

Calderwood Employment Update

Revised Report

February 2010

Prepared for Delfin Lend Lease
by Strategic Economic Solutions

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Executive Summary

This update highlights issues and opportunities for Delfin Lend Lease in ensuring that the Calderwood Urban Development Area realises its potential to improve the employment and business environment in Shellharbour.

Demographics and the ageing population

Updated population forecasts for Shellharbour suggest that the area will see substantial population growth, with less emphasis on older people than in previous forecasts, though the rate of growth of retirees is still expected to be above that of the working age population.

The implications for the Calderwood Urban Development Area are that:

- The larger working age population will require more locally-based jobs; and
- There are likely to be bottlenecks in services for aged residents and possibly also an extension of part-time work into retirement.

Home-based businesses

Home-based businesses could provide between a quarter and a half of the employment (and self-employment) opportunities in the Calderwood Urban Development Area. These businesses are likely to be an important source of 'home grown' businesses, and suitable accommodation for some of these as they grow needs to be part of the package of overall options. Improved communications infrastructure and transport connectivity is likely to stimulate teleworking (working from home for a large employer based elsewhere) in the Development Area as well.

Global financial crisis implications

The development timeline for the Calderwood Urban Development Area is such that the Global Financial Crisis is unlikely to have a significant impact on new business and job opportunities.

To capitalise on the opportunity that the development presents to contribute to the region's economy by accelerating business and employment diversity, economic development in the Calderwood Urban Development Area will need to be pro-active, with realistic and measurable goals. It will be important that the retail/service mix available in and around the area meets the expectations of the new residents, and also adapts to the changes in demand trends from the surrounding economic catchment.

Regional economic development context

Changes in the regional economic development planning context in the Illawarra are bringing new organisations to the task of assessing regional priorities – including infrastructure. Urban development in Shellharbour has already been highlighted as a regional economic priority. While Calderwood is designed to address its own infrastructure needs, the Delfin Lend Lease infrastructure and servicing strategy provides structural enhancements to the region's broader infrastructure base, and offers long term synergies with other proposed release areas.

National broadband network

The National Broadband Network will bring higher speed connectivity across Australia, but development at Calderwood is likely to bring its own high speed connections. The spin-off from better national networks will be enhanced e-health and education services to Calderwood, and increased acceptance and practicality of home-based working and tele-commuting. These last two benefits will further enhance the employment diversity at Calderwood and reduce outbound commuting.

Green collar jobs

Green collar jobs need to be an integral part of employment strategies for the Calderwood Urban Development Area. Green initiatives are forecast to be catalysts of significant business and employment growth in coming decades, as well as delivering short, medium and long-term environmental benefits. A green jobs initiative is already being promoted in the Illawarra and as a greenfields site Calderwood is well-placed to host exemplar initiatives.

Aerotropolis concepts

Aerotropolis concepts embrace integrated planning approaches to generate maximum economic impact from developments around some of the world's largest airports, while avoiding the kinds of bottlenecks that plague many areas of less planned development. Shellharbour's airport precinct is a key part of the employment lands infrastructure in the City, but is not large enough to draw on and benefit from global aerotropolis case studies. In contrast, economic value adding beyond general light industrial uses will depend on the airport precinct competing successfully against many other small regional airports currently re-positioning and re-developing themselves into regional economic hubs.

Background

This report has been prepared by Strategic Economic Solutions Pty Ltd to accompany a Concept Plan Application under Part 3A of the *Environmental Planning & Assessment Act, 1979* (EP&A Act) and a proposal for State significant site listing under Schedule 3 of *State Environmental Planning Policy Major Development 2005* (SEPP Major Development) in relation to the Calderwood Urban Development Project.

The Calderwood Urban Development Project is a master planned community development by Delfin Lend Lease (DLL).

The Calderwood Urban Development Project proposes a mix of residential, employment, retail, education, conservation and open space uses. The development proposes approximately 4,800 dwellings and approximately 50 hectares of retail, education, community and mixed use / employment land. The overall development will accommodate approximately 12,400 people and will deliver an estimated \$2.9 billion in development expenditure and create approximately 8,000 full time equivalent jobs by 2031.

The Calderwood Urban Development Project site is located within the Calderwood Valley in the Illawarra Region. It is approximately 706 hectares in area with approximately 600 hectares of land in the Shellharbour LGA and the balance located within the Wollongong LGA.

