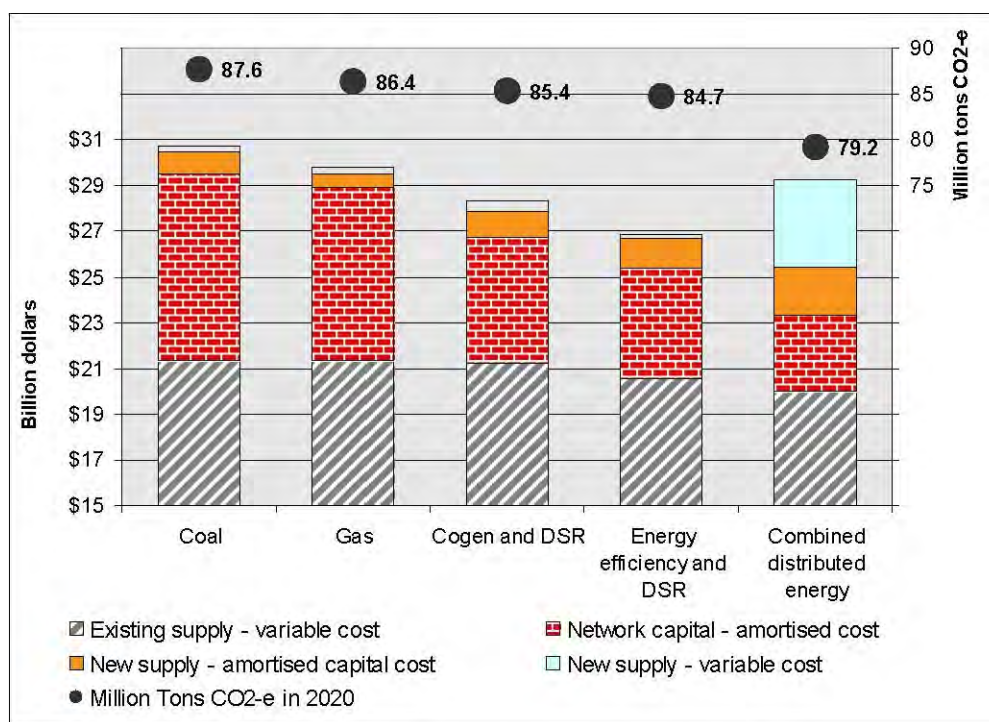
All three Distributed Energy scenarios are cheaper, ranging from \$26.8 billion to \$28.3 billion.

The Combined Distributed Energy scenario (Scenario E), which includes efficiency, DSR, cogeneration and reducing coal fired capacity, has the lowest greenhouse gas emissions, with an annual saving by 2020 of 7 million tonnes compared to the gas scenario. It also costs \$0.5 billion less than the gas scenario (Scenario B). This combined Distributed Energy scenario is even more attractive when compared to building a new coal fired power station (Scenario A), because it costs \$1.5 billion less and produces 8.4 million tonnes less greenhouse emissions.

The Energy Efficiency and Demand Side Response Scenario (Scenario D), has the lowest cost, saving about \$620 million per year, or about \$60 per household in 2020 when compared to the Coal scenario (Scenario A). It also saves 2.9 million tons of carbon dioxide in 2020.

As indicated below the key component of the cost savings is the savings on network infrastructure augmentation.

Cumulative cost and annual greenhouse emissions up to 2020



Conclusions

Meeting the growth in demand with Distributed Energy is significantly cheaper than building a new coal fired power station or meeting electricity growth needs with gas turbines. This is primarily because of significant savings which can be achieved by avoiding or deferring the need for expensive electricity network augmentation.

The Distributed Energy scenarios also have lower greenhouse gas emissions, particularly if combined with retiring 1000MW of coal fired generation. The maximum Distributed Energy scenario considered (energy efficiency, cogeneration, demand side response and retiring 1000 MW of coal fired generation) saves 7 million tonnes of emissions and \$0.5 billion compared to business as usual.

However, these economic and environmental benefits will not be realised unless there is deliberate and effective electricity policy reform in NSW. This policy reform does not need additional government funding, but it does require strong and sustained political leadership to break with the centralised energy paradigm of the past.

In order to accelerate the development of Distributed Energy in NSW the following reforms are recommended.

Recommendation 1:

The NSW Government should adopt a target of meeting all forecast growth in energy consumption and peak demand between 2010 and 2020 from “green” energy sources; that is, renewable energy and Distributed Energy (including energy efficiency, demand side response, and cogeneration).

Recommendation 2:

The NSW Government should nominate a suitable agency within Government with appropriate resources and authority to coordinate its Distributed Energy strategy to implement these recommendations.

Recommendation 3:

The NSW Government should undertake and publish a comprehensive annual NSW Distributed Energy Review. This Review should include

- *a detailed resource assessment of Distributed Energy potential in NSW,*
- *a detailed assessment of current Distributed Energy practice in NSW,*
- *an overview of international best practice in programs and policy, and*
- *an evaluation of potential policy measures for the adoption of Distributed Energy.*

Recommendation 4:

The NSW Government should maximise incentives for Distributed Energy by:

- *accelerating and better targeting existing programs (such as the NSW Climate Change Fund)*
- *making greater use of non-financial incentives and community engagement and*
- *encouraging NSW Government-owned electricity network operators to redirect part of their capital budgets towards incentives for Distributed Energy.*

Recommendation 5:

The NSW Government should continue to advocate for an effective and adequate national price on carbon emissions in the context of the CPRS. Until this is achieved it should reinforce NSW-based measures (such as the NSW Greenhouse Gas Abatement Scheme) that redress the price bias against lower emission Distributed Energy options.

Recommendation 6:

The NSW Government should encourage its distribution network businesses to accelerate the deployment of smart meters and the introduction of time-of-use pricing, (including dynamic peak pricing at times of very high demand offset by lower prices at other times). It should also encourage Transgrid to reform transmission network pricing to strongly reflect peak load events in its prices.

Recommendation 7:

The NSW Government should request that the Australian Energy Market Commission (AEMC) change the National Electricity Rules to remove regulatory biases against Distributed Energy by:

- *removing network regulatory incentives which are contrary to the consumer interest (such as the current link between network profits and customer electricity sales volume).*
- *allowing network businesses to invest in Distributed Energy options up to five years prior to the corresponding trigger point for network augmentation.*
- *requiring network businesses to implement all available cost effective Distributed Energy options with lower greenhouse gas emissions prior to augmenting the network.*

1 Introduction

A reliable electricity supply is an essential service in modern economies, and governments have a crucial role in ensuring their continuing adequacy and reliability. To this end, the NSW Government established an Inquiry into Electricity Supply in NSW in 2007, chaired by Professor Anthony Owen (the “Owen Inquiry”), which specifically reviewed the need and timing for new baseload supply.

The Owen Inquiry found that new baseload power could be required from 2013/14. The Inquiry found that without a new source of baseload power, there was a potential shortfall of up to 2,400 GWh, rising to 11,600 GWh by 2017/18. The Inquiry further recommended that planning should commence for a new baseload power station during 2007, as the lead time for a coal power station could be 6–7 years.

The findings of the Inquiry were based on electricity consumption forecasts derived from the Annual Planning Report of the NSW Government-owned transmission company, Transgrid (Transgrid 2007), with additional information from commissioned reports (Connell Wagner 2007; Wood Mackenzie 2007; Morgan Stanley 2007).

Since the Owen Inquiry the landscape for energy in NSW has changed significantly. The federal government has committed to raise the national Renewable Energy Target (RET) to 20% of total national electricity supply by 2020, equivalent to a fourfold increase in electricity supplied from renewable energy or 45,000 GWh per year. Largely as a result of the expanded RET, “non-scheduled”² generation projections are more than double those made in 2007³. Future consumption estimates have also been revised downwards because of both energy efficiency and reduced expectations for economic growth, and are likely to be further reduced as a result of the current global economic slowdown.

Overall, the projections for both electricity consumption and electricity generation have been modified significantly (Transgrid 2008), such that the findings of the Owen Inquiry warrant substantial reconsideration.

This report examines the current projections for energy consumption and generation, and how they differ from the Owen Inquiry results. It identifies the timing and magnitude of the currently projected energy shortfalls.

The report then examines peak demand projections, using data from the National Electricity Market Management Company (NEMMCO), and identifies when shortfalls may occur in summer peak consumption periods, as these are the maximum peaks projected for NSW.

Finally, the potential for Distributed Energy to meet the projected growth in NSW electricity needs is considered. Distributed Energy refers to energy supply and management options deployed close to where the energy is used, and includes local generation, end use energy efficiency, and peak load management (also called ‘demand side response’, or DSR).

²

Non-scheduled generators do not have their output controlled through a centralised despatch process run by NEMMCO, either because their output is ‘non-despatchable’ and automatically goes into the grid (for example wind generation), or because all output is consumed on site, or sold directly to a local electricity retailer or local customer.

³

Transgrid (2007) compared to Transgrid (2008)

Three Distributed Energy and two centralised generation scenarios are compared for both

greenhouse emissions and costs:

Scenario A. **Coal:** a coal fired power station comes online in 2017/18, followed by additional open cycle gas turbines from 2018/19 (this is the closest to the scenario suggested by the Owen Inquiry, although the investment date suggested in Owen was earlier and the energy shortfall greater).

Scenario B. **Gas:** a combination of open cycle (OCGT) and combined cycle gas turbines is used to meet capacity shortfalls as assumed in the 2008 NEMMCO projections.

Scenario C. **Energy efficiency and demand side response:** the shortfall in capacity is met by a combination of energy efficiency and demand side response.

Scenario D. **Cogeneration and demand side response:** the shortfall in capacity is met by a combination of cogeneration and demand side response.

Scenario E. **Combined Distributed Energy:** the measures identified in this report (energy efficiency, cogeneration, and demand side response) are all adopted, and coal fired power capacity is reduced by 1000 MW from 2014/15.

2 Energy consumption and supply projections for NSW

2.1 Owen (2007) projections and current (2008) projections

Electricity consumption and the potential shortfalls in supply projected at the time of the Owen Inquiry and one year later, in 2008, are shown in Figures 1 and 2 below. The data in both figures come from Transgrid, as the Transgrid 2007 planning report was the source of energy projections for the Owen Inquiry.

At the time of the Owen Inquiry, a potential shortfall was identified of 2,500 GWh in 2013/14, rising to 11,600 GWh by 2020. One year later, these projections have been revised. The shortfall only appears in 2017, and by 2020 has reached only 3,800 GWh.⁴

This is entirely consistent with the changes in projected consumption and generation identified in the 2007 and 2008 Transgrid Annual Planning Reports.

Consumption projections

At the time of the Owen inquiry, Transgrid's medium projection was that electricity consumption would reach 96,450 GWh by 2016/17, with an average growth rate of 1.8% from 2007/8 to 2016/17 (Transgrid 2007). By 2008, this had been reduced to 94,680 GWh with a growth rate of 1.6% (Transgrid 2008). The medium projection for electricity consumption in NSW in 2016/17 was reduced by 2,500 GWh (2.5%) (Transgrid 2007 and 2008).

This reduction in projected electricity consumption is primarily because projections for economic growth were reduced, and because committed minimum energy performance standards (MEPS) were explicitly included in the 2008 modelling (Transgrid 2008, p. 21).

Generation projections

The projections for electricity generation from NSW existing or committed nonscheduled power stations in 2016/17 increased by 4,700 GWh (NEIR 2008), largely as a result of the increased RET target.

The estimated non-scheduled generation in NSW in 2017 increased from 4,000 GWh (Transgrid 2007) to 8,700 GWh (Transgrid 2008), with 5800 GWh resulting from the additional RET target (NIEIR 2008 Table B2 and Table 4).

The approach taken by this report

This report takes the 2008 figures as a starting point, as it is assumed that energy planning in NSW should be based on the most recent available data. This suggests a potential energy shortfall of 2,200 GWh appearing in 2018/19, and rising to 3,800 GWh in 2019/2020. Later sections of the report examine the least cost means of avoiding that shortfall. Moreover, this report argues that prudent energy planning must consider the climate change implications, both in relation to investment choices and in relation to current and likely policy responses.

⁴

The Transgrid and Owen Inquiry projections only go to 2017/18. In this report all projections have been extended to 2020 using the annual growth rates identified in these reports.

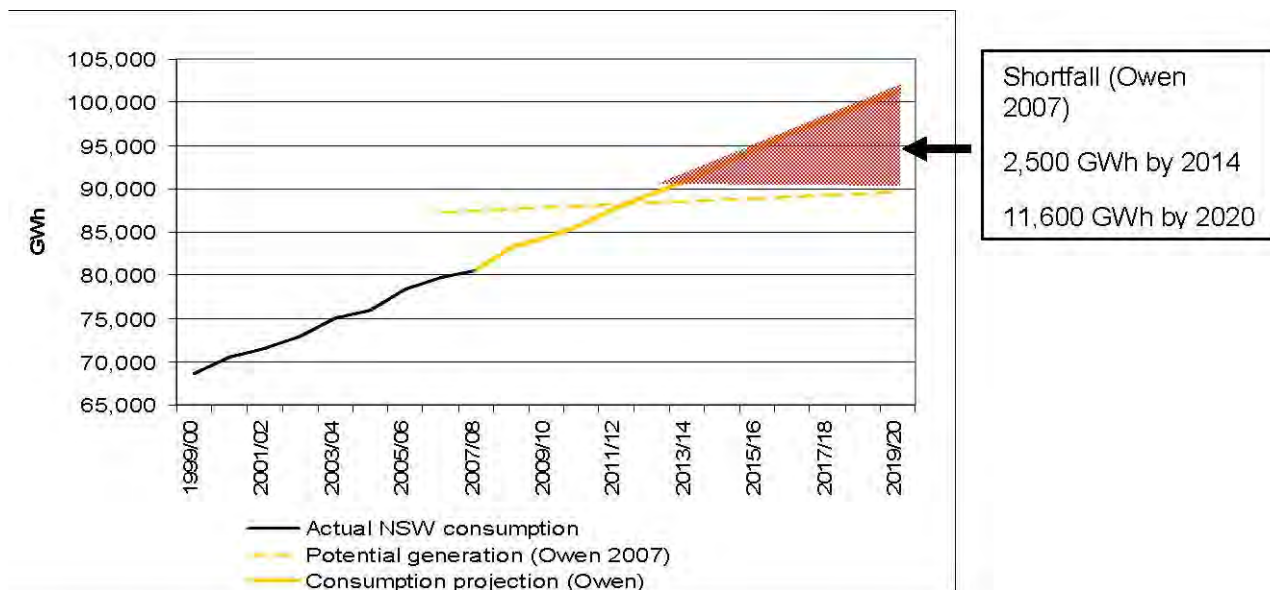


Figure 2 NSW electricity to 2020 – Transgrid 2008 projection

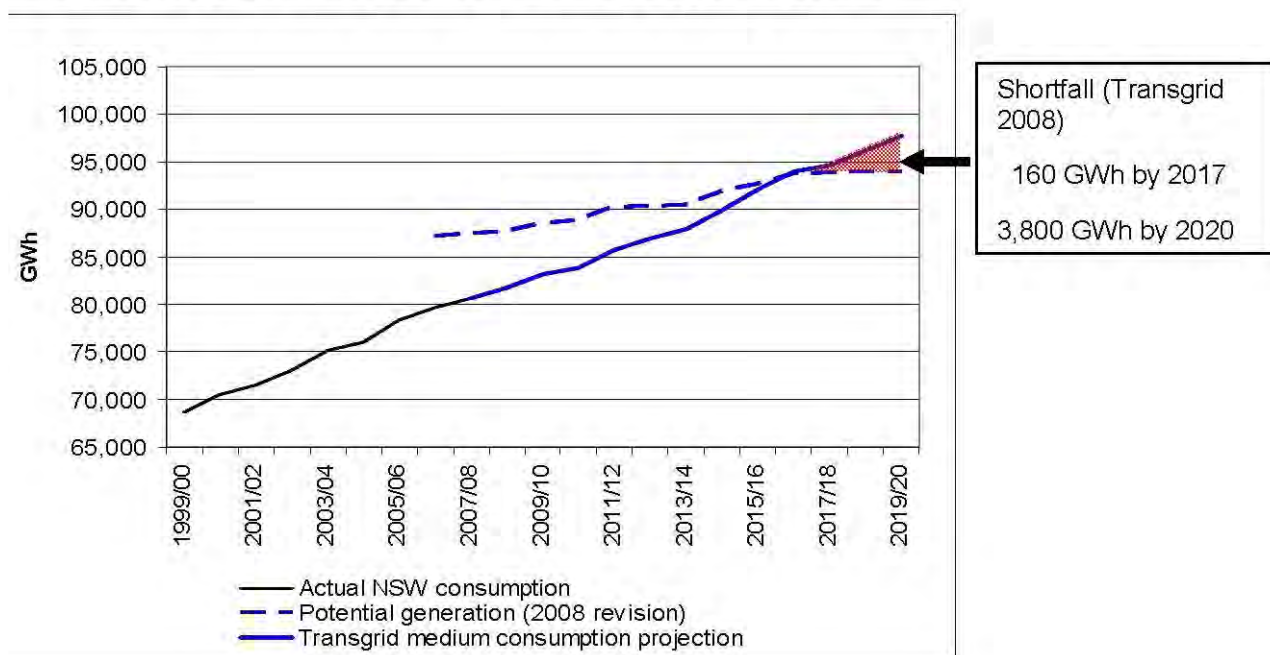


Figure 1 NSW electricity to 2020 – Owen Inquiry projection (2007)

Notes to Figures 1 and 2

- 1 Consumption and supply projections include scheduled and non-scheduled electricity.
- 2 The Owen Inquiry did not consider energy growth projections beyond 2016/17, so consumption projections have been extrapolated to 2020 from 2016/17. Extrapolation of Owen Inquiry data uses annual growth of 1600 GWh per year (Table 2.1, Owen 2007). Extrapolation of the current Transgrid consumption projection uses the growth rate for native energy of 1.6% per year (Transgrid 2008, Table A 3.4).
- 3 Scheduled generation for the Owen Inquiry and the current Transgrid projection is taken as 85,100 GWh, the maximum output from NSW coal and gas generators (Owen 2007, page 2–10). No generation from the Snowy scheme is included in either projection.
- 4 Non-scheduled generation for the Owen Inquiry supply projection includes non-scheduled generation from Owen (2008 p. 12), and is assumed to grow in a linear manner. Non-scheduled generation for

Transgrid uses the NIEIR report to NEMMCO (NIEIR 2008).

2.2 Potential for Distributed Energy to eliminate the energy shortfall

The projected energy shortfall does not include the potential for additional energy efficiency measures. Increasing end use energy efficiency and cogeneration options will reduce both electricity consumption and peak demand.

Figure 3 shows the effect of the energy efficiency and cogeneration options identified in this report (see *Section 4 Capacity options – distributed and renewable energy*) on electricity consumption, and of including additional renewable energy in the projected supply. This includes renewable energy generation which either exists already, or is expected as part of the 20% RET scheme).

There is the potential for an excess of electricity generation of more than 12,000 GWh in NSW in 2019/20, as shown in Figure 3, provided the following conditions are met:

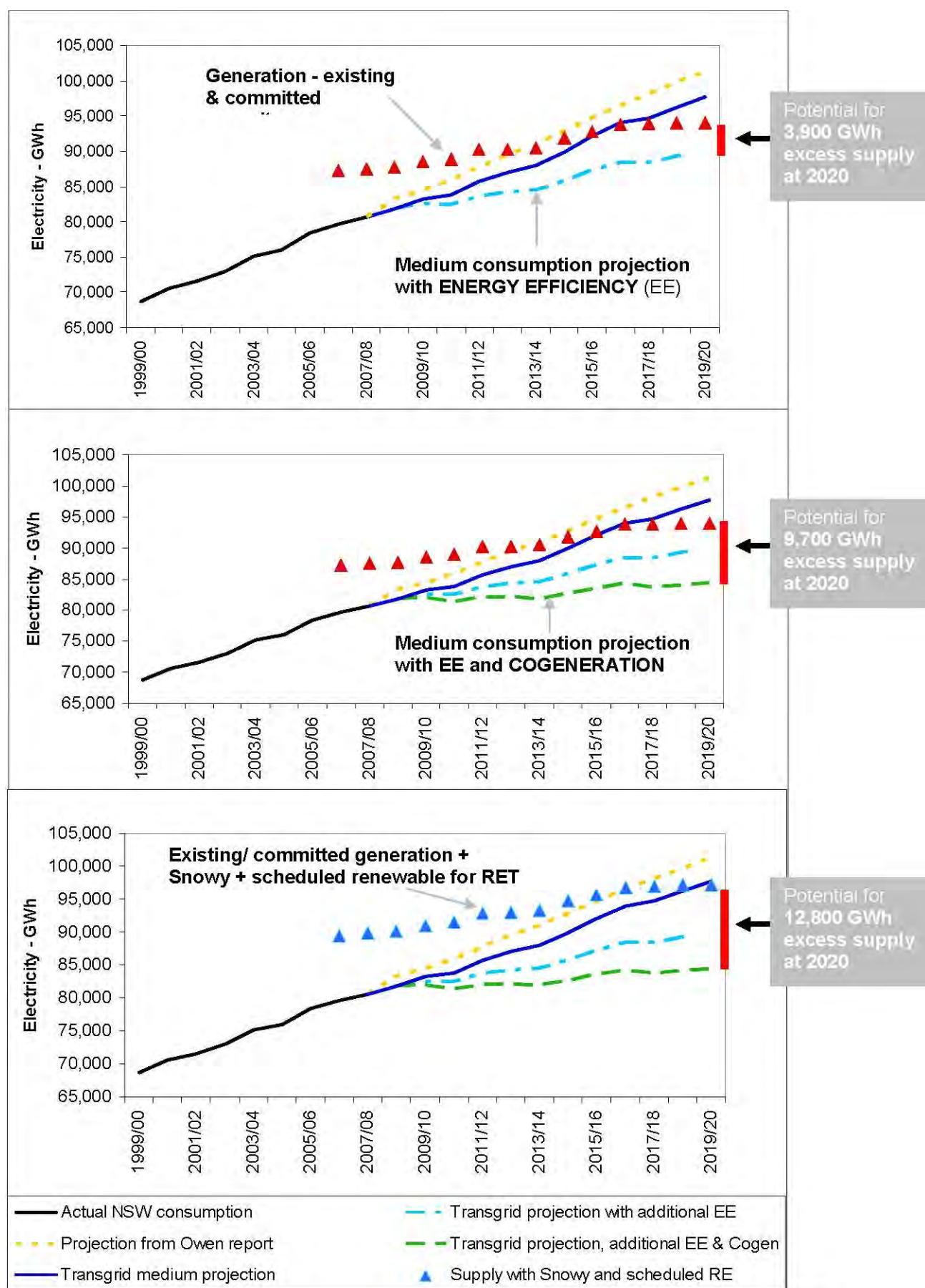
- energy efficiency measures described in *Table 3 NSW examples of energy efficiency potential* are adopted
- cogeneration as described in *Section 4.2* is put in place
- 50% of Snowy Mountains Scheme output is available to NSW and
- a proportion (12.5%) of the expected growth in scheduled national renewable energy growth occurs in NSW.

It can be seen that if the energy efficiency measures are adopted there is no energy shortfall. Instead there is the potential for an excess generation capacity of about 3,900 GWh in 2020.

If cogeneration options are also pursued, the potential supply could exceed consumption by approximately 9,700 GWh.

If the calculations include half of the renewable generation from the Snowy Mountains scheme and a proportion of the scheduled renewable electricity which is expected under the RET scheme, there is potential excess capacity energy of 12,800 GWh by 2020.

Figure 3 Potential to eliminate projected energy shortfall with Distributed Energy and renewable energy



2.3 Potential for renewable energy to eliminate the energy shortfall

The Owen Inquiry projection for NSW supply was very conservative, in that it took no account of generation from the Snowy Mountains Hydro-Electric Scheme. This section explores the effect of including some of the Snowy output, and a proportion of the increase in scheduled renewable generation which will result from the additional Renewable Energy Target (RET).

The total output from the Snowy scheme is estimated 4480 GWh (Connell Wagner 2007, p. 81). It is reasonable to assume that 50% of that will be available to NSW.

The main stimulus to additional renewable energy during the period to 2020 is the expanded national Mandatory Renewable Energy Target. This will require an additional 45,000 GWh by 2020.

The National Institute of Economic and Industry Research (NIEIR 2008) has undertaken work for the National Electricity Market to project the amount of non-scheduled generation likely within the NEM. Their projections for the breakdown of the revised target are shown in the table below.

Table 1 Source of renewable generation under new RET (NIEIR 2008)

	%	Electricity GWh
New scheduled renewable generation in the NEM	16%	7,200
non-scheduled and exempted generation in the NEM	57%	25,650
renewable generation in non-NEM networks	9%	4,050
heating Large hydro generators (generators which pre-dated RET) Other	10%	3,150
TOTAL	1%	45,000

This additional capacity from scheduled renewable energy and the Snowy scheme is *not* included in the analysis in this report, other than in this section.

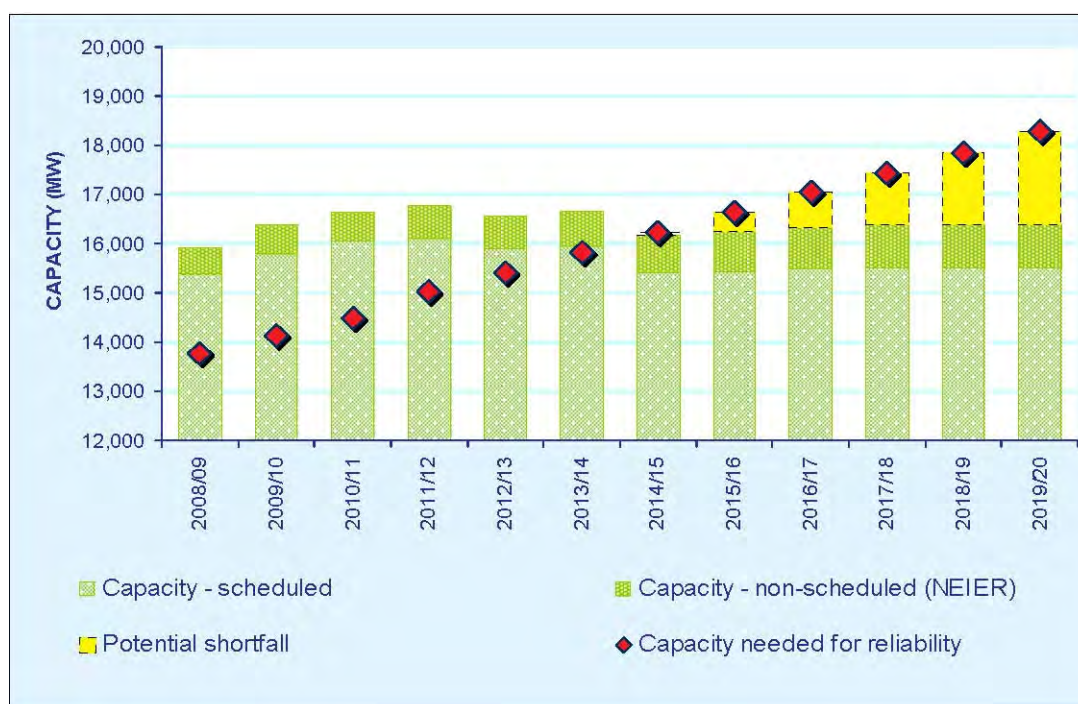
3 Demand and capacity projections for NSW

3.1 Current projection and shortfall

The National Electricity Market Management Company (NEMMCO) publish a yearly Statement of Opportunities (SOO) identifying forecasts and potential shortfalls (and therefore market opportunities) within the national electricity market. The SOO contains estimates of the maximum winter and summer demand by state for low, medium, and high growth scenarios, the required generation capacity for reliability, and any projected shortfalls. In addition, NEMMCO publishes a calculator which can be used to gain further insight into specific projections (NEMMCO 2008b). Only the medium growth scenario is considered in this report, as under the current economic conditions this is likely to be revised downwards in any case.

Figure 4 shows the current NEMMCO projection for the capacity needed for reliability⁶ at maximum demand in NSW to 2020, at the 10% POE level⁷. As may be seen, there is a potential shortfall of 390 MW in 2014/15, rising to 1,900 MW in 2019/20. The projection is conservative, assuming coincident maximum demand in all states.

Figure 4 NSW capacity needed for reliability, maximum summer demand to 2020



Note: Figure 4 shows the NEMMCO 2008 projection modified to include nonscheduled demand and capacity (based on 10% probability of exceedance-POE).

The current NEMMCO projections include only scheduled generation and demand. As non-scheduled generation will play an increasing role in Australia's electricity supply, these projections are modified to include non-scheduled demand and generation. Demand projections are also extrapolated to 2019/20, using an annual growth rate of 2.4% (NEMMCO 2008a, p. 3-43).

⁶ Capacity for reliability takes into account the maximum demand at 10% PoE and the minimum reserve levels for the region, so is slightly above the minimum reserve level.⁷ The projection for 'capacity needed for reliability' has been taken from the NEMMCO calculator, after replacing the figures for scheduled demand with the figures for native demand in Table 3.29 of the 2008 SOO (NEMMCO 2008a).

In NSW, projected maximum summer demand in 2008/9 at the 10% POE level was approximately 700 MW greater than winter peak demand at the same POE, and by 2017/18 is nearly 1,900 MW greater. This report therefore uses summer peak demand as this is expected to be the dominant driver of investment needs.

3.2 Non-scheduled generation included in projection

The non-scheduled generation used to modify the NEMMCO projection is taken from NIEIR (2008), and tabulated below. The proportion of firm capacity allowed at 10% POE is shown in each case. Only 5% of wind capacity is allowed, as prescribed in NEMMCO (2008, p. 3-60, Table 3.48). Note that only three years are shown below, but all intervening years are used in the projection, as given in the NIEIR data.

Table 2 Non-scheduled generation used to modify the NEMMCO projection

TOTAL CAPACITY (MW)		2008–09	2016–17	2019–20
Biomass		165	269	289
Wind		16	1,948	1,948
Hydro		203	217	221
Gas		222	317	328
Fuel oil		50	50	50
Coal		11	11	11
TOTAL		667	2,812	2,847
FIRM CAPACITY AT 10% POE		2008–09	2016–17	2019–20
	%			
Biomass	90%	165	269	289
Wind	5%	1	97	97
Hydro	50%	102	109	111
Gas	95%	222	317	328
Fuel oil	90%	50	50	50
Coal	90%	11	11	11
TOTAL		550	853	886
GENERATION (GWh per year)		2008-09	2016-17	2019-20
	Capacity factor			
Biomass	56%	665	1,315	1,421
Wind	30%	29	5,107	5,107
Hydro	20%	309	378	381
Gas	65%	1,318	1,817	1,875
Fuel oil	0%	0	0	0
Coal	90%	81	81	81
TOTAL		2,403	8,700	8,866

Notes to Table 2

- 1 Total capacity and generation from NIEIR (2008, pp. 28–29 Tables B1 and B2)
- 2 The availability assumptions used to derive capacity at 10% POE are shown. The 5% for wind is taken from NEMMCO (2008, p. 3-60) which may be unduly conservative.

4 Capacity options – distributed and renewable energy

Distributed Energy involves energy solutions close to where the energy is used, and has cost and environmental advantages compared to centralised generation. Transmission losses are avoided, which average about 4% of generated electricity in NSW. The increased use of Distributed Energy may make it possible to defer or avoid altogether much of the augmentation of the high voltage transmission network. Distributed generation also offers the potential to utilise heat as well as electricity from power generation, which significantly increases the overall efficiency of the system.

Distributed generation includes any electricity generators that connect to the distribution network rather than the high-voltage electricity transmission network. Distributed generation ranges from domestic-scale photovoltaic systems of one or two kilowatts to gas combined cycle cogeneration of a hundred megawatts or more at industrial sites.

Distributed generation includes:

- small-scale plants that supply electricity to buildings, industrial sites or communities. These may sell surplus electricity back into a distribution network.
- 'microgeneration', for example, small installations of solar panels, or biomass burners, or small-scale cogeneration systems that supply one building or a small community.
- large cogeneration plants, supplying a number of buildings, for example, a CBD or a large industrial complex. Electricity may be fed into the distribution system while heat is used locally.
- wind farms located close to load. Until the end of 2003 all wind farms in Australia fed into the distribution network, rather than the high voltage transmission network, but this has changed as projects have got bigger.

4.1 Energy efficiency

There is considerable scope for increased energy efficiency in NSW. The examples detailed in Table 3 total 1000 MW, with an annual energy reduction of 7,000 GWh. These include commercial lighting retrofits (from CEC 2007), residential hot water systems (from SEDA 2002), and industrial energy efficiency improvements which pay for themselves within four years (from Energetics 2004).

The NSW Government recently announced an Energy Savings Scheme which aims to achieve annual electricity consumption savings of 4% by 2014 and then maintain savings at that level until 2020. This is equal to saving 3,200 GWh per year from 2014 to 2020 (Tebbutt 2009) – approximately half of the efficiency potential identified in this report. The energy efficiency identified here equals approximately 7,000 GWh – equivalent to an 8% target by 2020; at 2014 it would save 4,000 GWh, very close to the ESS 2014 target.

There is considerable scope for further energy efficiency in NSW which has not been included in this report. For example, the Australian Emission Reductions Model (MMA and CI 2008) allows the user to nominate the time period in which their investment in energy efficiency measures would be recouped. Setting the payback period at five years for residential efficiency and two years for commercial and industrial energy efficiency, the model estimates that the potential exists for increased energy efficiency to reduce electricity consumption by more than 50,000 GWh Australia wide. Assuming that NSW's share would be 30%, this equates to potential for nearly 10,000 GWh in annual electricity savings.

Table 3 NSW examples of energy efficiency potential

Notes to Table 3	Energy generation		Capacity equivalent	Reference
	GWh	MW		
1 The energy potential (GWh) for improved efficiency in commercial lighting in NSW is taken from the NIEIR (2007). The capacity (MW) is calculated as 100% of the contribution of commercial lighting to the total load. This is likely to be an underestimate as the load is concentrated during office hours.	7038	1069	75	Derived from the NIEIR (2007) contribution of commercial lighting to the total load. This is likely to be an underestimate as the load is concentrated during office hours.
Commercial lighting Residential hot water (replace electric with gas) Residential energy efficiency Industrial energy efficiency				Derived from the NIEIR (2007) contribution of commercial lighting to the total load. This is likely to be an underestimate as the load is concentrated during office hours.
TOTAL	7038 GWh	1069 MW		

major refurbishments to achieve a lighting efficiency improvement of 7.5 W/m², approximately 35%.

- 2 In 2006, 66% of NSW houses still used electric hot water heaters (ABS 2006).
- 3 Only half the potential increase in residential energy efficiency noted in SEDA (2002) has been included, as improved residential lighting is included in the NIEIR projections.
- 4 Energetics (2004) noted the potential for 33.6 PJ of electricity savings from implementing industrial energy efficiency with a cumulative payback of less than four years. A proportion of this has been allocated to NSW according to its share of NEM consumption (32%). The capacity equivalent is 13.6% of maximum summer demand from NSW industrial customers (Transgrid 2008). Note that this is may be an underestimate, as it assumes that the industrial load is spread evenly rather than following the peak demand profile.
- 5 Table contains minor data revisions to an earlier version.

Table 4 Australia wide energy efficiency potential

(from the Australian Emission Reduction Model)

	Greenhouse gas savings million tonnes	Cumulative capital expenditure AU\$ million	Annual electricity savings GWh	Annual gas savings PJ
Residential	38.7	\$9,446	31,505	7
Industrial	25.9	\$1,652	10,873	71
Commercial	16.3	\$731	8,067	2
Overall total	81.0	\$11,829	50,445	80

Notes to Table 4

1. Residential energy efficiency includes measures with simple payback of up to 5 years.
2. Industrial and commercial efficiency include measures with simple payback of up to 2 years.

4.2 Cogeneration

The Sustainable Energy Development Authority 2002 report (SEDA 2002) into Distributed Energy solutions identified 1845 MW of cogeneration potential. Some of these projects are in advanced planning stages, so are included in the committed generation projections. Only 730 MW of cogeneration has been included in this report, comprised of 400 MW of small industrial cogeneration (SEDA 2002), and the 330 MW of cogeneration proposed in the City of Sydney's Sustainable Sydney 2030 Strategy (City of Sydney 2008). This is likely to be an underestimate of the potential for cogeneration in the state. For example, the Australian Emissions Reductions Model identifies potential for 3,400 MW Australia wide by 2020, which would mean that NSW's share would be approximately 1100 MW (Climate Institute and MMA 2008).

4.3 Demand Side Response

Demand Side Response (DSR) is the ability for electricity consumers to reduce loads at times of peak price or peak demand by temporarily switching appliances and plant off, or by switching electrical loads to standby generators.

Peak load management includes individual businesses or consumers responding to high pricing, which requires a means to communicate the price changes to the user. Increased penetration of time-of-use metering, and various communication devices to alert customers to peak pricing, are likely to induce a response. This general approach has not been included in this report as it is difficult to obtain accurate estimates of costs and benefits.

However, DSR can also be formally managed and sold as capacity in the system, so that customers are paid to reduce demand from the grid at certain times for short periods. This process is termed "aggregation" and usually involves a payment for being available and willing to reduce demand and a further payment for successfully responding when requested.

Demand aggregators are companies which act as mediators, bringing together a significant number of customers and forming contracts with the electricity retailers, networks and NEMMCO, to purchase load shedding on their behalf.

One demand aggregator, Energy Response, made a submission to the Owen Inquiry (Energy Response 2007), stating that they were able to guarantee 300 MW of DSR in NSW within a period of hours. Energy Response has sold 125 MW of firm reserve capacity to the NEM, and is currently providing 50MW of firm DSR to reduce summer peaks on the Transgrid system. Energy Response has indicated they could reliably supply well in excess of 1000 MW of DSR by 2020 (Energy Response 2009).