The Calderwood Valley is bounded to the north by Marshall Mount Creek (which forms the boundary between the Shellharbour and Wollongong LGAs), to the east by the Macquarie Rivulet, to the south by Johnston's Spur and to the west by the Illawarra Escarpment. Beyond Johnston's Spur to the south is the adjoining Macquarie Rivulet Valley within the suburb of North Macquarie. The Calderwood Urban Development Project land extends south from the Calderwood Valley to the Illawarra Highway. Refer to Location Plan at Attachment 1.

The Calderwood Valley has long been recognised as a location for future urban development, firstly in the Illawarra Urban and Metropolitan Development Programmes and more recently in the Illawarra Regional Strategy (IRS).

The IRS nominates Calderwood as an alternate release area if demand for additional housing supply arises because of growth beyond projections of the Strategy, or if regional lot supply is lower than expected.

In 2008, the former Growth Centres Commission reviewed the proposed West Dapto Release Area (WDRA) draft planning documents. The GCC concluded that forecast housing land supply in the IRS cannot be delivered as expected due to implementation difficulties with the WDRA, and the significantly lower than anticipated supply of housing land to market in the Illawarra Region is now been recognised as a reality.

The GCC Review of the WDRA also recognised that there is merit in the early release of Calderwood in terms of creating a higher dwelling production rate and meeting State government policy to release as much land to the market as quickly as possible. Given the demonstrated shortfall in land supply in the Illawarra Region and the WDRA implementation difficulties highlighted in the GCC Report, the release of Calderwood for urban development now conforms to its strategic role under the IRS as a source of supply triggered by on-going delays in regional lot supply. The Calderwood Urban Development Project can deliver about 12% of the IRS' new dwelling target.

Changes in outlook arising from global, national and regional factors influencing investment and delivery certainty, housing supply and affordability and employment and economic development also add to the case for immediate commencement of the Calderwood Project.

In April 2008 the Minister for Planning issued terms of reference for the preparation of a Justification Report to address the implications of initiating the rezoning of Calderwood for urban development including associated staging, timing and infrastructure considerations.

In February 2009 the Minister for Planning considered a Preliminary Assessment Report for the Calderwood Urban Development Project that provided justification for the planning, assessment and delivery of the project to occur under Part 3A of the EP&A Act, having regard to the demonstrated contribution that the project will have to achieving State and regional planning objectives.

Subsequently, on the 16 April 2009, pursuant to Clause 6 of SEPP Major Development, the Minister for Planning formed the opinion that the Calderwood Urban Development Project constitutes a Major Project to be assessed and determined under Part 3A of the EP&A Act, and also authorised the submission of a Concept Plan for the site. In doing so, the Minister also formed the opinion that a State significant site (SSS) study be undertaken to determine whether to list the site as a State Significant site in Schedule 3 of SEPP Major Development.

The Part 3A process under the EP&A Act allows for the Calderwood Urban Development Project to be planned, assessed and delivered in an holistic manner, with a uniform set of planning provisions and determination by a single consent authority. Given the scale of the proposal, the Concept Plan and SSS listing provide the opportunity to identify and resolve key issues such as land use and urban form, development staging, infrastructure delivery and environmental management in an integrated and timely manner.

This report has been prepared to contribute to the Environmental Assessment Requirements issued by the Director General for the inclusion of the Calderwood site as a State Significant Site under SEPP Major Development, and for a Concept Plan approval for the development. Specifically, this report addresses the following requirements:

This report updates a study completed in early 2008 by Strategic Economic Solutions for Delfin Lend Lease (DLL) on the future business and employment mix in

Shellharbour. This work supported the Justification Report submitted to Government by Delfin Lend Lease and in particular was designed to inform knowledge of the role that the Calderwood Urban Development Project could play in enhancing the employment mix in Shellharbour.

The 2008 report covered:

1. National directions in business formation and employment generation
2. Regional context of population, business and employment in the Illawarra
3. Business and employment in Shellharbour over the next 20 years

Contents

This update draws on new research and data to cover:

1. Demographics and the ageing population
2. Home-based businesses
3. Global financial crisis implications
4. Regional economic development context
5. National broadband network
6. Green collar jobs, and
7. Aerotropolis concepts

Each of the seven sections of this draft update highlights the implications of each issue for the Calderwood Urban Development Area.