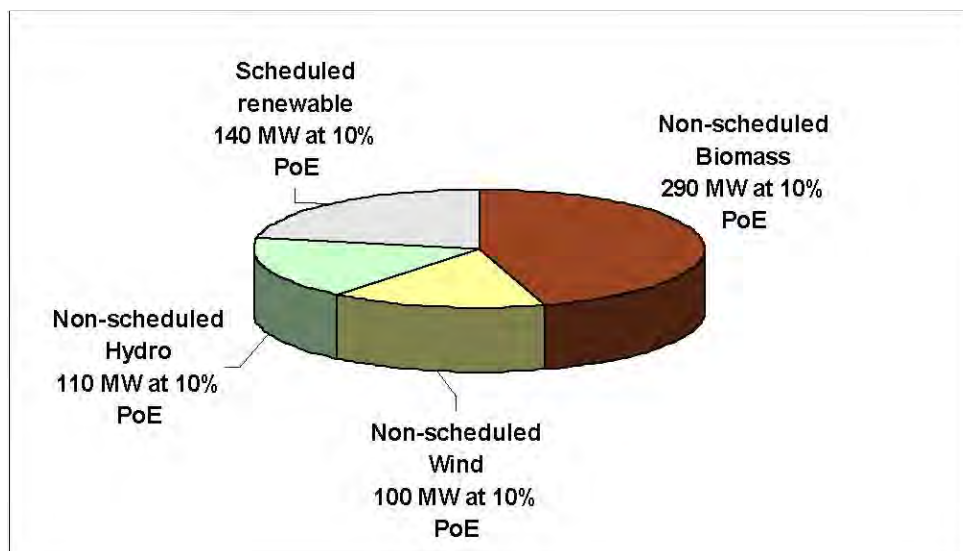
4.4 Renewable energy

The additional non-scheduled renewable energy located in NSW, and the assumptions for capacity at 10% POE, are detailed in *Table 2 Non-scheduled generation used to modify the NEMMCO projection* and *Table 1 Source of renewable generation under new RET (NIEIR 2008)*. These are included in the 'existing and planned' capacity, so are treated as business as usual.

There will also be growth in scheduled renewable generation, a proportion of which will be located in NSW (see *Table 1 Source of renewable generation under new RET (NIEIR 2008)*). If it is assumed that all of this additional supply comes from wind power, then this growth in renewable energy will contribute a further 15MW firm capacity at 10% POE. The intermittent nature of wind generation means this is the most conservative assessment, as only 5% of nameplate capacity is included. Other types of renewable generation (for example biomass or geothermal) are likely to make a higher contribution at peak times.

Total capacities of scheduled and non-scheduled generation, and capacities at 10% POE, are shown in Figure 5. Only the non-scheduled contribution has been included in the analysis in this report.

Figure 5 Contribution of renewable energy by technology at 10% POE



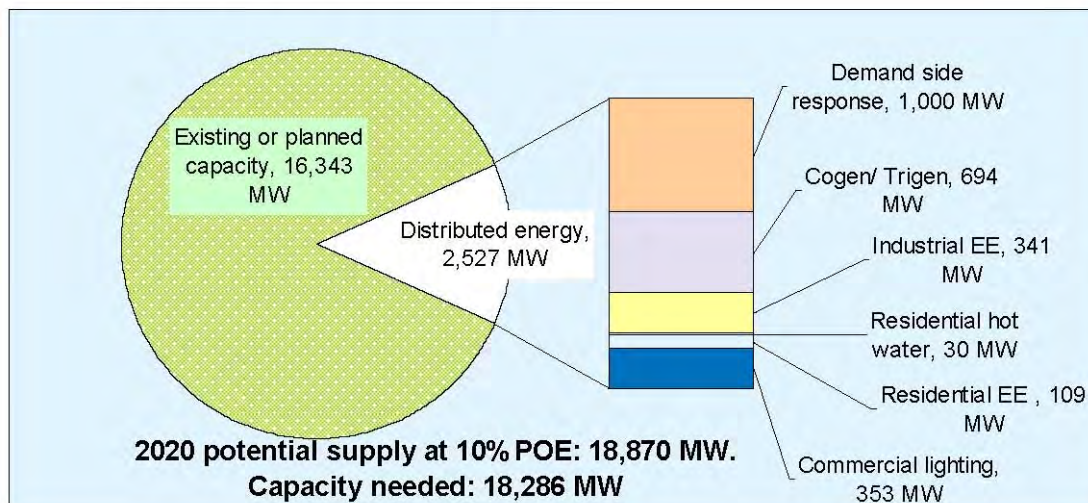
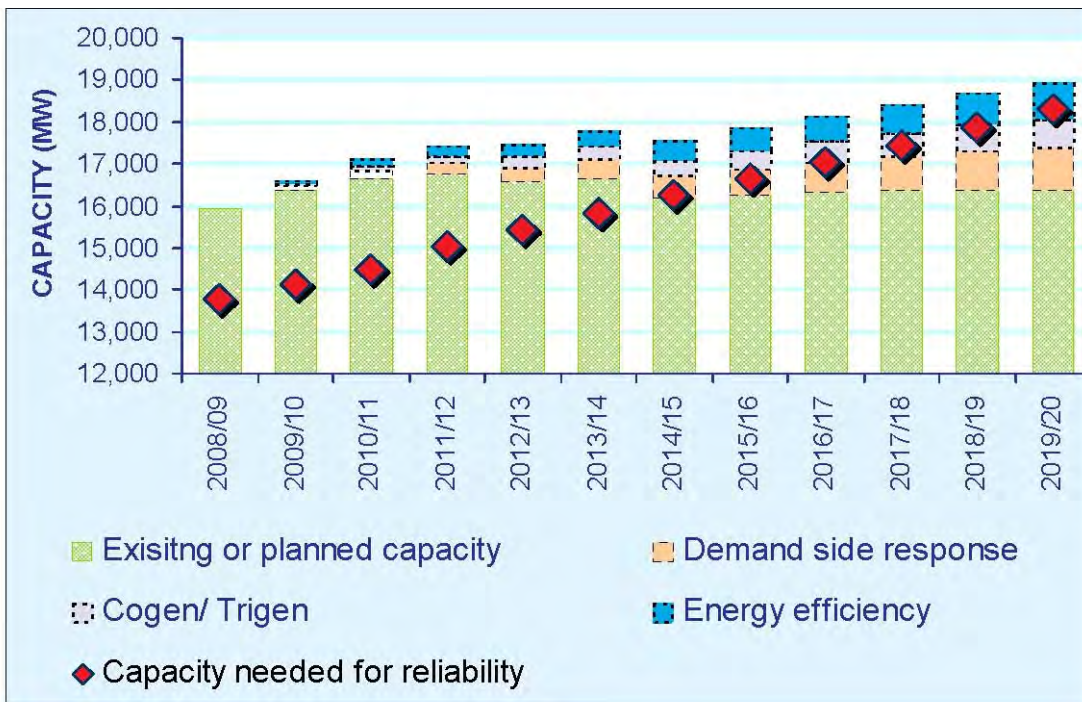
4.5 Can Distributed Energy meet the demand shortfall?

According to the official NEMMCO projections, the generation capacity needed to reliably supply the NSW maximum summer demand in 2020 is 18,286 MW (NEMMCO 2008b, projected to 2020). Existing and currently committed generation is projected to provide 16,343 MW in 2020 (including both scheduled and non-scheduled generation). This gives a projected potential shortfall of nearly 2000 MW.

The Distributed Energy options identified in this report, primarily cogeneration, energy efficiency, and demand side response could supply nearly 3,400 MW by 2020, well in excess of the required capacity increase.

Figure 6 shows the projected capacity requirements, and the potential supply including Distributed Energy. The pie chart shows details of the Distributed Energy options at 2020. The options identified, which have been estimated conservatively, can provide a wide buffer to the required capacity.

Figure 6 NSW actual and required capacity to 2020, with Distributed Energy
(maximum summer demand at 10% POE)



5 Capacity options – centralised generation

5.1 Gas turbines (excluding cogeneration)

Gas turbines come in two main configurations, open cycle (OCGT) and combined cycle (CCGT). Both have shorter development lead times than coal fired generation, and are less capital intensive to build, although natural gas is a more expensive fuel than coal.

Combined cycle turbines use waste heat from the turbine to produce steam to drive a second generator. This gives a considerable efficiency increase, with the result that CCGTs have emissions of approximately 0.35 tonnes CO₂ per MWh, compared to current coal generation of about 0.9 tonnes CO₂ per MWh.

The NEMMCO projections for NSW energy supply assume any shortfall will be met by a mixture of open cycle (OCGT) and combined cycle gas turbines. The projection includes 400 MW of CCGT coming online in 2014/15, 400 CCGT coming online in 2117/18, and 150 MW⁸ of OCGT coming online in 2016/17 (NEMMCO 2008b, NSW summer generation worksheet).

5.2 Coal

The main options for coal fired generation with improved greenhouse performance relative to current generation are ultra-supercritical pulverised coal and integrated coal gasification combined cycle, with the second of these options potentially operating in combination with carbon capture and storage (CCS). However, CCS is unlikely to be available before 2020 (Connell Wagner 2007, p. 82), so has not been considered here.

Ultra supercritical refers to the temperature and pressure of the steam, as above a critical temperature and pressure, liquid and gaseous water can co-exist in equilibrium. There is an efficiency gain of about 6–8% compared to sub-critical generation, resulting in an emissions reduction of up to 20%. It is assumed that dry cooling would be used in any new developments, giving an average emission intensity of 0.84 tonnes CO₂/ MWh (Connell Wagner 2007, p. 13).

Integrated gasification combined cycle coal fired power offers a further efficiency gain and emissions reduction, but has somewhat higher costs and additional project risks. If CCS becomes available it could be retrofitted to IGCC power stations. The average emissions of IGCC coal generation without CCS are 0.81 tonnes CO₂/MWh (Connell Wagner 2007, p. 21).

⁸

The NEMMCO calculator nominates blocks of 380 MW, which are equivalent to 400 MW nameplate after allowing for a 90% availability.

6 Cost comparison of capacity options

The costs of various options for meeting the potential capacity shortfall are shown in Table 5, along with the greenhouse emissions per MWh for each option. The total cost per MWh given is an estimate of the amortised capital costs over the life of the equipment, plus variable costs (fuel and maintenance), fixed costs based on an estimate of annual generation, and the associated network costs.

Table 5 Cost comparison of capacity options

	Capital cost \$m/MW years Variable cost \$/MWh Associated network cost \$m/MW/yr Total amortised cost \$/MWh	Greenhouse emissions t CO2e/MWh	NOTE
Energy efficiency			
Industrial	\$1.7 10 nil nil \$32	0.0	1
Commercial lighting	\$1.6 10 nil nil \$18	0.0	3
Residential – general	\$1.0 10 nil nil \$46	0.0	2
Residential – replace electric water heating with gas	\$0.6 10 \$1 nil \$35	0.2	2
Demand Side Response	\$0.1 10 \$1,000 nil \$1,093	n/a	4
Gas cogeneration	\$1.5 20 \$33 \$0.10 \$68	0.4	2
Renewable energy			
Wind generation	\$2.2 25 \$5 \$0.10 \$117	0.0	5
Hydro	\$2.1 25 \$3 \$0.10 \$80	0.0	5
Bioenergy	\$2.9 25 \$60 \$0.10 \$123	0.0	5
Fossil fuel generation			
Ultra super critical coal	\$1.7 35 \$24 \$0.30 \$85	0.84	6
IGCC coal	\$2.1 35 \$25 \$0.30 \$92	0.80	6
Gas combined cycle	\$1.2 30 \$38 \$0.20 \$77	0.4	7
Gas open cycle	\$0.9 30 \$40 \$0.20 \$114	0.7	8

Notes to Table 5

- 1 Industrial energy efficiency: the capital cost Australia wide of achieving 9,340 GWh reduction in electricity consumption is \$1817 million (Energetics 2004, p. 66). This achieves a 13.6% reduction in electricity use compared to business as usual. The overall cost to NSW has been calculated according to the proportion of NEM consumption occurring in the state. The NSW cost is then divided by the assumed capacity reduction, calculated as 13.6% of maximum industrial demand at 10% PoE
- 2 Costs from SEDA (2002)
- 3 Costs derived from the average cost of lighting measures in EMET (2004), Appendix 2.
- 4 Energy Response (2009)
- 5 Wind generation, hydro and bioenergy: costs from MMA and Climate Institute (2008). Capital cost uses an annual deflator applied for 5 years, to give an average for the period. Costs for bioenergy exclude wet waste, which are lower. Lifetime is from MMA (2007).
- 6 Coal (ultra supercritical, dry cooled) and coal IGCC: costs are the average of the range given in Connell Wagner (2007). Capital lifetime is from MMA (2007).
- 7 Combined cycle gas turbine (CCGT): costs from MMA (2007). Lead time, capacity factor, and emissions factor taken from SEDA (2002).

Only the network costs associated with peak growth are included, as maintenance, and some growth costs will be incurred regardless of the generation type. These costs are discussed in *Section 7.1 Calculating cost and greenhouse emissions – method*.

The amortised capital cost of existing generation and existing networks is not included as it is assumed this would be the same for all options.

A cost of \$20 per MWh is used for the variable cost of existing generation, which becomes a saving when existing generation is displaced. This only occurs when energy efficiency displacement is greater than projected growth, as the model is constructed to assume that existing generation takes precedence over new generation.

7 Meeting the shortfall – scenarios

Five alternative scenarios to address the projected shortfall in peak capacity to 2020 have been modelled. There is a coal scenario, which broadly corresponds to the Owen Inquiry suggested planning⁹, a gas scenario which corresponds to the one shown in the NEMMCO 2008 statement of opportunities, and three Distributed Energy scenarios, the last of which includes reducing coal generation capacity by 1000 MW.

None of the three Distributed Energy scenarios are ambitious in scope, as they use conservative estimates of the potential capacity for energy efficiency and distributed generation.

The scenarios are:

Scenario A. Coal: an additional 1000 MW coal fired power station comes online in 2017/18, followed by two 500 MW open cycle gas turbines in 2018/19, and 2019/20. This scenario follows the findings of the Owen Inquiry.

Scenario B. Gas: a combination of open cycle (OCGT) and combined cycle gas turbines is used to meet capacity shortfalls as assumed in the 2008 NEMMCO projections.

Scenario C. Cogeneration and DSR: the shortfall in capacity is met by a combination of cogeneration and demand side response. A small amount of industrial energy efficiency is included as the modest amounts of cogeneration and DSR which have been included were not quite sufficient to meet the entire capacity shortfall.

Scenario D. Energy Efficiency and DSR: the shortfall in capacity is met by a combination of energy efficiency and demand side response.

Scenario E. Combined Distributed Energy: the shortfall in capacity is met by a combination of energy efficiency, cogeneration, and demand side response, and 1000 MW coal fired generation capacity is retired in 2014/15.

All five are shown graphically in Figure 7.

7.1 Calculating cost and greenhouse emissions – method

The cost calculations include: amortised capital costs, variable costs for electricity generation, network augmentation costs, and the variable costs from existing or planned generation capacity. The derivation of each is outlined below. No element of capital cost for existing or committed generation capacity is included. It is also important to note that this analysis does not take into account any carbon cost. If the value of avoided greenhouse gas emissions were to be included, then the Distributed Energy scenarios would become even more attractive

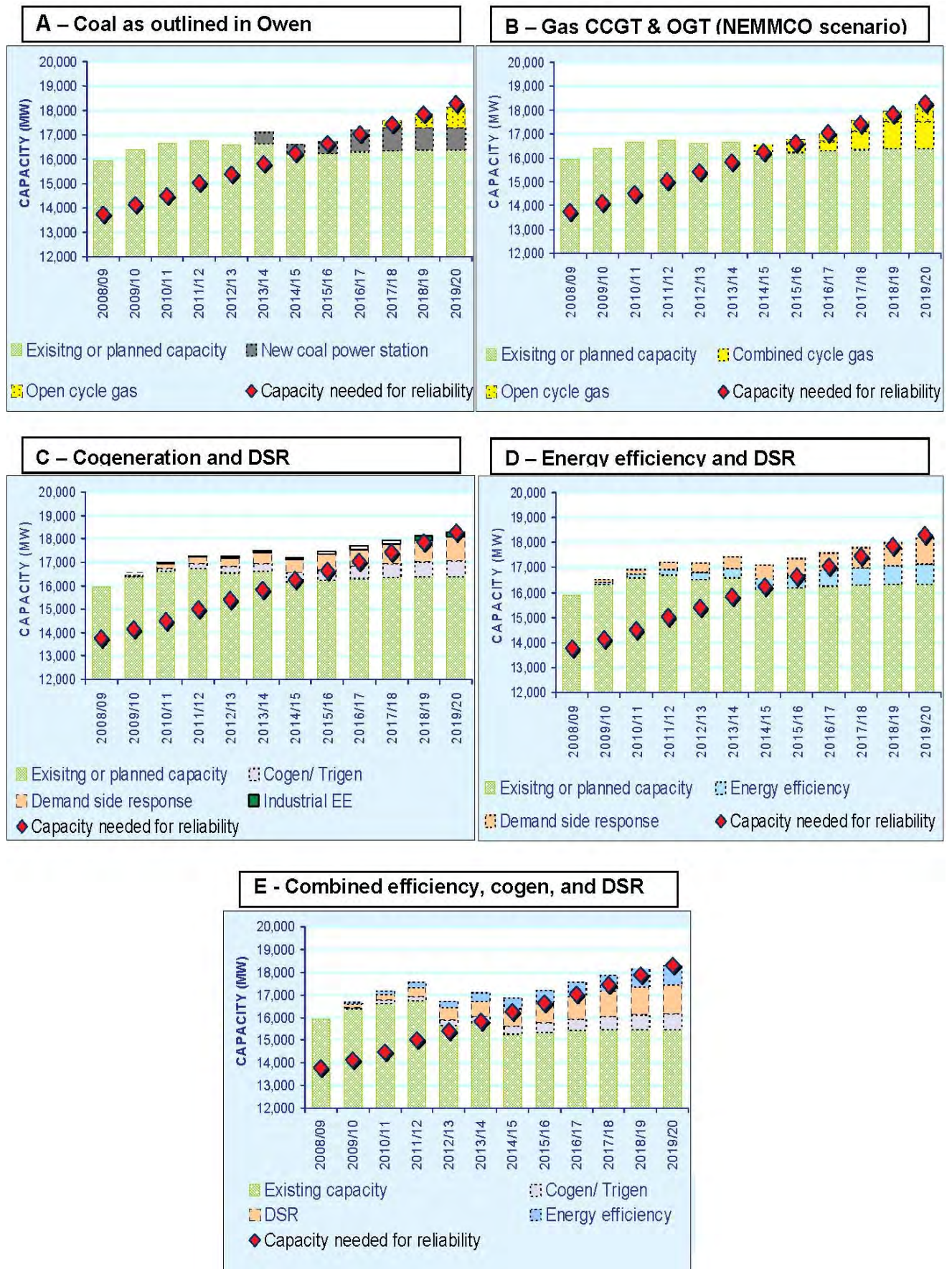
Amortised capital cost

The amortised cost of capital is calculated in this analysis using an internal rate of return of 10% and the lifetime of the equipment. Lifetime has been taken as 10 years for energy efficiency equipment, and between 20 and 35 years for generation plant.

⁹

The Owen Inquiry suggested an earlier date to come online, and a greater energy shortfall.

Figure 7 Scenarios included in the analysis



Network augmentation costs

Network augmentation costs are a crucial element in any robust analysis of electricity supply costs. Whenever power stations are built there is some level of associated network investment in order to deliver power to customers. If centralised generation capacity can be avoided through investment in Distributed Energy, then this will also avoid some level of transmission and distributions network capital expenditure.