1. Demographics and the ageing population

In 2009 the Commonwealth Department of Health and Ageing (DoHA) released new forecasts of populations in Statistical Local Areas across Australia. While the 2005 NSW Department of Planning (DoP) forecasts are still the 'official' forecasts for LGAs in NSW (updated LGA forecasts have been due for release for several months), these DoHA projections take into account recent shifts in fertility and mortality which mean the DoP 2005 forecasts have lost some accuracy.

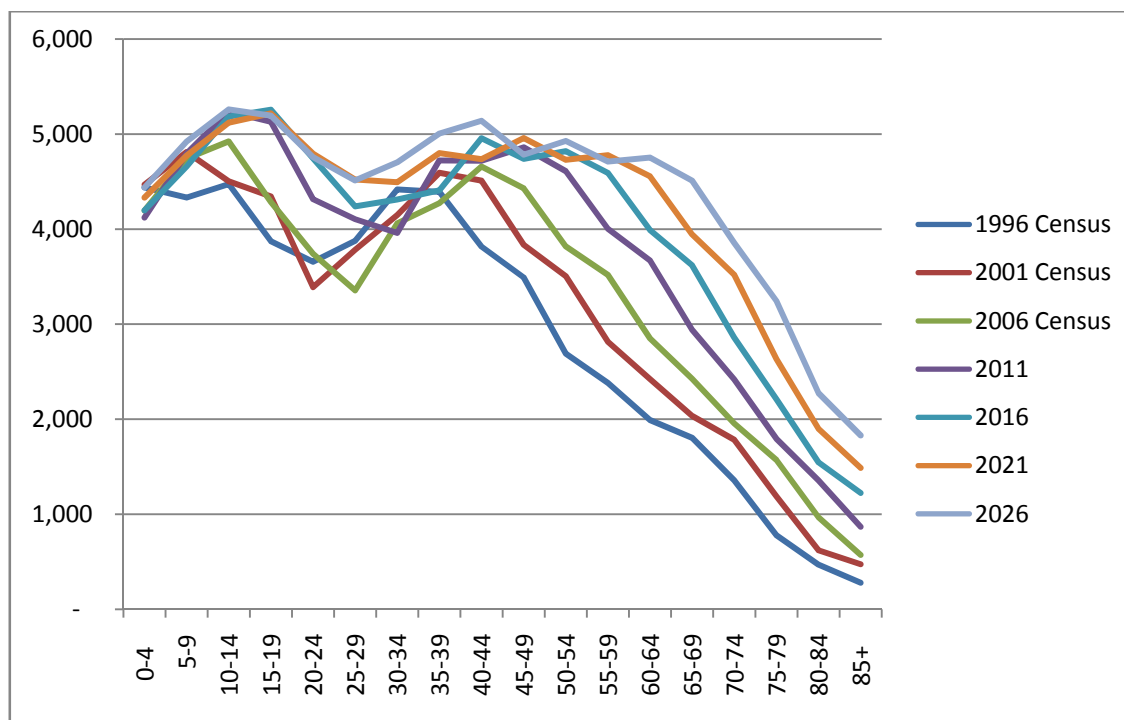
Compared to the 2005 DoP forecasts, the DoHA/ABS forecasts show more growth overall for Shellharbour, but less emphasis on the older age groups. The overall population is forecast to grow by over 15,000 people (24%) between 2006 and 2026 (compared with growth of over 10,000 people or 16% from the DoP 2005 forecasts).

	DoHA/ABS 2009	DoP 2005
2001 ERP	59,862	59,862
2006 ERP	63,434	63,434
2011	67,615	67,461
2016	71,557	70,245
2021	75,299	72,235
2026	78,811	73,805
Under 15 (no.)	14,618	12,578
15 to 64 (no.)	48,483	44,347
65 and over (no.)	15,710	16,880
Under 15 (%)	18.5%	17.0%
15 to 64 (%)	61.5%	60.1%
65 and over (%)	19.9%	22.9%

The DoHA/ABS modelling forecasts an overall ageing of the population by 2026 (in line with that predicted for the State and the nation). By 2026 some 20% of the City's population is forecast to be over 65 years old, less than the 23% forecast by DoP in 2005. The City's working age population (15 to 65) is expected to grow by around 20% from around 40,000 in 2006 to almost 48,500 in 2026, but will decline in proportion from 64.6% to 61.5% of the population.