At present, the cost of planned network investment is very high, with about \$17 billion in network capital expenditure planned for the period 2009 to 2014.

Estimating network capital expenditure that is specifically related to growth is difficult both because of its local nature and because of a lack of relevant available data. However, the following table provides a reasonable estimate using the data which is currently available. About \$7 billion, or 40%, of the planned network expenditure is estimated to be growth related.

Table 6 Growth-related network capital expenditure 2009–2014 (\$million)

Network business	Growth related capital expenditure (\$m) 2009–2014 Per annum	Peak demand growth (MW) 2009–2014 Per annum	Growth CapEx per MW (\$m/MW)	Notes
Country Energy	\$1,417 \$283 \$3,181 \$636	323 81 689 172 643 161	\$3.49 \$3.70	1 2 3
Energy Australia	\$1,346 \$269 \$5,944	1655 414 1740 435	\$1.67 \$2.87	4
Integral Energy	\$1,188 \$1,951 \$390		\$0.90	
Distribution				
Total Transgrid (transmission)				
Total	\$7,589 \$ 1,518		\$3.77	5

Notes to Table 6

1. AER, New South Wales Draft distribution determination 2009–10 to 2013–14. p.135, p.85
2. AER, New South Wales Draft distribution determination 2009–10 to 2013–14, p. 136, p.88.
3. AER, New South Wales Draft distribution determination 2009–10 to 2013–14. p.137, p. 91
4. AER, Transgrid Draft Transmission determination 2009–10 to 2013–14, p. 16, p.34 (10% POE)
5. Peak Demand cannot be totalled as Transgrid's peak load includes that of the distributors

Based on an average growth-related network cost of \$3.77 million per MW and a weighted average cost of capital of 8.78% per annum (AER 2009, p. 237), the annualised capital cost is \$0.33m per MW per year. Based on a uniform depreciation of 2.5% per annum over 40 years, this cost of depreciation is \$0.093m per MW per annum. This amounts to a total annualised cost of growth-related network investment of \$0.42 million per MW per annum. However, recognising that network costs are very location dependent, our analysis has adopted a lower, more conservative value of \$0.3 million per MW per year for the default network augmentation cost to meet growth in peak demand.

Centralised supply and Distributed Energy options have each been allocated a default network augmentation cost, which is used for the portion of demand growth met by that option. The network augmentation costs used are given in Table 7 below. For example, energy efficiency and demand side response have augmentation costs of zero, as meeting the growth in peak demand with these options does not require increased network capacity.

For each scenario, the proportion of demand growth that is not met by Distributed Energy options included is instead met by existing or new centralised supply capacity. For this proportion, a default maximum augmentation cost of \$0.3 million per MW per year is applied for new centralised supply capacity.

Table 7 Network augmentation costs for demand growth, by technology

The above default values are estimates that have been adopted due to the absence of more rigorous data. Further analysis of actual avoidable networks costs is highly desirable, but beyond the scope of this report.

Technology	Network augmentation cost (\$ per MW per year)	Notes
Estimated growth related network costs	\$ 0.42 million	See Table 6
Default cost for centralised supply Coal generation	\$ 0.3 million \$ 0.3 million	Discounted from estimated growth related network costs, to ensure assumptions are conservative. Coal fired power is the default option for centralised supply
Combined cycle gas turbines Open cycle gas turbines	\$ 0.2 million \$ 0.2 million	Combined cycle and open cycle gas turbines are attributed a lower network capital cost as they are generally located closer to the point of customer demand.
Cogeneration	\$ 0.1 million	Cogeneration is attributed a lower network capital cost than gas turbines as it generates electricity at the point of end use.
Energy efficiency Demand side response	\$ 0 \$ 0	Energy efficiency and demand side response are attributed a zero network capital cost as by definition they eliminate the need for supply for that amount of end use. (N.B. the cost of facilitating these options is not zero and has been considered in the analysis as indicated in Table 5.)

Variable cost for existing or planned generation

Generation from existing or planned generation has been costed at \$20 per MWh, so no account has been taken of dispatch order. Where energy efficiency beyond the forecast growth in consumption is installed, this decreases the amount of electricity generation required, resulting of savings at the rate of \$20 per MWh. This may underestimate the savings from energy efficiency, as the highest-cost electricity will generally be the first to be removed from the market.

Variable cost for new supply

Where projected electricity consumption exceeds the generation from current and planned consumption, which first occurs in 2017/18 (see *Figure 2 NSW electricity to 2020 – Transgrid 2008 projection*), the variable cost of electricity from the new supply is included. Generation is allocated between new supply options in proportion to their capacity factors.

Where maximum summer demand at 10% POE exceeds current generation capacity but total consumption does not exceed total supply, generation equivalent to 1% of the time (88 hours per year) is allocated between the new supply options, and this variable cost

included.

Greenhouse emissions

Greenhouse emissions are calculated using the pool factor of 0.9 tonnes per MWh for existing or planned generation, and using the technology-specific emission factors for new generation given in *Table 5 Cost comparison of capacity options*.

7.2 Cost and greenhouse comparison – results

The cumulative cost of each scenario from now to 2020 is shown in Figure 8.

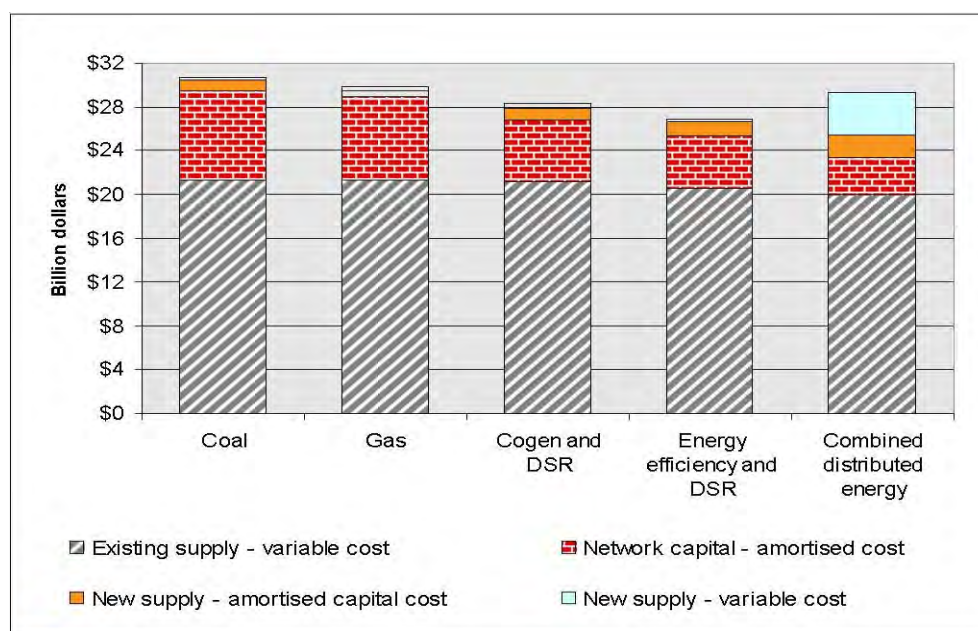
The most expensive scenario is the coal scenario, building a new coal fired power station, which is closest to the recommendations of the Owen Inquiry. The coal scenario comes in at \$30.7 billion. This is followed by the NEMMCO scenario (closed and open cycle gas) at \$29.8 billion. The three Distributed Energy scenarios are all cheaper, ranging from \$26.8 billion to \$28.3 billion.

Costs in this analysis are dominated by the variable costs of existing generation. While the recovery of past fixed capital costs in electricity networks are greater, they have not been included in this analysis as they are a “sunk” cost that cannot be altered.

After the costs of existing generation, the next largest item is the cost for new network augmentation to cater for the projected rise in peak summer demand. Note that this only includes the proportion of network costs related to peak demand growth, and does not include new capital expenditure for asset replacement, reliability improvement, or maintenance.

The amortised capital cost for the new supply and efficiency options is lowest in the NEMMCO scenario, closed and open cycle gas generation. The higher capital cost for energy efficiency is partly accounted for because a shorter capital life is assigned, 10 years compared to 20 for cogeneration, 30 years for large-scale closed cycle gas, and 35 years for coal fired power. This is a conservative approach, as the capital life for many energy efficiency measures will in fact be longer.

Figure 8 Cumulative costs to 2020, NSW energy supply

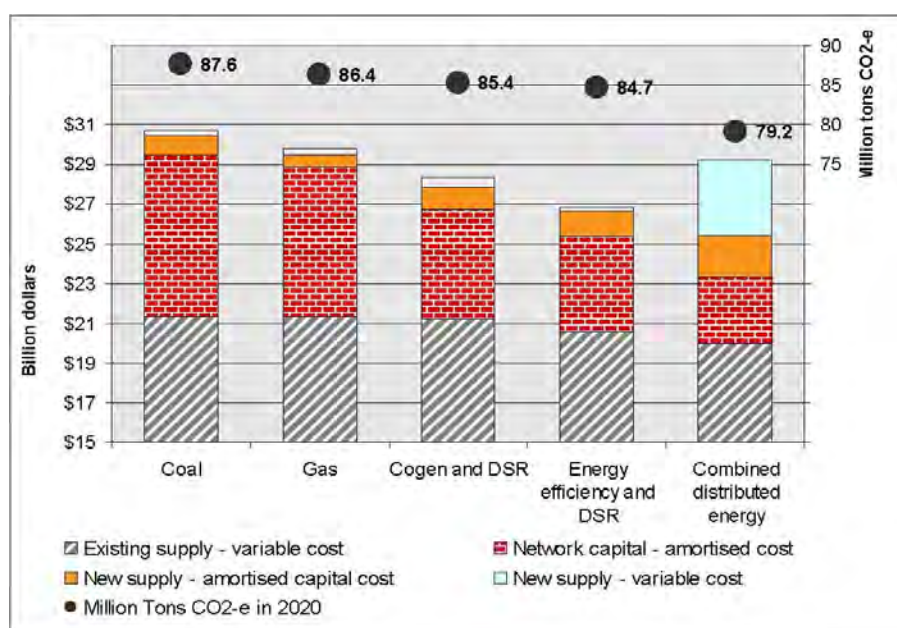


Greenhouse emissions and costs are shown in Figure 8 and Figure 9. Using all the Distributed Energy options identified in this case study in combination with retiring 1000 MW of coal fired generation has the lowest greenhouse emissions, with an annual saving by 2020 of 7.2 million tonnes of carbon dioxide compared to the gas CCGT scenario, and 8.4 million tonnes of carbon dioxide compared to installing a new coal fired power station.

While this option is more expensive than the efficiency and demand side response without cogeneration, it still saves \$0.5 billion compared to the NEMMCO scenario, which may be considered business as usual. It also reduces greenhouse emissions by 8% compared to the NEMMCO scenario.

The scenario involving efficiency, DSR, cogeneration and closing a coal fired power station saves \$1.5 billion compared to building an additional coal fired power station.

Figure 9 Cumulative costs to 2020 and 2020 greenhouse emissions



7.3 Demand growth – results

The power station capacities needed for reliability under the coal and the NEMMCO scenarios remain unchanged, as they are assumed to be the same as the projections from the NEMMCO 2008 SOO (this has been modified to include both scheduled and non-scheduled generation, as described in *Section 3.1 Current projection and shortfall*).

However, in the Distributed Energy scenarios (including energy efficiency and DSR), peak demand is reduced, so the capacity needed for reliability is also reduced. Figure 10 shows the capacity needed for reliability in each scenario, and Figure 11 shows the annual growth in that capacity.

The average growth rate¹⁰ over the ten-year period varies from 2.6% in the NEMMCO projection to 1.5% per year in the scenario with energy efficiency, cogeneration and demand side response. The average growth rate for the ten years is shown in Table 8.

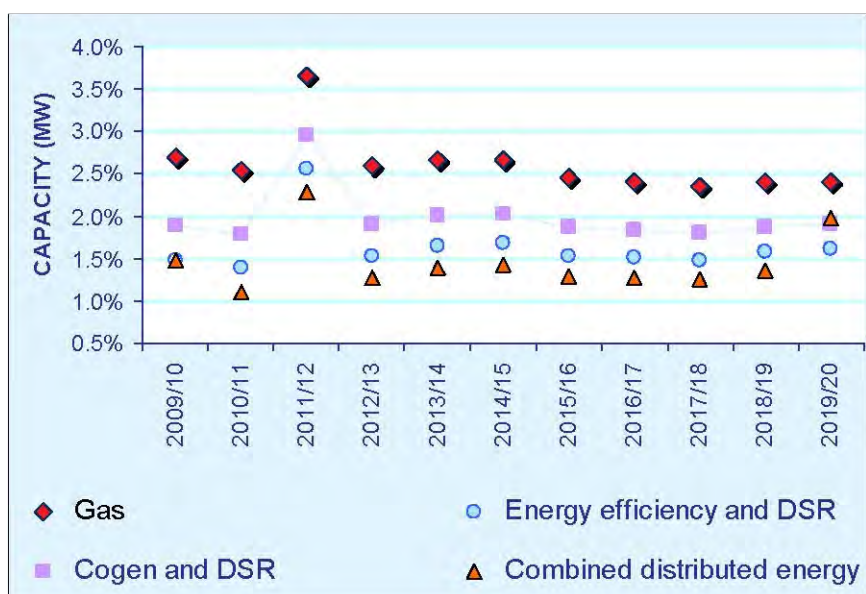
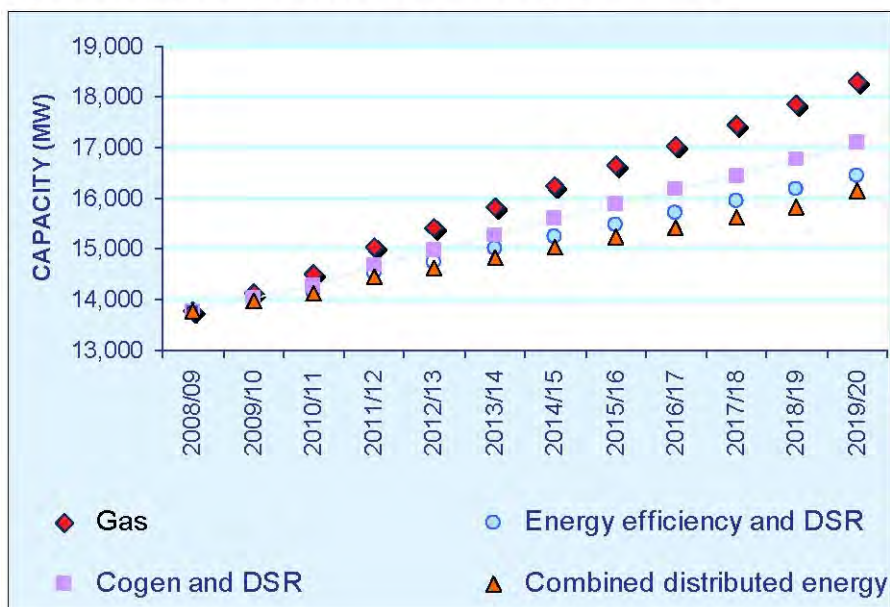
¹⁰

Strictly speaking this is the growth in the capacity needed for reliability, rather than the growth in demand.

Table 8 Average growth rate in NSW capacity for reliability, 2011/12–2019/20

	NEMMCO	Coal	Cogen, DSR and EE	EE & DSR	Cogen and DSR
Average growth rate	2.8%	2.8%	2.0%	1.7%	1.5%

Figure 10 Capacity needed for reliability by scenario



8 Policy initiatives to support Distributed Energy

The preceding analysis indicates that each of the three Distributed Energy scenarios delivers both significantly lower cost for consumers and significantly lower greenhouse gas emissions than the centralised “business as usual” gas scenario or the coal scenario.

This raises two questions:

- 1 What currently obstructs the NSW electricity market from delivering the lower cost outcomes associated with greater use of Distributed Energy?
- 2 What can the NSW Government do to facilitate more Distributed Energy and thereby deliver a lower cost, lower emission outcome?

This section considers these two issues.

8.1 Market barriers to Distributed Energy

It is often observed that energy consumers do not desire electricity for its own sake, but for the “energy services” that it provides: heating, cooling, cooking, lighting, etc. The market for these energy services is complex. It involves a wholesale (generation) market, a retail electricity market, and regulated monopoly (transmission and distribution) network service providers. There are also related markets for buildings, equipment and services that influence how much electricity is required. It is therefore not surprising that in such a complex market, inefficiencies and barriers are common.

The generation and retail components are the most efficient elements of this “energy services” market, and most closely approximate a perfectly competitive market with a large number of suppliers competing to supply a uniform “homogenous” good¹¹. In practice, both the generation and retail markets are relatively concentrated and dominated by a small number of large firms with significant market power. While this market concentration is likely to lead to higher costs to consumers, it should not directly create additional barriers to Distributed Energy. On the other hand, policy responses to such market power can obstruct Distributed Energy as considered below in the discussion of regulatory failure.

By contrast, the “market” for network services (which are by their nature a monopoly) and for buildings and equipment do not remotely approximate perfectly competitive markets. It is particularly in these two areas that major market barriers exist.

The key types of market failures and barriers are described below:

- 1 **Cultural barriers.** In a perfect market, the behaviour of each consumer and each firm is independent. Each consumer is interested solely in satisfying their own individual preferences and each firm is solely interested in maximising its profit. In practice however, behaviour is partially dependent on traditions, habits and cultural norms, and the accepted practices of peers. This creates lags in the uptake of new Distributed Energy opportunities by consumers, and by network businesses that have traditionally focussed on providing network infrastructure rather than on investing in customer energy savings.
- 2 **Imperfect information.** In a perfect market, all relevant information is immediately and freely available to all consumers and producers. However, this is clearly not true in relation to energy use for buildings, equipment and related services.

¹¹ Or in economic terminology, “loss of consumer surplus”.

Understanding energy use is complex, and consumers often make inefficient purchase decisions based on limited information.

3. **Split incentives.** The classic example for such inefficiencies is the so-called “landlord/tenant problem” where the landlord does not invest in energy saving measures because the tenant pays the electricity bill, and neither does the tenant invest in saving energy because they are uncertain that they will remain a tenant long enough to recover the investment. A similar phenomenon occurs at the macro level, where the generator, the network business, the electricity retailer and the consumer are all reluctant to invest in cost effective Distributed Energy technologies because no single party can capture all of the benefits.

4. **Payback gap.** In a perfect market, all parties have similar access to finance and their required rates of return and payback periods are simply dependent on individual preferences. In practice, specific institutions are often created to facilitate lower costs of capital, longer payback periods, and spreading of risk. The establishment of public power utilities for centralised electricity supply are common examples of this practice. However, the same finance structure is not usually available for Distributed Energy. On the one hand, consumers pay off centralised power stations and networks costs over 40 years (via their electricity bills), and are offered no choice in the matter. On the other hand, consumers must generally pay for Distributed Energy technologies directly, and may be unwilling or unable to pay – even when the payback period is, say, five rather than forty years.

5. **Prices do not reflect costs.** In a perfect market, all relevant costs are reflected in prices. In practice, this is often not true in the case of electricity supply. The most obvious example of this is the failure to include environmental “externalities” such as the cost of climate change due to greenhouse gas emissions. The NSW Government has partly addressed this barrier through the Greenhouse Gas Abatement Scheme and the Federal Government proposes to redress this nationally through the Carbon Pollution Reduction Scheme. However, external costs are not the only price related barrier to Distributed Energy. The price structure for electricity supply also distorts the functioning of the market. The cost of providing electricity at periods of maximum demand is very much higher than at times of low demand, as infrastructure costs are driven by peak demand. These cost differences are seldom reflected in prices. This means that Distributed Energy options that could address peak demand (such as load management and demand side response) are underutilised in favour of more costly centralised infrastructure provision.

6. **Regulatory Failure.** In perfect markets there is no need for regulation. However, in practice, all markets require some level of regulation to function efficiently. In natural monopoly markets, such as electricity networks, strong regulation is required to limit the abuse of market power. However, in many cases, the exercise of this regulation is biased in favour of centralised supply and against Distributed Energy. For example, in most states of Australia, including NSW, the regulation of networks via maximum price caps means that network businesses generally make more profit if customers consume more power and lose profit if customers save energy. Such regulatory approaches can create a powerful disincentive to Distributed Energy.

7. **Interaction between barriers.** In many cases, the above market failures can interact and reinforce each other such that the net result is greater than the sum of the parts.

8.2 Government policy measures to facilitate Distributed Energy

The major economic and environmental benefits of greater use of Distributed Energy, as described above, should motivate Government to address these significant market barriers. The recently adopted NSW Energy Savings Scheme is just such a policy initiative and can be expected to deliver a significant share of these benefits, as described in Section 4.1.

The following discussion considers additional policy instruments that might be applied to address the barriers to Distributed Energy.

1. Targets

Targets are often adopted by businesses, governments and individuals as a means of giving a higher priority to desired outcomes. Where the prevailing culture, habits or tradition are not delivering appropriate outcomes, targets can be an effective means of changing behaviour. For example, electricity distribution network businesses in NSW are subject to targets for reliability, price and profitability. This is a mechanism for the Government as both regulator and shareholder to drive the organisations to focus effort on these priority areas.

Targets also imply both measuring and reporting performance at regular intervals. Targets can be “hard” such as those in the NSW Greenhouse Gas Abatement Scheme, which sets legally binding annual emissions limits, or “soft” such as the NSW Government’s aspirational greenhouse target of reducing greenhouse gas emissions to 2000 levels by 2025 and reducing them by a further 60% by 2050, or somewhere in between.

In order to stimulate Distributed Energy as suggested in the above scenarios, the NSW Government should complement the energy efficiency targets in the Energy Savings Scheme by setting firm targets for Distributed Energy development both in terms of energy (GWh per annum) and peak demand (MW). These targets should be adopted as soon as possible but need not be legislated. However, it is essential that annual targets are set and performance towards these targets is publicly reported at least annually.

The evidence in this report suggests that the NSW Government could have confidence in setting and reaching a target to meet all growth in projected energy consumption and projected peak demand through a combination of Distributed Energy and centralised renewable energy as mandated through the Federal Government’s Renewable Energy Target.

In order to ensure that this becomes a reality, a suitable agency within the Government, with appropriate skills, resources, commitment, and authority should be assigned responsibility for formulating and managing a coherent Distributed Energy Strategy.

Recommendation 1:

The NSW Government should adopt a target of meeting all forecast growth in energy consumption and peak demand between 2010 and 2020 from “green” energy sources; that is, renewable energy and Distributed Energy (including energy efficiency, demand side response, and cogeneration).

Recommendation 2:

The NSW Government should nominate a suitable agency within Government with appropriate resources and authority to coordinate its Distributed Energy Strategy to implement these recommendations.

2. Information and facilitation

Policy options to overcome information barriers relating to Distributed Energy include:

- benchmarking of energy performance, to advise energy users of what constitutes efficient levels of energy consumption in different contexts
- energy performance labeling on appliances and equipment
- performance reporting (without targets)
- community education and awareness campaigns
- energy management systems
- case studies.

Most of these are currently applied to varying degrees in NSW and each could be expanded. However, arguably the biggest information barrier in relation to Distributed Energy is not at the consumer level but at the policy level. Reliable information about the current practice and future potential of Distributed Energy is not available.

Reflecting this inadequacy of information, this report has been forced to rely on partial, inconsistent and outdated information in assessing the potential for expanding Distributed Energy in NSW. Given the likely potential for Distributed Energy to deliver major economic and environmental benefits, this deficiency should be urgently addressed.

Facilitation is intended to make it easier for consumers, businesses and service providers to access and deliver Distributed Energy options. This goes beyond information provision, but stops short of offering specific incentives, and is generally intended to support parties already seeking to adopt Distributed Energy options. This is the first tier of a Distributed Energy strategy. Facilitation is often aimed at reducing transaction costs, managing risk and building confidence. Possible facilitation measures include:

- high level management commitment to reducing administrative and cultural barriers (e.g. through the NSW Government's Sustainability Advantage Program)
- audits, advice and technical assistance
- accreditation of service providers, to provide potential clients with greater confidence (e.g. through the Clean Energy Council's accreditation of PV installers)
- training and skills development (e.g. through the NABERS assessor training program)
- networking of customers and product and service providers (e.g. through seminars, conferences, websites)
- government endorsement of products, to inspire greater consumer confidence
- community engagement (e.g. through the Sustainability Street program).
- standardised agreements for provision of Distributed Energy services, in order to reduce legal and negotiation costs.

Numerous facilitation initiatives are already provided by government and other organisations, but there is no overall coordination or evaluation of their effectiveness. This leads to confusion, overlap, gaps and inefficiency.

Recommendation 3:

The NSW Government should undertake and publish a comprehensive annual NSW Distributed Energy Review. This Review should include:

- ***a detailed resource assessment of Distributed Energy potential in NSW***
- ***a detailed assessment of current Distributed Energy practice in NSW***
- ***an overview of international best practice in programs and policy, and***
- ***an evaluation of potential policy measures for the adoption of Distributed Energy.***

3. Incentives

Incentive measures are intended to stimulate behaviour change. They are economically beneficial wherever the total benefits of the resulting behaviour change exceed the total cost of providing the incentive. Examples of incentives include:

- cash rebates (such as the Climate Change Fund Residential Rebate program)
- competitive subsidy bidding programs (such as the Climate Change Fund Green Business Program)
- financial support for research and development
- loans and financial guarantees
- expedited planning processes
- public recognition and awards (such as the NSW Government Green Globe awards)
- prizes
- community rewards, where a whole community is rewarded, for example provision of a new local playground as a result of a collective effort to save energy.

Incentives are often regarded as a “second best” policy instrument as they generally aim to counteract market barriers rather than reduce barriers. However, incentives can still be very cost effective. For example, the Energy Savings Fund component of the NSW Climate Change Fund is reported to have achieved 189,376 MWh of annual electricity savings at an average cost of \$15/MWh (DECC 2008, p.21). This suggests a very cost effective outcome when compared to an average retail electricity cost of \$80/MWh for business and \$150/MWh for residential consumers.

However, there remains large untapped potential to use incentives to support Distributed Energy. As with facilitation, the measurement, evaluation and reporting of the effectiveness of incentives is incomplete and inconsistent. There is very little use by energy utilities of incentives for Distributed Energy when compared to the increasing use of incentives for water saving by water utilities.

Recommendation 4:

- ***The NSW Government should maximise incentives for Distributed Energy by:***
- ***accelerating and better targeting existing programs (such as the NSW Climate Change Fund).***
- ***making greater use of non-financial incentives and community engagement, and***
- ***encouraging NSW Government-owned electricity network operators to redirect part of their capital budgets towards incentives for Distributed Energy.***

4. Pricing

As noted in Section 8.1, there are two key policy priorities in addressing price-related market failures:

- applying an appropriate price on carbon emissions to internalise the external environmental cost of greenhouse gas emissions.
- reforming of electricity price structures to reflect more accurately the true cost of network and generation capacity constraints at time of peak demand or supply interruptions.

The first of these has been addressed in part by the NSW Greenhouse Gas Abatement Scheme (GGAS) and should be more comprehensively addressed by the proposed Carbon Pollution Reduction Scheme (CPRS). However, just as the effectiveness of the GGAS was undermined by a number of concessions which reduced the effective cost of carbon and the actual emission reduction achieved, so too it is likely that many years will pass before the CPRS sends strong price signals. Until electricity prices adequately reflect the full cost of carbon emissions, there will be a strong economic case for “second best” mechanisms to be applied to offset this bias against lower emission distributed energy options.

Given the pre-eminence of forecast peak demand growth in driving proposed electricity investment decisions in NSW, it is crucial that electricity prices are fundamentally reformed. This relates to both retail and network prices.

There have been numerous time-of-use pricing trials by each of the NSW distribution network businesses, but the deployment of both “smart meters” and time-of-use pricing has been slow. For example, Energy Australia has reportedly installed approximately 400,000 time-of-use meters, but has suspended this rollout pending resolution of policy and regulatory issues. Moreover, of the smart meters already in place, only about half are currently subject to time-of-use pricing.

Recommendation 5:

The NSW Government should continue to advocate for an effective and adequate national price on carbon emissions in the context of the CPRS. Until this is achieved it should reinforce NSW-based measures (such as the NSW Greenhouse Gas Abatement Scheme) that redress the price bias against lower emission Distributed Energy options.

Recommendation 6:

The NSW Government should encourage its distribution network businesses to accelerate the deployment of smart meters and the introduction of time-of-use pricing, (including dynamic peak pricing at times of very high demand offset by lower prices at other times). It should also encourage Transgrid to reform transmission network pricing to strongly reflect peak load events in its prices.

5. Regulation

There have been numerous recent reports and submissions on regulatory barriers to the development of Distributed Energy. (See for example, Dunstan and Abeysuriya 2007, City of Sydney 2009). It is beyond the scope of this report to canvass these proposals in detail. However, the following measures are within the power of the NSW Government and are crucial to removing regulatory barriers to Distributed Energy.

Recommendation 7:

The NSW Government should request that the Australian Energy Market Commission (AEMC) change the National Electricity Rules to remove regulatory biases against Distributed Energy by:

- ***removing network regulatory incentives which are contrary to the consumer interest (such as the current link between network profits and customer electricity sales volume).***
- ***allowing network businesses to invest in Distributed Energy options up to five years prior to the corresponding trigger point for network augmentation.***
- ***requiring network businesses to implement all available cost effective Distributed Energy options with lower greenhouse gas emissions prior to augmenting the network.***

9 Conclusion

Meeting the growth in demand with Distributed Energy is significantly cheaper than building a coal fired power station or meeting electricity growth needs with large gas fired power stations. This is primarily because of significant savings which can be achieved on network augmentation costs.

The Distributed Energy scenarios also have lower greenhouse emissions, particularly if they are combined with reducing coal fired generation. The maximum Distributed Energy scenario considered (energy efficiency, cogeneration, demand side response and reducing coal capacity by 1000 MW) saves 7 million tonnes of emissions and \$0.5 billion compared to business as usual.

However, the economic and greenhouse gas savings associated with the Distributed Energy scenarios will not be achieved unless there is deliberate and effective policy reform. This policy reform does not need additional government funding, but it does require strong and sustained political leadership to break with centralised energy practices of the past.

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Appendix 1 – Assumptions

Default network augmentation cost 0.3 \$m / MW/ yr Variable costs per MWh (pool) 20

\$/MWh Rate of Return 10% Industrial electricity price 65 \$/MWh Pool marginal emissions 0.9

tonnes/ MWh 2020 industrial peak summer demand (Australia) 1760 MW NSW proportion of

NEM generation and consumption 0.32 Average capacity factor wind 35% Capacity factor of

existing coal generation 90%

Executive Summary

Chapter 1 The Eastlink Proposal

The Eastlink proposal would connect the Queensland electricity grid with that of the south eastern states via a high voltage dual transmission line from Springdale near Gatton in Queensland, to Armidale in northern NSW. The line would be a 330kV double circuit steel tower transmission line having a length of about 380400km and capable of carrying 500mw in either direction

Chapter 2 Health and Electromagnetic Fields

Of all aspects of the Committee's inquiry into the Eastlink proposal, the issue of potential health effects of EMFs far outweighed any other subject. Many people hold genuine reservations about the impact that a high voltage powerline may have on their health, and the health of their families.

In attempting to resolve this issue from a scientific point of view, it became clear to the Committee that reputable scientists have taken strong stands both in support of and against the proposition that high voltage power lines may cause health effects in people living near them.

In the light of such conflicting evidence, and because it is not possible scientifically to prove a negative, the Committee is unable to totally dismiss the possibility that there may be adverse effects. Similarly, the Committee is unable to conclude that a definite link between high voltage power lines and adverse effects on human health exists and thus that any new policy recommendations need to be made. (Paragraph 2.66).

However, the Committee is able to conclude that simply the fear of detrimental health effects, whether real or imaginary, is in itself having an impact on the lives of some individuals affected by the Eastlink proposal. In acknowledging these community concerns, the Committee takes a similar stand to that of the Gibbs report. The Committee agrees that, as a minimum policy or until evidence suggests otherwise, the concept of 'prudent avoidance' should continue to be practiced by government and power authorities. (Paragraph 2.67).

However, in supporting this concept, the Committee also acknowledges that there are some difficulties with it as a policy with practical application. Firstly, people who own land through which high voltage power lines traverse may have difficulty in 'prudently avoiding' those lines while carrying out the normal activities that their farming enterprise requires. Secondly, there are currently no guidelines for what 'prudent avoidance' means. There are safety standards for exposure to EMFs but these do not readily translate to people living or working near high voltage power. The Committee therefore concludes that, in the case of Eastlink, 'prudent avoidance' should mean siting the line as far as possible from houses, outbuildings and other farm facilities. (Paragraph 2.70).

As with human health, the Committee accepts that evidence on impact on the health of stock and crops grown within the vicinity of the line is equivocal. In the absence of extensive field studies on livestock, the Committee is not able to conclude that high voltage power lines affect the health of livestock and crops, nor is it able to conclude that they do not. The Committee therefore recommends that scientific studies should be carried out in Australia on the possible effects of high voltage powerlines on stock and crops. (Paragraph 2.72).

Regardless of whether there is an actual effect or not, public perception that there might be an effect can have an impact on the market value of stock and crops produced in areas through which high voltage power lines pass. The Committee therefore concludes that compensation by power authorities should be extended to those property owners who suffer an economic loss as a result of the construction of Eastlink, regardless of how that loss is brought about. (Paragraph 2.74).

Chapter 3 Environmental Impact

The Committee accepts that there will be some direct environmental impact associated with the construction of this high voltage powerline. The primary impact will be loss of trees through clearing of easement and resultant fragmentation of habitat. Other potential environmental impacts include soil erosion, the introduction of noxious weeds during construction and maintenance activities, the use of herbicides to control vegetation regrowth along easements, the unfavourable visual impact of the line, and impact on special heritage areas.

Of greater concern to the Committee is, however, the actions of the power authorities in determining the preferred corridor, then carrying out the Environmental Impact Statement. While the final impact statement is not due to be completed until mid 1996, it is clear that the power authorities have already chosen a specific route.

The Committee questions the practice of carrying out an environmental impact assessment of a proposal when alternatives have not been included in the detailed Environmental Impact Statement and when siting of the line is clearly going ahead before the Environmental Impact Statement is complete. (Paragraph 3.75).

Chapter 4 Social and Local Economic Impact

The Eastlink proposal, perhaps more than any other high voltage power line in Australia's history, has resulted in high levels of community opposition. The large number of critical submissions received was a strong indication to the Committee that the communities affected do not want Eastlink to proceed.

Impact on Agricultural Land

Property owners were concerned that the position of the line would have a detrimental impact on the efficient operation of their businesses through interference with facilities and with aerial agriculture. The Committee recommends that any detrimental impact on farm operations should be the Local Economic Impact

Eastlink has already had an impact on the real estate market for properties along the Western corridor. In addition, the value of properties along the corridor may well be reduced by the advent of the powerline. It is clear that some people are currently being economically disadvantaged by the proposal.

Regional economics may feel a flow on effect from the stagnation of the rural real estate market and the unwillingness of property owners in general to make any further capital investment in the properties. The visual impact of the power line may also affect regional tourism.

The power authorities involved have noted that real estate devaluations sometimes occur when a power line is first proposed, but suggested that the market will regain its previous level at some stage after the power line has been completed. The Committee notes, however, that this information does not help property owners who want to sell now, or who are planning to sell in the near future.

The Committee holds the view that, if the power authorities are so sure that the property market will return to normal after Eastlink is completed, they should buy now, at pre-Eastlink valuation, any property that has been on the market and that has not achieved a sale because of speculation about Eastlink. (Paragraph 4.101).

Compensation

It is the usual practice of power authorities to offer compensation for the use of easements and to offset any losses associated with reduced amenity of facilities on individual farms. However, there is a general community belief that in the case of Eastlink, the level of compensation would be inadequate.

The Committee is concerned that the practise of negotiating compensation arrangements on a one-by-one basis, without any requirement for public disclosure of the total amount, or the factors included in the summation, favours the power authorities and enables them to achieve minimum levels of compensation. Were public disclosure compulsory and if landowners had access to a simpler and cheaper avenue of conciliation than the courts, the level of compensation paid may appear more equitable to those seeking compensation for the intrusion of Eastlink.

The Committee recommends wider and more comprehensive compensation provisions, which may include provision for an independent conciliation process for individuals or groups affected. (Paragraph 4.105).

Community Consultation & Social Impact

While the power authorities made every effort to consult the people directly affected by the proposal, both those individuals and the broader community have rejected the consultation process as completely inadequate. People believe that because they were never given the choice of 'no Eastlink' the consultation process was intrinsically flawed.

It appears to the Committee that a significant cause of community disharmony and rancour has been the practice of holding discussions with individual property owners who were disadvantaged by the fact that they were ignorant of what had been said to neighbouring property owners, while the power authority officers had the More significantly the fact that the power authorities made changes to the proposed route led to suspicion that improper influence had been brought to bear. This created antagonism between neighbours and in some instances rifts have formed within rural areas that will take a long time to heal.

The Committee concludes that while the power authorities put a large effort into public consultation, the methods used were not accepted by many of those people affected by the proposed power line. The cumulative effect has been considerable social disquiet and stress. (Paragraph 4.108).

State Parliamentary Review Procedures

This Committee and its predecessor, the Standing Committee on Industry, Science and Technology, has over the last few years noted a lack of informed and detailed debate on matters relating to power generation developments. In particular, the Committee has noted that state governments could play a stronger role in meshing policy with community needs and opinions.

The Committee suggests to all state governments that there would be merit in establishing a process whereby communities and professionals could be more directly involved in debate on energy matters. Through such a process, parliaments could monitor community reaction to energy projects, as well as provide a more accessible and flexible grievance mechanism. (Paragraph 4.111)

Chapter 5 Economic Considerations

The Senate Standing Committee on Industry Science and Technology recommended in its report on Gas and Electricity that any interconnection between NSW and Queensland should not go ahead until it was proven to be economic. While opponents of Eastlink have argued that this has still not been proven, the fact that two State Governments, with the support of the Federal Government, are going ahead indicates that it is considered by them to be economic.