The Calderwood Urban Development Area will impact on these forecasts as the projected population in the development area is large enough to influence averages for Shellharbour. The Calderwood Urban Development Area's resident population at full development is likely to reflect many of the aspects of the current Shellharbour community, but the mix of housing means that the demographic mix may diverge from that currently in the broader community.

An update to the age forecast chart for Shellharbour is shown below.



Source: DoHA/ABS 2009 Customised projections prepared for the Australian Government Department of Health and Ageing by the Australian Bureau of Statistics

Implications for the Calderwood Urban Development Area

There are two important implications for the Calderwood Urban Development Area of the increase in the working age population in Shellharbour:

1. The development will need an ability to provide (or stimulate) even more locally-based jobs to ensure that the local labour demand keeps pace with this forecast of increased supply; and
2. The working age population in Shellharbour, though growing fast, will still be growing more slowly than the retiree population, a situation likely to lead to bottlenecks in services for aged residents and possibly also an extension of part-time work into retirement.

2. Home-based business

A national benchmark study of home-based businesses in Australia was completed in 2007. The survey gives insight into the nature, scale and prospects of home-based businesses likely to operate from the Calderwood Urban Development Area. The development is likely to host up to 950 home-based businesses.

The benchmark survey showed that the main characteristics of Australia's home-based businesses are:

- Service-based industries predominate with 25% of home-based businesses in Property & Business Services, 16% in Construction represented, 8% in each of Cultural & Recreational Services and Retail, and 7% in each of Personal & Other Services and Manufacturing 7%.

- Most (87%) had established the business themselves, with 7% buying an existing business (including a franchise).
- Slightly more women (50%) than men (46%) run home-based businesses.
- 50 to 59 is the largest age group of home-based business operators (29%).
- Incomes show a wide spread and while 30% worked less than 20 hours a week and 46% had other income sources, for 53% the home-based business provided almost all their income.
- Turnover of home-based businesses is weighted towards lower levels, with 51% having sales of under \$100,000 in the current financial year (including 24% with sales under \$25,000). 9% had sales of over \$300,000 for the year.
- The majority of respondents work more than the average 35 hours per week and most reported having Advanced Diploma level qualifications or above.
- Almost three quarters of home-based businesses showed stable turnover, and some 48% are looking to grow. Of those looking to grow, over two thirds would prefer to grow their business at their home base.

More detailed analysis showed that the more sophisticated the use of e-commerce the higher the percentage of respondents in each e-commerce class that showed growth. More home-based businesses which had high levels of e-commerce capability (such as full on-line sales and ordering capability) showed business growth than those with only low levels of e-commerce capability (such as using the internet only for emailing).

Implications for the Calderwood Urban Development Area

The national survey showed that the concentrations of home-based businesses ranged from 9% of households in cities to 25% plus in country areas. Shellharbour has attributes of both city and country economies, and the rate of home-based business in Calderwood is likely to be in the 10-20% range, subject to the right offer and attraction strategy. By way of comparison the rate of home-based businesses on the Gold Coast as a whole is 13.5%.

On the basis of 4,800 households in the Calderwood Urban Development Area this could mean 480 to 950 home-based businesses. Using benchmarks from the national survey these businesses would be in the following mix of industry groups:

- Professional Services 20%
- Manufacturing/retail/wholesale 14%
- Skilled Trades 41%
- Unskilled Services 24%

This mix is a guide, as particular characteristics of the Shellharbour will induce its own unique mix of industry groups for home-based businesses. For example, Shellharbour currently has a lower proportion of professionally-qualified workers than the Australian average. This could reduce the number and proportion of home-based businesses offering professional services, unless the development itself acts as a catalyst to bring more of these people to Shellharbour.

The national survey found a wide range of home-based business operations – from small part-time operations to those with dozens of employees. The overall average was 2.4 workers (owners and employees) per business, and if Calderwood's home-

based businesses had the same mix this would translate to some 1,150 to 2,280 people working in home-based businesses.

Other residents of Calderwood are likely to also work from home as employees of larger employers based elsewhere. Estimates of the number of these workers vary, but the Australian Telework Advisory Committee reported to the Department of Communications, Information and the Arts in 2005 that 'around 1 million Australians, or 11% of the workforce' were teleworkers'¹.