The Committee accepts that the analysis carried out by the Australian Bureau of Agricultural and Resource Economics examined the general economics of interconnection through a high voltage power line, and was not sufficiently detailed to draw conclusions about the specific case of Eastlink. The Committee further accepts that the model demonstrated, in general terms, that electricity interconnection through a high voltage power line would be economic. (Paragraph 5.20).

However, because a specific cost/benefit analysis for Eastlink was not available, the Committee is unable to comment on the specific case of this proposal. (Paragraph 5.21).

The total cost of Eastlink has been stated by the power authorities to be in the region of \$300 million. However, information given by the authorities does not include a breakdown of what expenses have been included. Lack of detailed information has contributed to public confusion and misunderstanding about the relative costs and benefits of Eastlink and therefore to a lack of understanding of the full economic impact.

The Committee believes that, in the interests of good public relations, the power authorities involved should make available to the public a more Chapter 6 Electricity Consumption and Greenhouse

The question of impact on greenhouse gas emissions hinges on whether Eastlink will increase the use of coal fired power stations. Because there is almost no data available which relates specifically to Eastlink, the Committee is unable to make a decision as to which is the more likely outcome. However, the Committee notes that the potential does exist for greenhouse gas emissions to increase. The Committee therefore recommends that the Commonwealth Government investigate in detail the likely impact of Eastlink on coal consumption and the implications of any change in that consumption for greenhouse gas emissions having regard to its international obligations. (Paragraph 6.29).

Chapter 7 Renewable Alternatives

Throughout the current inquiry, the Committee was impressed by the knowledge and enthusiasm that community groups and individuals hold for alternative renewable forms of electricity generation.

The Senate Standing Committee on Industry, Science and Technology in its 1992 report, Gas & Electricity Combining Efficiency and Greenhouse, stated that Queensland would be an ideal place to further research on renewables and recommended that the development of a national grid must not preclude the further development of options such as demand management, cogeneration and new technologies.

Despite the outcome of the Eastlink interconnection, the Committee reiterates the opinion expressed in the Report on Gas and Electricity that Queensland would be an ideal place for increased research and development of renewable energy options. (Paragraph 7.33).



DEMAND MANAGEMENT AND ENERGY POLICY DEVELOPMENT: A CASE STUDY OF NEW SOUTH WALES

A REVIEW AND PROPOSALS FOR THE FUTURE



Total Environment Centre Inc

www.tec.org.au

May 2010

This brief review examines policy development and opportunities for demand management (DM) in New South Wales at two levels. It should be noted that key findings have relevance to other states as well as Commonwealth action.

Firstly, on the economic plane in relation to 'cost effectiveness'. It should be noted there are differing interpretations of this concept. This is partly influenced by which economic methodology is applied - traditional or broader economic approaches; and also how economic concepts are expressed in legislation and used by regulatory agencies. In some ways 'cost effectiveness' is in the eye of the beholder.

Secondly, while barriers to demand management have been long acknowledged – and the solutions to overcoming these increasingly well known – there have been highly influential political issues, embedded cultural attitudes and regulatory approaches that have impeded their implementation. These need to be exposed in order to devise the next strategic attempt to mainstream demand management for baseload and peak power consumption which in turn will alleviate energy bill pressures on consumers and assist climate change policy.

While there is some evidence that a few of the recent DM policies have the potential to make a moderate degree of difference, we suggest a suite of recommendations that if implemented would firmly embed DM into our energy system with significant financial, social and environmental benefits. This will however only occur where the

political will exists and energy industry and regulator myopia about DM has been overcome or overridden. The recommendations can be fashioned for reform of the National Electricity Market (NEM) Rules and also in some circumstances via NSW action.

Recommendations

- 1 Expand the NSW or national Energy Savings Scheme to distributors to incorporate peak demand reduction targets and the surrender of certificates with priority for constrained areas.
- 2 Allocate a percentage of utility revenue to DM.
- 3 Require implementation of DM prior to augmentation of the transmission and distribution network systems through explicit terms and associated planning and revenue provisions in the NEM and state government directions.
- 4 Development of a risk-reward system to establish clear incentives for utilities.

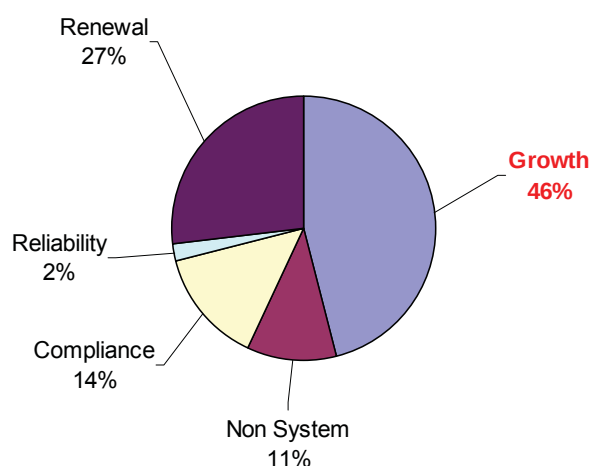
01

Demand growth has two components: baseload and peak. Both forms of growth have direct financial impacts on household, social service and business consumers; and, depending on the energy source, increase greenhouse gas emissions. When the financial and environmental costs rise, society, individuals and organisations now and in the future, are worse off. NSW and the National Electricity Market (NEM) are facing a number of very significant pressures to expand generation, transmission and distribution capacity which, if not curtailed, will entrench the worst aspects of our electricity system.

Around a third of total NSW distribution network expenditure over the next five years is for growth alone.¹ As significant parts of demand growth and subsequent infrastructure expansion are largely optional, as opposed to a foregone conclusion, this represents over several billion dollars of avoidable costs for which NSW electricity consumers will have to pay, not including the costs of additional generation and transmission infrastructure or resulting future carbon costs.

Networks such as Integral Energy have even higher rates of growth related capital expenditure. The graph below shows that 46% of Integral Energy's \$2,953 million capex spend is just to meet new growth.²

Components of Integral Energy's Capital Expenditure Program³



1.1 Peak Demand

A particularly serious problem is peak demand. About 10 percent of network capacity is required to meet peak demand that occurs only 1 percent of the year.⁴ Integral Energy notes that this is typically about 85 hours per year.⁵ Peak demand in the TransGrid/EnergyAustralia area of Inner Sydney Metropolitan indicates how infrequently maximum capacity is exceeded:

Peak Demand in the Inner Sydney Metropolitan Area⁶

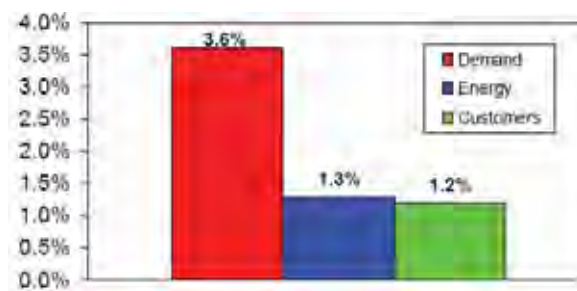
Year	Top 50 MW	Top 100 MW
2005/06	1 day, 4 hrs total	2 days, 7 hrs total
2006/07	1 days, 0.5 hrs total	2 days, 3 hrs total
2007/08	1 days, 2.5 hrs total	2 days, 9 hrs total
2008/09	4 days, 8.5 hrs total	6 days, 21.5 hrs total

Such peak demand spikes not only occur infrequently, but are growing disproportionately compared to overall energy consumption. For 2009-

01 THE DEMAND MANAGEMENT CHALLENGE

2014 Integral forecasts peak demand growth (3.6% pa) to be three times higher than both growth in customer numbers and energy consumption (1.2% and 1.3% pa respectively), as illustrated below.⁷ As Integral admits, the differing growth rates between peak demand compared to customer numbers and energy consumption contribute to upward pressure on tariffs.⁸

Integral Energy Average Yearly Growth 2009-2014⁹



In the residential sector, EnergyAustralia forecasts an even greater disparity between peak demand and consumption, with consumption growing at only 0.1% and peak demand growing at 3.7%, as illustrated below.

Demand growth in EnergyAustralia's network area (2009-14)¹⁰

Energy Growth (percent)

Residential 0.10

Peak Demand Growth (percent)

Residential 3.70

As IPART has noted, the cost of providing distribution peak load can be around 400 times the cost of baseload.¹¹

02. COST EFFECTIVENESS OF NETWORK DM

02

One of the key barriers that must be overcome to transform regulator and network myopia on DM is the way in which cost-effectiveness is defined. Australian distribution network companies and regulators currently calculate the cost-effectiveness of DM on the most narrow of terms. Excluded from their calculations are:

- Avoided transmission costs
- Avoided generation costs
- Avoided carbon costs

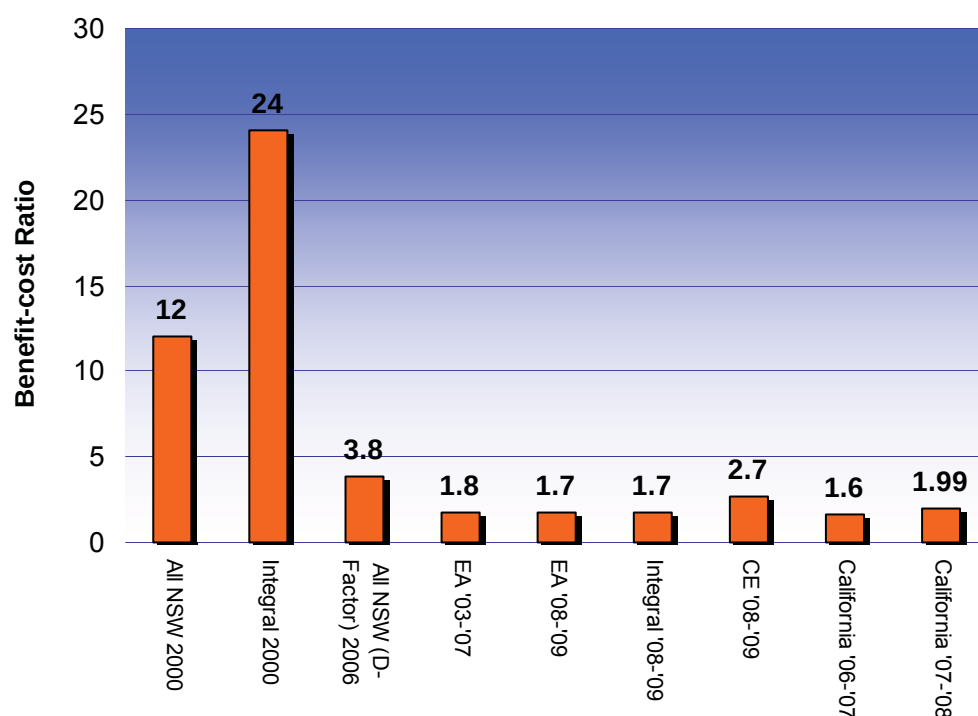
Instead, the only value recognised is that of deferring or avoiding an upcoming, local augmentation compared to estimated build costs. Even when defined within such narrow boundaries,

actual experience has demonstrated DM's cost-effectiveness in NSW and elsewhere. The following graph demonstrates the cost-effectiveness of NSW network DM.

Research conducted by the Institute for Sustainable Futures in 2007 for Total Environment Centre has shown that actual distribution network DM undertaken with IPART's 'D-Factor' between 2004 and 2006 was almost four times more cost-effective than augmentation, delivering a benefit to cost ratio of 3.8 to 1. DM costs were \$5.1 million, while the expected avoided network cost was reported as \$19.3 million.¹³

In 1999-2000 DM investments by all the NSW

Cost-effectiveness of Network DM Since 2000¹²



(Any value greater than one indicates that benefits have exceeded costs)

02. COST EFFECTIVENESS OF NETWORK DM

distributors delivered a benefit to cost ratio of over 12 to 1. This involved \$5 million of expenditure that delivered \$62 million in operating and capital cost savings.¹⁴ A highlight was in 1999-2000 when Integral Energy's DM achieved a benefit to cost ratio of 24 to 1, with DM costs of \$1.2 million for \$29 million of capital investment deferral.¹⁵ DM carried out by NSW networks in 2008-09 shows more moderate benefits.

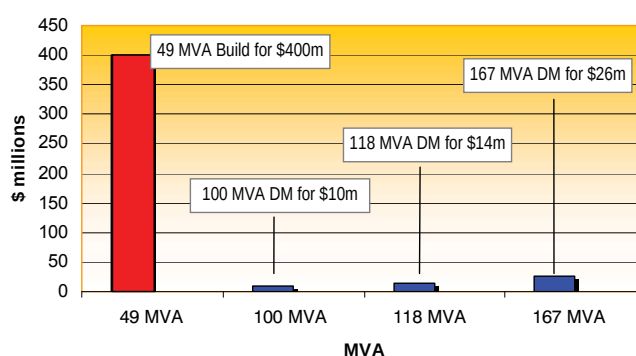
Cost-effectiveness of NSW Distribution Network Demand Management

Network	Year	DM spending \$m	Opex and Capex Savings	Benefit to Cost Ratio	Tonnes GGE Reductions
All	1999-00	5	62	12 : 1	
Integral	2000	1.2	29	24 : 1	
All (D-factor only)	2004-06	5.1	19.3	3.8 : 1	
EnergyAustralia ¹⁶	2003-07	5	9	1.8 : 1	
IntegralEnergy	2004-07				
EnergyAustralia ¹⁷	2009	7.9	13.4	1.7 : 1	2,421 - 1 yr 2,201 - 9 yrs
IntegralEnergy ¹⁸	2008-09	1.3	2.2	1.7 : 1	2,762 pa
Country Energy ¹⁹	2008-09	10.3	27.9	2.7 : 1	40,538 – 20 yrs
Californian Utilities Verified ²⁰	2006-07	1,353	2,190	1.6 : 1	3,417,782
Californian Utilities Projected ²¹	2006-08	2,724	5,419	1.99 :	1 1,419,025

The experience in California demonstrates that energy savings still deliver almost double the return on the investment after 30 years of aggressive energy efficiency activity. This indicates that there would still be exceptionally good value DM available in NSW and across the NEM for many years.

NSW transmission networks, EnergyAustralia (EA) and TransGrid (TG) are currently not required to report DM expenditure and savings. This makes it difficult to assess the cost-effectiveness of their programs. However, as part of the current MetroGrid project, EA and TG have undertaken analysis of DM opportunities. The following graph illustrates the radically superior financial benefits that DM is projected to deliver compared to the augmentation alternatives.

MetroGrid Cost of Augmentation versus DM



Based on 2 years of investigations, TG and EA have concluded that compared to a 49MVA augmentation to meet the summer demand in 2012-13 costing \$400 million, DM could deliver double the amount of DM for one year at a mere 2.5% of this cost, 100MVA for \$10 million.²² Charles River Associates go further to project 118 MVA of DM for \$14 million or 167 MVA of DM for \$26 million, using a variety of DM techniques.²³

03

There has been much work done on identifying barriers to demand management.²⁴ One of the most significant has been IPART's (2002) *Inquiry into the role of Demand Management and other options in the provision of energy services* which highlighted the following key barriers and provide a useful summary:

- Full economic costs of energy use are not included in prices
 - For example, greenhouse gas emissions, locational peak demand costs
- Weak price signals – tariffs
 - Regulated tariffs are 'flat' tariffs that provide no information / incentive related to peak prices to end-users
- Weak price signals – metering/profiling
 - Standard meters for smaller customers do not allow charges / incentives for load management during peak periods. Standard profiles do not differentiate between 'high' and 'low' cost consumption patterns (eg those with and without air conditioners)
- Imperfect information
 - End-users do not have easily accessible or credible information on energy-saving technologies or processes, suitable suppliers, or case studies
- Risks and Transaction costs
 - These can be real costs and valid assessment of uncertainties, but are frequently ignored in assessments of DM costs and potential
 - Includes marketing and signing-up participants, investigating options and supporting decision-making, monitoring and evaluation, payments and processing, etc
 - Risks include unknown performance, costs or lifetime of new technologies or processes
- End-user preferences for simplicity, convenience, reliability, 'luxury'
 - These are a real reflection of value perceptions and preferences of end-users
 - Not all apparently 'wasteful' or sub-optimal energy choices would be changed if end-users had perfect information and efficient prices.

Appendix 2 of their report reviews additional barriers including:

- Financial
 - Up-front cost of equipment, long paybacks and lack of price certainty.
- Regulatory
 - Lack of penalties in retail licence conditions and certainty for treatment of DM cost
- Information and capacity
 - Of end users assessing savings
- Structural
 - Split incentives in building area; lack of influence by consumer on appliance standards
- Cultural
 - Utility attitudes and preference for 'tried and tested' technologies and practices
- Technical
 - Cost of conversion to new technology and integration of embedded generators.

It should be noted that the National Electricity Law and Market was only just evolving its regulatory architecture and the national grid connections by the time the IPART report was published, however NEM simply absorbed key barriers rather than resolve them – and in our view developed significant additional ones.

03 BARRIERS TO DEMAND MANAGEMENT

Research by TEC and its consultants has exposed a number of NEM derived barriers. In our 2004 report, *The National Energy Market Environmental and Social Issues - NGO position paper*, we wrote:

The Parer Report recognised the importance of DM and recommended several measures to improve demand-side participation, including the establishment of a demand-side bidding pool, the roll-out of interval meters, the removal of retail price caps and improving access for embedded generators to the grid. However, underlying these recommendations was the assumption that the market would naturally lead to a demand-side market able to compete with the supply-side. What Parer and others have failed to recognise is that the market that they are attempting to develop is a market to *sell electricity*. This is in sharp contrast to a market that aims to save electricity.

In the same year TEC commissioned NextEnergy to review demand management in the NEM and compare DM policies in other jurisdictions, including several Australian case studies of network expansion.²⁶ The consultants reported additional barriers, including:

- the lack of funding to help establish DM capacity in the marketplace;
- the invisibility of proposals to expand the system and thus the timely opportunity to develop alternatives;
- the failure of utilities to consider DM before embarking on planning and construction of additions to the system; and,
- the absence of an 'intensive' national framework for energy efficiency.

Next Energy stated:

The unfortunate truth is that in practice, no substantial demand management market has evolved in the first five years of the NEM and it is highly unlikely to do so without the types of changes recommended in this document. The two case studies reviewed in this paper (Sydney CBD Transmission Augmentation and the Latrobe Valley to Melbourne Augmentation) clearly demonstrate this point. Unless prompt and decisive action is taken, economic demand management opportunities will continue to be lost.²⁷

Particular regulatory barriers related to the way in which network revenue is regulated have also been highlighted in the Headberry/Lim 2008 report, *Does Current Electricity Network Regulation Actively Minimise Demand Side Responsiveness in the NEM?*²⁸ The report shows how the building block form of regulation creates significant disincentives to demand management. In addition, price caps as opposed to revenue caps on network revenue, adopted in NSW by IPART in 2004, further discourage DM by rewarding networks for increased sales of electricity to consumers.

Despite these findings, the Australian Energy Market Commission (AEMC) recently claimed that, '...network businesses regulated under a price cap have private incentives to contract in a way that is consistent with socially efficient levels of DSP.'²⁹ The reasoning behind this claim appears to be that not consuming electricity is automatically seen as a social cost, as opposed to a benefit.³⁰

In an important recent review, the CSIRO (2009) points to institutional problems generated by specific policy/regulatory barriers, including³¹:

- **Short term policy horizon**, creating difficulty in setting policy frameworks that have a consistent long term horizon
- **Lack of understanding by policy makers of the value of energy efficiency**, in part driven by lack of data on the value of energy efficiency
- **Separation of energy policy from social and environmental policy**
- **The failure of market policies to internalise social and environmental benefits**

The last two barriers are noted in MMA's 2009 report for TEC, *Role of the NEM in responding to climate change policies*³². It is notable that exceptions to this problem such as California and the UK have energy policies that are aligned with climate goals.

TEC has also identified the lack of social and environmental objectives as a key barrier with the NEM which instead draws its focus from a narrowly and explicitly defined economic objective which reads:

The national electricity market objective is to promote efficient investment in, and efficient use of, electricity services for the long term interests of consumers of electricity with respect to price, quality, reliability and security of supply of electricity and the reliability, safety and security of the national electricity system.

03 BARRIERS TO DEMAND MANAGEMENT

Our 2006 report, Gilbert and Tobin *How should environmental and social policies be catered for as the regulatory framework for electricity becomes increasingly national?*³³ highlighted the problem of the objective, quoting NEMMCO's (the original system operator) interpretation:

Under the Rules, NEMMCO's charter focuses specifically on efficiency, security and reliability of power supply, and excludes favouring one fuel source over any other. Consequently, NEMMCO has neither the power nor the authority to make decisions based on considerations of sustainability and balance in resource management.³⁴

The NEM objective was deliberately simplified to avoid conflicting goals and overly complex decision making. But while this may have been administratively easier, it introduced a deep seated bias into its processes. It embedded the pre-

existing culture of the electricity industry focussed on sales not saving. Asymmetrical negotiations relationships also made connection for embedded generation complex, time consuming and impossible to overcome for some suppliers. Australia's key consumer, community and environment groups have called for the insertion of environmental and social sub-objectives in the National Electricity Law.³⁵

Overlaying and reinforcing this bias is the clear political sensitivity about 'the lights going out'. TEC's believes that the traditional energy industry and regulatory allies use this theme in their discussions with energy ministers and governments generally, as well as in public statements, at strategic times - to influence decisions.

04

There have been a wide range of policies implemented to address the problem of low demand management take-up. Some examples are below and the immediate question we will subsequently address is whether they have led to a mainstreaming of demand management and made substantial in-roads into planning for expanded generator capacity and distribution networks. Have the central barriers been addressed?

The policies fall into a number of categories with the politically and financially easier options used initially over the last two decades or more.

- 1 **Information** – NSW Energy Information Centre in the early 1990s, then SEDA Energy Smart Information Centre; brochures and rudimentary energy use information about some appliances; now detailed web based information and guides; Energy Efficiency Opportunities Act.
- 2 **Codes**, ratings and ‘consideration’ – model codes for energy efficient housing (SEDA); licence conditions via the Electricity Supply Act 1995 for distributors ‘to conduct investigations into the cost effectiveness of implementing demand management strategies that permit distribution network augmentation to be deferred or avoided’, resulting in the *Demand Management for NSW Distributors - Code of Practice*; NaTHERS rating tool for house designs.
- 3 **Inquiries**, reports, strategies – MCE’s Energy Efficiency Working Group which has auspiced the National Framework on Energy Efficiency (est 2001); IPART inquiry (2002); establishment of Demand Management and Planning Project subsequent to and with \$10m funding from MetroGrid decision in 2002; Productivity Commission to Inquiry into the Economic and Environmental Potential of Energy Efficiency (2005); National Strategy on Energy Efficiency 2009-2020; PM’s Taskforce on Energy Efficiency (2010); the Australian Energy Market Commission’s Review of Demand Side Participation in the NEM (ongoing);.
- 4 **Rebates**, grants, audits, revenue recovery – 1998 NSW rebates for low income housing and appliances, this instrument extended to a variety of energy efficient purchases for all consumers by successive governments; SEDA Energy Smart Business Program offered free audits; introduction of the ‘D-factor’ by IPART in 2004 to allow distributors to recover costs for DM; the Australian Energy Regulator’s ‘Demand Management Innovation Allowance’ Energy Savings Fund introduced in 2005 to support various DM projects. The most ambitious has been the Commonwealth Government’s recent insulation program.
- 5 **Agency targets and business plans** – in 1998 NSW public sector was required to reduce energy consumption by 15% by 2001 and 25% by 2005 along with energy performance contracts and purchasing 5% GreenPower; Energy Savings Action Plans (2005) to be produced by largest business consumers and councils under the Energy Savings Order.
- 6 **Regulation** - NSW Greenhouse gas Abatement Scheme specifying reductions in carbon intensity of power generation (including by use of offsets and energy efficiency) introduced as a mandatory measure in 2003 after failure of voluntary targets; converted to Energy Savings Scheme (ESS) in 2009 with targets on retailers for consumption reductions. BASIX in 2004 with targets for greenhouse gas reduction for new housing and (later) renovations. Minimum energy performance schemes – energy ratings for a range of appliances (ongoing); new reporting

04 POLICIES IN RESPONSE TO DM BARRIERS

requirements from the AEMC's for annual Distribution Annual Planning Reports, including Demand Side Engagement Strategies that are intended to "provide transparency on how DNSPs assess and consider non-network alternatives, and promote a clear and transparent process for DNSPs to engage with non-network proponents."

A number of NSW policies such as the ESS and IPART's 'D-factor' have shown state leadership and can be confidently transferred to the national level action as they have proven administrative and methodological practices.

Notably steep increases in prices have not been advocated strongly (even time-of-use pricing is not high on the list) as government policy was to moderate prices for consumers and business. This policy appears to have been abandoned with the recent announcement of a 60% price rise due to network expansion and a potential carbon price. About one third of the rise is due to system growth, much of which TEC estimates could be alleviated by DM. It may serve as a price shock that could open the way for more ambitious DM policies which if implemented early could reduce the annual price rises.

4.1 Has DM Potential Been Achieved?

In its landmark Report on Demand Management, the Independent Pricing and Regulatory Tribunal (IPART, 2002) stated that it believed:

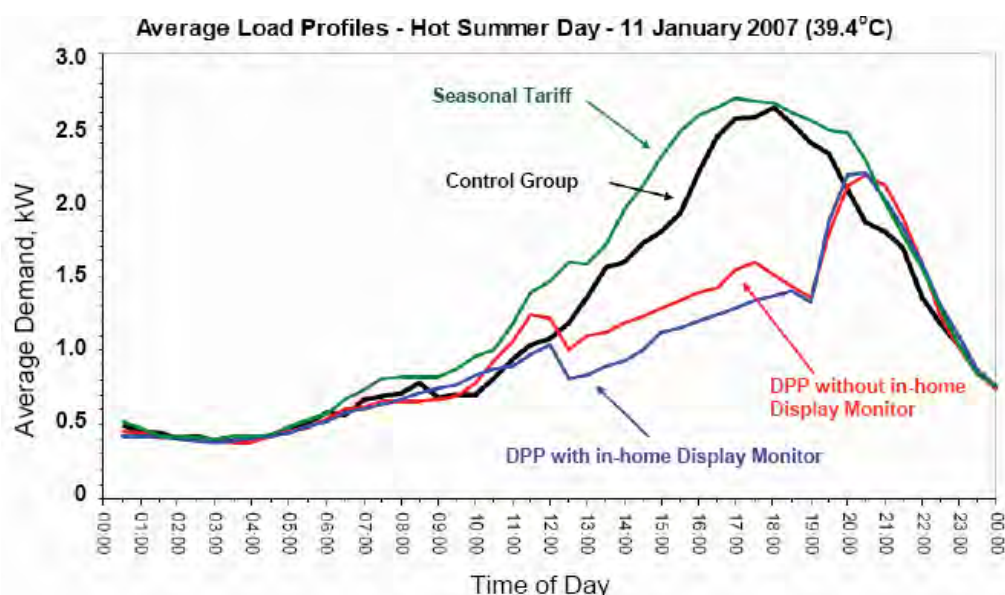
'...there are substantial cost-effective opportunities to use DM in NSW that are not being pursued. It also believes that the need to capture these opportunities is becoming more urgent.'³⁶

These opportunities remain untapped. Various desktop estimates have repeatedly projected these potentials, for the NEM for example:

- **National Framework for Energy Efficiency**³⁷ – 70% reductions in residential and commercial energy consumption (with average 4 year pay-back); 9% reduction in total stationary energy use (213PJ)
- **DM and the National Electricity Market**³⁸ – 2800 MW
- **Demand Management and Planning Project**³⁹ – 500MVA (Sydney only)
- **Energy Reform Implementation Group**⁴⁰ – 3000MW

There are a range of potential DM strategies that deliver DM capacity to the consumption sector. For example (and as noted above) pricing has been largely ignored and one particular instance of untapped potential is dynamic pricing. Trials continue to demonstrate the extraordinary potential to reduce peaks along with average energy use. An example is Integral Energy's Western Sydney Pricing Trial over 2 years which achieved the significant reductions illustrated below, saving \$3 million in electricity bills.⁴¹

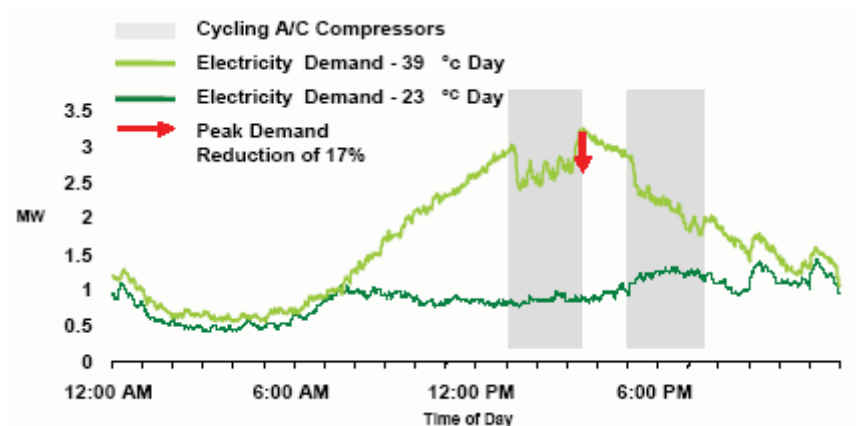
Integral Energy Western Sydney Pricing Trial



04 POLICIES IN RESPONSE TO DM BARRIERS

The remote cycling of air-conditioners can also be done without smart meters. In the summer of 2007-08, Energex (QLD) retrofitted 954 air conditioners with a CYCLEit™ device for its Cool Change trial. Peak reductions of 17% were delivered.

Energex Cool Change Trial



Even simple time-of-use tariffs without any other intervention can deliver meaningful reductions, as EnergyAustralia has found. EA's time-of-use tariffs have delivered a 1.1 percent drop in total summer peak demand, compared to regular tariffs.⁴²

Such significant reductions could be occurring across the NEM, but not without significant network incentives or mandates. According to Energy Futures Australia (2007) the accelerated roll-out of smart meters across the NEM could deliver an Australia-wide reduction of 10% of electricity consumption and emissions, but as Energy Futures Australia reported to TEC, not without significant engagement of consumers through in-home displays, dynamic peak pricing and other methods.⁴³

In general, demand management has been an 'add-on' to energy policy particularly in the early years. An examination of the recommendations proposed by IPART in 2002 while well targeted in a relatively narrow sense (and some were adopted by government) try to bolster only the option of demand management.

For example, a demand management fund, improving customer access to information, use of standard offers in the DM Code of Practice, review of the smart meter policy and trials of congestion pricing try to raise the profile of DM but don't guarantee it occurs.

There were two more substantial recommendations that had the potential to retard energy consumption growth. IPART proposed mandating greenhouse gas benchmarks with penalties and foreshadowed the 'D-factor'. On the one hand GGAS was regulatory intervention for retailers and on the other, the 'D-factor' for networks attempted to compensate for sales foregone and make inroads into the 'sell more, make more' mentality of the industry. They were directed at the culture of the industry.

A review of 'D-factor' by the Institute of Sustainable Futures (2007)⁴⁴, commissioned by TEC found that:

...although the D-factor is an important precedent in supporting DM and should be built upon, the D-factor is not a cure-all for DM and, without reform and complementary measures, it is very unlikely to deliver an efficient level of DM activity.⁴⁵

The report advocated a number of other measures, as the 'D-factor' was regarded as insufficient to fully change traditional attitudes and expand the savings.

Undoubtedly the combination of GGAS (and now ESS) with BASIX has impacted on demand growth. A significant portion of the GGAS certificates were in the area of demand side abatement. This should have contributed to a reduction in consumption; while BASIX should have reduced expected growth due to the take-up of solar hot water and housing achieving over 4 star NaTHERS ratings.

04 POLICIES IN RESPONSE TO DM BARRIERS

In 2007, the Owen Inquiry into the state's electricity supply concluded that:

'TransGrid forecasts that total energy consumption in New South Wales in 2016-17 will be some 2,000GWh lower than it would have been if energy consumption growth continues at the pre 2001 rates. Despite data limitations, this is at least in part due to energy efficiency. For indicative purposes this is equivalent to around half the maximum annual output of one 660MW coal fired unit at the Vales Point power station. This is in addition to the reduction in forecast scheduled generation in 2016-17 following the 4,000GWh contribution from renewable energy and embedded generation.'⁴⁶

Owen also noted the current difficulty of forecasting and lack of inclusion of the contribution of future programs. However, the ESS with its specific targets and the experience gained from other key policies may help alleviate this problem. Additionally the Commonwealth insulation program was at such a scale that its energy savings should be able to be accounted for in demand projections. Retrofitting ceiling insulation is equivalent to increasing the star rating of a previously uninsulated home from around 0.5 stars to 2 stars. This represents an energy saving of between 25 to 50 per cent, depending on the climate region in Australia.⁴⁷

There have been suggestions that a 'rebound' effect, or comfort creep takes up energy savings and that this needs to be taken into account.⁴⁸ However this was specifically allowed for in the Department of Climate Change analysis of the insulation program. A 66 per cent 'comfort factor' was used when estimating the potential energy efficiency savings per previously uninsulated house. Compared to the literature on this topic, this is an extremely conservative estimate.

DM as a mainstream policy has only begun to attract attention. Whether this can be taken further will depend on the policies that government adopts for DM and in relation to the NEM.

One of the key problems in recent years has been that while governments have begun to be interventionist with various regulations, the NEM continues to advance in the opposite direction creating unnecessary tension between policies and efficient implementation. DM is not a prerequisite in the NEM (because this would counter the 'level playing field' between energy sources) and in fact the AEMC has recently tried to relieve distribution

expenditures under \$5m of any cost-benefit analysis which if approved would kill off potential for demand management options to compete more fully with supply.

With the NEM agencies taking over much of the regulation from state-based bodies such as IPART, governments will face difficult decisions about keeping their best DM policies directed at energy utilities operating in their state or continuing to cede control to a national approach that may result in a lowest common denominator approach.

While some recent policy initiatives such as the ESS have potential, today's challenges require more to help abate climate change and the increasing price burden on households and business.

In terms of the future shape of the electricity system, demand management should play the primary role in delaying investment in expanding the system by creating sufficient time for:

- new peak and baseload generation requirements for population and economic growth to be met by clean and green technology including DM
- replacement of current centralised power plants by clean and green generation at the end of their lives.

The financial and environmental benefits to consumers and society as a whole should be prioritised above building more 'old' generation that embeds pollution and inefficiency for decades into the future and prejudices the choices and success of climate change and efficiency policies. Consumers should be afforded greater control over their energy supply and bills rather than being captured in a fossil fuel growth paradigm.

5.1 Political Will and Regulatory Context

The conjunction of public concern about climate change and steep price rises should elicit a substantial demand management response from governments. With the collapse of the CPRS, the only substantial policy is energy efficiency; with price rises mainly influenced by energy supply system expansion. The best response is to make energy consumption more efficient.

However there appears to be a 'hands-off' approach from government ministers when it comes to the National Electricity Market which is driving the price rises over the next few years. Governments need to talk about unnecessary expansion (in fact, energy waste) as a problem and elevate efficiency as a multi-benefit solution.

Changes in NEM regulatory decisions would be more easily accomplished if the National Electricity Law adopted either an environmental sub-objective, allowing regulators to consider wider benefits, or an energy savings objective, that would allow regulators to prioritise energy savings over augmentation and supply options.

There is an important role for NSW both in its own jurisdiction (through state legislation and directions to government owned utilities) and as a major state represented on COAG and the MCE in progressing this and the following recommendations.

5.2 NSW - DM Targets

At its inception the intention for GGAS was for it to be applied to both retailers and networks. However at the time the NSW distribution networks argued that a Demand Management Code of Practice would be better tailored to deliver reductions. In effect, only half of the GGAS program was ever delivered. The Code of Practice that requires

investigation and reporting on DM opportunities, even supplemented with the 'D-factor', has not delivered significant reductions.

Expanding what is now the Energy Savings Scheme to complete the policy would be one option if peak demand reductions are to be sought and expensive augmentation avoided. Subsequent to the modelling of peak demand management opportunities available to NSW distribution networks, the ESS could be expanded to include a peak demand reduction target on NSW networks. Networks would be required to acquire or create reduction certificates, just as NSW retailers currently are. The difference would be that a higher value could be attributed to peak demand reduction certificates from highly constrained areas, to ensure that the value of avoiding or deferring expensive augmentation was prioritised over general energy savings.

5.3 DM Fund, Network DM Plans and Targets

NSW's Climate Change Fund (CCF), originally the Energy Savings Fund established in 2005, is funded by a levy on electricity distributors (and water utilities for water use savings). This provides the basis for an effective funding mechanism for focused DM expenditure. The CCF could be partly recalibrated to target more substantial funding to and specific reduction targets and measurable outcomes for NSW networks.

In determining the size of funding that should be dedicated to network demand management it is useful to look at examples in other jurisdictions:

In 2006-07 the Californian Public Utilities Commission (CPUC) approved a consumption-based DM levy amounting to \$1.97 billion over three years. This equates to \$131 million pa for NSW.

05 RECOMMENDATIONS

In 2004, the Essential Services Commission of South Australia (ESCOSA) provided Electricity Transmission South Australia (ETSA) with \$20 million over 5 years to deliver DM programs.

In 2009, EnergyAustralia submitted to the Australian Energy Regulator that a DM allowance should be equal to 1 per cent of DNSP revenues, or \$10 million per annum⁴⁹, however, the AER has limited DM spending to:⁵⁰

- \$1 million per annum for EnergyAustralia
- \$600,000 per annum for Country Energy
- \$600,000 per annum for Integral Energy

The Energy Efficiency Council has recommended in its submission to the PM's Task Group on Energy Efficiency the networks spend 10% of their planned \$426m expenditure over the next 5 years, on DM

5.4 NEM - Requiring DM Implementation Before Augmentation

In 2008, Total Environment Centre became the first community group to submit and have accepted for consideration a Rule change proposal to the AEMC.⁵¹ The basis of the Rule change was to require transmission networks (and by extension, distribution networks) to implement DM before considering augmentation approaches. The Rule change comprised the following components:

1. Transmission network planning

Regulators to ensure that demand management solutions are prioritised and properly investigated in the planning stages of network development.

2. Annual Planning Reports

Networks be required to publish robust data on upcoming constraints that are relevant and useful to demand management service providers. This would inform the demand management market of upcoming opportunities and enable it to respond to these in an effective and timely manner.