From the 2006 Census some 45% of Shellharbour's overall population are in the labour force². If this percentage holds for the Calderwood Urban Development Area, and a similar proportion of its labour force are teleworkers, then the population of 12,400 would mean there might be around 600 teleworking residents.

These estimates of the number of Calderwood residents who might work from their homes could be a base case, if better information and communications technology (ICT) infrastructure and improved transport connectivity to Sydney occurs in coming decades, and if the trend placing higher value on balancing lifestyle and work continues into the future as well.

The national home-based business survey highlighted four other issues of relevance to help inform design and planning for the Calderwood Urban Development Area:

1. Few home-based businesses employ more than 2 non-resident workers at the residence – suggesting that concerns about frequent traffic movements by staff to home-based businesses are largely unfounded;
2. Very few home-based businesses expect to grow (at the home base) by taking on more workers (instead using IT to enable employees to contribute while working from other locations, and outsourcing of some business functions to increase productivity). Better communications technologies will therefore have a significant multiplier effect on home-based business performance, and will increase the importance of having somewhere in or around the Development Area where growing home-based businesses can expand – for example small commercial spaces or trade workshops;
3. Many home-based business operators are seeking clarity on business activity permitted from a home base, but there are many local governments not providing 'plain English' guidance in documents or on websites – suggesting that a planning issue for Council is to make permissible uses clear to prospective residents in any planning advice and guidelines (LEP/DCP); and
4. The fibre-to-the-home ICT infrastructure planned for the Development Area (see Section 5, below) will support 'smart growth' by home-based businesses – helping achieve economic development goals while minimising undesirable environmental impacts – as businesses will be able to adopt low environmental and low neighbourhood impact growth strategies emphasising IT use and outsourcing.

¹ *Telework in Australia*, Australian Telework Advisory Committee (ATAC), Paper II, March 2005

² Based on 2006 Census data for Shellharbour's overall population and labour force.

3. Illawarra and the Global Financial Crisis

Economic indicators for the Illawarra dropped in September 2008 (as they did everywhere) according to the Illawarra Profiles published by IRIS Research. The low point for most indicators was the December quarter 2008 and since then, again in keeping with trends in other regions, the Illawarra indicators have shown improvements.

The region's economy was affected by the initial falls in the value and volume of iron/steel and coal exports as prices backed off record highs. But medium term predictions are for a return to growth as global demand for these commodities is expected to start rising again. The region's reliance on these energy-intensive sectors means, though, that it needs to prepare for a carbon tax and keep technology up to world standards in order to maintain activity levels if effective energy prices rise. These are the local challenges – it is already clear that global demand for these commodities will remain strong.

The three economic indicators that are likely to be the slowest to improve in the Illawarra are retail spending, business borrowing and unemployment.

Retail spending growth has been slow nationally over the last 12 months, with growth strongest in consumer staples. Within the poor overall performance of the retail sector in Australia, the ABS retail statistics show that chain stores (especially supermarkets) have seen growth, and the biggest falls have been in discretionary purchases like homewares and clothing. This national picture will hamper further retail diversification and value adding in the Illawarra, as it is a region which is already more 'essentials' focused than metropolitan areas, and which has a strong emphasis on chain store purchases and a weaker small business retail base.

Business borrowing has been in decline since September 2008 and is one of the only economic indicators not to have turned around yet. This is a combination of constraints on supply as banks tighten lending criteria to businesses, and continue to hold up interest rates on business loans, alongside reduced demand from businesses pending more confidence in the medium term level of economic activity. While region-specific information is not available from published sources, it is likely that business borrowing in the Illawarra is also severely constrained, further hampering the region's business diversification.

Unemployment rates in the Illawarra are usually a few percentage points above the NSW rate, a combination of the 'lifestyle' attributes of the region and its higher proportions of older residents. Current data for Shellharbour and New South Wales are shown in the table below, with the unemployment rate in Shellharbour typically 2 to 2.4% points higher than the State average. IRIS reports signs of a recent increase in job advertisements in the Illawarra, but again the scale of increase lags behind state and national trends.

	Unemployment rate (%)				
	Jun-08	Sep-08	Dec-08	Mar-09	Jun-09
Shellharbour	6.8	6.5	6.6	6.6	7.2
New South Wales	4.6	4.2	4.2	4.6	5.0
Difference	+2.2	+2.3	+2.4	+2.0	+2.2

Implications for the Calderwood Urban Development Area

The development timeline for the Calderwood Urban Development Area is such that the Global Financial Crisis is unlikely to have a significant impact on new business and job opportunities. The first residents are expected to move to the site in 2013, with development continuing through until 2036.