3. DM Incentive

An explicit provision for the Australian Energy Regulator to develop and implement a demand side incentive scheme. This should address the chronic failure of networks to invest in cost-effective demand management.

4. Financial cover for DM investments

Energy regulator to clarify the circumstances in which networks can recover spending on demand management. This would create more certainty for networks regarding their ability to investigate, implement and recover demand management expenditure.

5. Revenue determinations

Revenue determinations for networks to ensure that demand management is prioritised ahead of the construction of more network infrastructure. Revenue determinations are an ideal process to facilitate demand management as they allow regulators to closely scrutinise and modify future spending by networks.

6. Acknowledgment of modest DM expenditure

Small scale demand side activities are enabled even when unrelated to particular network constraints or when covering relatively modest amounts of load. Modest but widespread demand reductions can provide long term benefits by reducing the need for a range of possible future network as well as generation augmentations.

7. Effective prudency reviews

Prudency reviews by the regulator must assess past capital expenditure. These should specifically and thoroughly assess the extent to which transmission networks have implemented, and not ignored, an adequate level of demand management. Such reviews are critical to ensure that transmission networks do not ignore demand management solutions at the expense of electricity consumers.

8. Regulatory Test

The Rules should specify that the Regulatory Test require demand management options to be investigated before augmentation options. This is likely to ensure that a more appropriate level of transmission networks' resources and attention are directed to DM before augmentation planning is underway.

9. Short-term and long-term price for DM

A price is set for demand management within the market pool. Setting a price for demand management will encourage greater investment in and facilitate growth of demand management aggregation as a market commodity. A market mechanism that provides the opportunity for proponents to bid into the market would encourage new demand management entrants and promote competition for existing demand management businesses.

After a consultation period in which networks vociferously opposed these proposals, the AEMC approved approximately 5% of the Rule change proposal. Unless there is an explicit directive from COAG and the Ministerial Council for Energy and

05 RECOMMENDATIONS

the NEL objective is targeted to DM reductions, it is unlikely that other similar attempts to capture the full potential of DM will be successful.

5.5 NEM - Risk Reward Incentive Scheme

A system of rewards and penalties linked to specific DM targets is an approach that the Australian Energy Regulator, with the approval of the AEMC, could take. In California, the Risk Reward Incentive Mechanism (RRIM) seeks to align consumer and network interests with incentives for achieving and penalties for failing, to meet energy efficiency goals, which includes reduction of peak demand.⁵² Based on this methodology, the AER could apply these incentives in a three stage process:

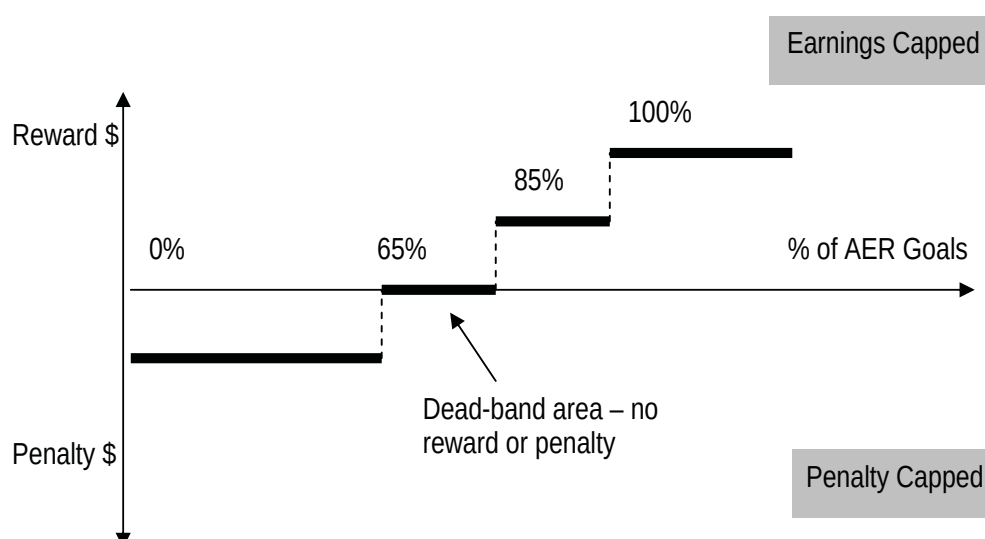
1. Establish the potential DM reductions available to transmission and distribution networks through a combination of: innovative pricing (including smart meters and ToU pricing); demand reduction projects (eg retrofitting shopping malls, factories etc); power factor correction; and demand-side response (using aggregators to contract interruptible loads).

2. Set savings goals (MW and MWh reductions), incentive payments and penalties for each network business
 - a. ensuring that penalties are taken out of revenue above that required for approved capital and operating costs – ie: profit
 - b. with a 'dead-band' range between 65% and 85% of goals where no benefit or penalty applies
 - c. earnings and penalties capped at a certain amount.
3. Measurement and verification to determine level of payment or benefit.

The diagram below indicates the reward-penalty system.

However, as with the requirement for networks to implement DM before augmentation, unless there is an explicit directive from the COAG/MCE and the NEL objective is targeted towards DM reductions, it is unlikely that this approach will be acceptable to the current regulatory mindset.

Risk Reward Incentive Scheme



06

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Total Environment Centre Inc

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April 2009

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Sydney, NSW 2000**

**Mailing: PO BOX A176,
Sydney South 1235**

Ph: 02 9261 3437 Fax: 02 9261 3990

ATTACHMENT_063_Local Power Prices

Thursday 6 May 2010

Lower power prices if red tape for local generation removed

Electricity could be cheaper and cleaner if regulations blocking local, efficient energy systems in Australia were removed, according to a City of Sydney submission to the Prime Minister's energy efficiency task group.

City of Sydney's Energy Expert Allan Jones, said decentralised networks of 'trigeneration' plants could solve the peak power demand problems more cheaply and efficiently than upgrading electricity networks and building new, remote, coal or gas fired power stations.

"At a time when consumers are bracing themselves for the first part of the NSW Government's 40 per cent electricity price rises – people must be asking if there's an alternative," Jones says.

"More than \$5 billion is proposed to be spent in the next five years upgrading the network of cables, wires and transformers to meet primarily increased peak electricity demand such as mid-summer when air conditioning use is at its highest.

"These costs could be significantly reduced or delayed if cities and other urban areas were supplied from a local network of trigeneration plants."

Tri-generation plants burn natural, renewable or other low carbon gases to produce electricity. The waste heat is captured and used for heating and, through heat-fired absorption chillers, cooling of buildings. They are nearly three times more energy efficient than a coal-fired power station.

"Trigeneration is currently restricted to small scale plants within individual buildings as proponents avoid exporting electricity into the grid due to regulatory barriers."

Jones, who took the English city of Woking off the grid and implemented London Council's greenhouse gas reduction strategy, said a far greater scale of energy generation and emissions reductions could be achieved by city-wide trigeneration systems, maximising the local exportation of electricity.

The City of Sydney is about to seek tenders for the installation of a network of largescale tri-generation systems that will supply electricity, heating and cooling to its buildings with the potential to connect other nearby premises.

The first phase will see the installation of trigeneration plants at least seven sites in central Sydney. These systems are expected to have a capacity of up to 25 Megawatts by 2015, increasing to at least 330 MW by 2030. This will supply 70 percent of the City's energy needs, with the remainder coming from renewable sources and energy efficiency measures.

The City is currently working with Energy Australia to obtain exemption to transfer surplus power to other Council buildings across the electricity network.

Lord Mayor Clover Moore MP said the City of Sydney's work will be watched closely by Australia's other capital cities.

"Australian cities could halve their greenhouse gas emissions over the next 20 years if they implemented a plan similar to ours," Ms Moore said. "This was the finding of a study by the Centre for International Economics Australia which said national emissions could be slashed by a cumulative 540 million tonnes between 2010 and 2030, roughly equivalent to the total of Australia's 2008 emissions.

"Expanding NSW's centralised electricity grid infrastructure and building more remote coal fired power stations is economically irresponsible and environmentally dangerous. "This outdated, inefficient and polluting energy system must be replaced with low carbon, local energy production if we are to fulfil our commitments to avoid dangerous climate change," Ms Moore said.

The Prime Minister's task group on energy efficiency has been asked to examine the most economically, environmentally effective and socially inclusive energy efficiency mechanisms to deliver 'step change improvement' in Australia's energy efficiency by 2020 and place Australia at the forefront of OECD energy efficiency improvement. The group is considering submissions and is expected to report options to the Federal Government by June.

For more information and interviews contact:

Jon Walter, City of Sydney, 0406868359

For more City of Sydney media releases go to **www.sydneymedia.com.au**

23626 William Harpham of Kobble Creek, QLD

Dear Anna,

I refer to your email dated 24 November inviting me to resubmit my submission in relation to the above matter. My submission is as follows:

My parents, Philip and Julia Harpham own the property Moorabinda which the proposed transmission line will dissect. Obviously, this has caused significant concern for all of our family due to the negative consequences of the project for the property. The reasons for this concern is based on a number of considerations, including but not limited to:

- disturbance to farming activities during and post construction;
- reduction in general amenity (both aural and visual);
- substantial reduction in property value; and
- environmental degradation (both in construction phase and post construction) with the transmission line destroying fauna and flora and then effectively severing fauna and flora corridors.

Absent further issues, these concerns may not have manifested into anything more than a strong objection. However, upon a thorough investigation into the matter by interest groups in the region with the assistance of the Environmental Defenders Office, it appears that both the justification for the project and the supporting EIS documentation is thoroughly flawed. I have had the opportunity to read 2 expert reports prepared to critique the validity (or otherwise) of the project. These reports are:

- "Transgrid proposal for a new Dumaresq to Lismore transmission line: Commentary on project need" prepared by the Institute for Sustainable Futures and dated October 2011; and
- "Review of the Biodiversity Report - Dumaresq to Lismore Transmission Line" prepared by theenvirofactor and dated October 2011.

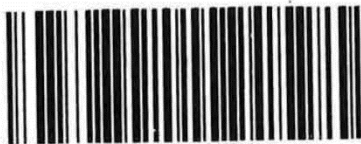
The Institute of Sustainable Futures Report appears to be a well considered and professional body of work. Its conclusions are particularly damning of the project justification and Transgrid's compliance with the regulatory test (i.e. justifying that the proposal is the least cost of the reasonable scenarios). Without repeating the conclusions drawn by the report, as you have no doubt had the opportunity to thoroughly review it by now, I is extremely difficult to understand how the NSW Government has allowed this project to proceed to this point. If the conclusions of the report are even half accurate Transgrid has either behaved in a manner that is reckless (in putting forward substandard justifications) or worse (i.e. putting forward justifications it knows to be false or misleading). Further, the probity shown by the Government and its agencies when reviewing project justifications and supporting material to date has not met the required standard of accountability, honesty, integrity and transparency.

This position is compounded by the Review of the Biodiversity Report. The deficiencies identified in that report are astonishing. In my profession I work as the Legal Manager for a large Queensland based water authority and have had extensive dealings with Environmental Impact Statements and indeed, am in the process of engaging consultants to prepare one for a major project. The fundamental flaws identified in the Biodiversity Report indicate that the report was either prepared on a shoestring budget or it was prepared by persons who did not, or were not allowed to, undertake a proper assessment. Regardless, it is an inadequate document on which to base any assessment of the potential impacts of this development. For the above reasons I object to the proposed project.

Regards

Will Harpham

Address - 160 Dales Road, Kobble Creek, Qld 4520



PCU026734

SUBMISSION - NOTICE OF OPPOSITION TO DUMAREQ TO LISMORE
330 KV TRANSMISSION LINE

ATTENTION - ANNA TIMBRELL

PLANNING OFFICER - INFRASTRUCTURE PROJECTS (ENERGY)
NSW DEPARTMENT OF PLANNING & INFRASTRUCTURE
G.P.O. BOX 39 SYDNEY NSW 2001

Dear Sir / Madam,

I wish to express my opposition to Stanfield's proposed
Dumareq to Lismore Proposal.

We moved to this lovely Mole Valley to get away from the coast with
all its pollution, power lines, traffic & crowding. Now this is happening!

I am opposed to the transmission line because of the following reasons:

- Using Stanfield's own forecast the line is Not needed.
- The Ecological Impact will be devastating. The work with line is huge.
- Seeing power lines every morning from my home as well as every time we go into town. (Sente-field) is very disturbing.
- Alternatives to coal power energy were not fully investigated & the whole process was ridiculous.
- Our property value will fall drastically & interrupt our farming practices.

Just as a point of interest we are on 800 Power & very happy with it.

Please say no to the Stanfield Power line from Dumareq to Lismore

Yours Sincerely

Charmaine Harrison

"ROSEMORE"

MOLE RIVER RD

TENTERFIELD 2372 NSW

Department of Planning
Received

07 OCT 2011

Scanning Room

TG 2 Christopher Harpham

I object for the following reasons:

1. Strategic planning and project justification The proposal is inadequate in that it does not comply with AER, a complaint which we made to the NER (to which the NER agreed). It does not adequately justify the need it insists it has. It is also running against current environmental practices by the use of coal fired power.
2. Land use planning impacts It glosses over the current use of land, as something that wont change. Access tracks will be an ongoing burden since we are already experiencing difficulty with unauthorised persons entering properties. It does not adequately address the issue of health effects

Christopher Harpham

E : chris@permeate.com.au

A.L. & V.A. Schroder

"Glen Oak"

P.O. Box 89

Tenterfield NSW 2372

19 OCT 2011

ATTN: Anna Timbrell

Planning Officer - Infrastructure Projects (Energy)

NSW Dept of Planning & Infrastructure Projects (Energy)

GPO Box 39 Sydney NSW 2001

Dear Madam,

We wish to express our opposition to Transgrid's proposed Dumeresq to Lismore Proposal.

We will be affected directly if this proposal goes ahead as the line will pass directly through land we have for sale. When we tell prospective purchasers that Transgrid will be building a 330KV Transmission line through our property they are no longer interested. The money from the sale of these blocks was to be our Superannuation Fund.

We live in a blue granite area with good grass cover. Electrical storms are bad here and these towers will make great conductors and have the potential for causing major bushfires.

The Sunnyside Airfield is another major

point for concern. The airstrip is used on a regular basis and the planes approach from the north (where the power lines will be located) prior to landing. Then when they are taking off they fly to the west which is where the proposed power line comes across. The prevention of a tragedy should be paramount in your decision making. Also the expansion of the airstrip for tourism will be restricted now because of the close proximity of the power line to the airfield.

We have attended a number of meetings over the past 18 months and it has been brought to our attention that there is nearly a 30% difference in Forecast demand projections between TransGrid's final Report (2009) and TransGrid's 2011 Annual Planning Report which raises fundamental questions about the Projects very justification.

Yours faithfully
V A Schroder.

Vicki Schroder
"Glen Oak"
P.O. Box 89
Tenterfield 2372

TG 4 James & Philippa Lilyman

SUBMISSION – NOTICE OF OPPOSITION TO DUMARESQ TO LISMORE 330KV TRANSMISSION LINE

Attention: Anna Timbrell, Planning Officer – Infrastructure Projects (Energy)

NSW Department of Planning & Infrastructure

GPO Box 39

Sydney NSW 2001

19th October 2011

Dear Madam

I wish to express my strong opposition to TransGrid's proposed Transmission Line from Dumaresq to Lismore.

My specific objection is about TransGrid's complete failure in terms of its EA to appropriately outline The Strategic **Planning and** Project Justification in relation to the Director General's Requirements of Section 75F of the Environmental & Assessment Act 1979. Specifically, TransGrid has not fulfilled the following mandatory requirements:– TransGrid did not take any account of the impact of non–network options prior to its initial proposal as mandated by section 5.6.6 in the National Electricity Rules.

Furthermore TransGrid's basis for project justification is based on faulty data. TransGrid's predicted energy demands are based upon population growth, rather than actual energy usage which, according to Transgrid's own documentation, has actually declined or remained flat over the last 3 years and will continue to do so for the foreseeable future despite increasing population grown on the North Coast. Why is TransGrid using old projection data in the project justification when it has newer (2011 data) which shows over a 100MW decrease (nearly 30%) in demand projections?

TransGrid's failure to take into account alternate energy sources is a direct breach of the National Electricity Rules. While the AER 2010 Report notes that TransGrid fixed this breach in May 2010, *some 2 years after the April 2008 Application Notice*, this does not alter the fact that TransGrid breached the Act and section 5.6.6. in not having completed this mandatory requirement of the Act *prior to the 2008 Application Notice*. Based upon these fundamental errors in strategic planning and project justification, TransGrid's rationalization for the project is untenable.

Nowhere in TransGrid's proposal does it take into account the North Coast community's uptake of energy saving systems ie: light bulbs, insulation, heat pumps, solar water heating plus solar and wind electricity generation. TransGrid has failed at every stage to adhere to the recommendations and findings of the Eastlink Enquiry.

Land use and Planning Impacts of the proposed transmission line are also very significant. Current growth in smallholder blocks on both the Western and Northern sides of Tenterfield will be severely challenged. The proposed project will not only greatly devalue the acreage of current landholders, it will certainly deter new purchasers from coming to this naturally beautiful area.

The transmission lines will adversely affect the health of farmers who will have to work close to the line and the long term effects of EMF's on cattle, sheep & crops' fertility are of great concern. In short, the proposal places the traditional land usage in the region (stock & organic farming) in real danger, especially at a time when food production is so important to the country as a whole.

The Socio-economic & Visual Amenity Impacts. Apart from destroying the majestic landscape of the Northern Tablelands, the proposed transmission line will have extremely negative impacts on all fronts: private land values will diminish considerably particularly affecting landholders who wish to sub-divide their land in the future & the detrimental impacts on the tourism industry which depends for its very livelihood on the pristine, unspoilt and natural landscape in this region.

Finally we object to the fact that *TransGrid* has *not only failed to justify the need for this project* but has actively breached a number of the National Electricity Rules. TransGrid has failed utterly in its Environmental Assessment Requirements under part 3A of the Environmental Planning and Assessment Act 1979. And despite carrying out analysis of network and non-network options, only subsequent to TransGrid Action Group Inc. (TAG) and Upper Dumaresq Action Group (UDAG) making Federal Minister Mr Tony Windsor aware of the breach in 2010, TransGrid must be held accountable for the fact that it breached the Act.

Yours faithfully

James & Philippa Lillyman

"Mount View"

Back Creek Road

Tenterfield NSW 2372

Lot 91 Pakeman Rd.
DRAKE 2469 NSW.

Dear Transgrid,

The new planned power lines will be running right behind our home. Due to environmental sensitivity we choose to live where we do in the peace and tranquility of bushland and nature. The thought of putting these high voltage powerlines behind our homes disturbs us greatly.

I am already collaborating with the indigenous people, the true and original owners, of this land to oppose the proposition. Scientists and naturalists are presently doing studies to protect our native animals, flora and fauna.

In this present world we would prefer to look at alternative methods of gaining our methods of powering our homes. Why do you choose to want to burn more coal.

Coal is destroying our earth at a rapid rate and businesses and people are now being faced with carbon tax - why aren't we all doing the same to save our earth.

To cut a long story short - take your transgrid lines and jam it. before the people do.
pto.

as a lot of us aren't going to sit back
and watch this happen.

Yours Sincerely,
Janelle Nain-Ambrose.