By 2013 the direct impacts of the Global Financial Crisis are likely to have eased, and business growth in the years following is likely to return to pre-crisis trends. In the absence of other economic shocks, economic development within and stimulated by development at Calderwood will be based on service provision to new residents, in the context of gradual regional diversification. Both these drivers would be constrained by any future recessionary forces

Economic development in the Calderwood Urban Development Area will need to be pro-active, with realistic and measurable goals, in order to capitalise on the opportunity that the development presents to contribute to the region's economy by accelerating business and employment diversity in Shellharbour. It will be important that the retail/service mix available in and around the area meets the expectations of the new residents, and also adapts to the changes in demand trends from the surrounding economic catchment.

4. Regional economic development context

One aspect of the regional economic development context has changed with the Shoalhaven Area Consultative Committee having ceased operating, as it joined with the Regional Development Board to form the Illawarra Regional Development Australia Committee. The Illawarra Committee covers the Wollongong, Shellharbour and Kiama local government areas, and is chaired by local businessperson Eddie de Gabriele. The secretariat is based in Wollongong and is headed by John Grace. The neighbouring Shoalhaven LGA has joined the new South Coast RDA Committee.

Regional Development Australia (RDA) is a partnership between the Australian, state and territory and local governments to support the growth and development of Australia's regions. RDA committees will build partnerships between governments, regional development organisations, local businesses, community groups and key regional stakeholders to provide strategic and targeted responses to economic, environmental and social issues affecting the regions of Australia.

The broad directions are that RDA committees will:

- Consult and engage with the community on economic, social and environmental issues, solutions and priorities;
- Liaise with governments and local communities about government programs, services, grants and initiatives for regional development;
- Support informed regional planning; and
- Contribute to business growth plans and investment strategies, environmental solutions and social inclusion strategies in their region

In practice, the Committees' arrangements with the Commonwealth Government mean that they are required to focus on four activities:

- a. Advice, consultation and community engagement
- b. Regional planning
- c. Whole of government activities
- d. Promotion of Government programs

And deliver on five outcomes

- 1 Enhanced community engagement and consultation
- 2 Improved regional planning
- 3 Enhanced whole-of-government approach
- 4 Enhanced awareness of government programs
- 5 Improved community and economic development.

Each Committee is currently looking at how it will plan to carry out these tasks.

Implications for the Calderwood Urban Development Area

The key deliverable for each Committee in 2010 will be the Strategic Regional Plan (due by mid year). This Regional Plan should set some regionally-agreed priorities for core infrastructure and should start to prioritise transport, communications and other infrastructure. It will be important that the Calderwood Urban Development Area development is included in the thinking that goes into the Plan to ensure that priorities are addressed by the main infrastructure rollout bodies.

The Illawarra Regional Australia Committee held a leadership summit in November 2009, which gives guidance on the regional economic priorities³:

- Minerals and mineral processing
- Urban development in Wollongong, Kiama and Shellharbour
- Green jobs
- Leadership
- 'Smart Growth'

While Calderwood can be implemented as a stand alone proposition, the Delfin Lend Lease infrastructure and servicing strategy provides structural enhancements to the region's infrastructure base, and long term synergies with other proposed release areas.

³ Leaders Summit Communiqué, www.rdaillawarra.com.au

5. National Broadband Network

The National Broadband Network was announced in April 2009 as a fibre-to-the-home (FttH) network which aims to connect 90 per cent of all Australian homes and facilitate broadband services with download speeds up to 100 megabits per second (Mbps). Other areas in Australia –the remaining 10 per cent – will have access to speeds of 12Mbps per minute via wireless and satellite technologies. The network is expected to cost some \$43 billion dollars and will be delivered through a new government enterprise (NBN Co) over an eight-year rollout timeline. The NBN is being designed as an ‘open access’ network which is integrated with sectors other than telecommunications. It is being used as the foundation for what the Government is calling the digital economy – enabling things like e-health, e-education and smart utility grids.

The State Government also has internet connectivity as a high priority, and requires all greenfield sites to deliver fibre to the home from July 2010 – and this will apply to The Calderwood Urban Development Area. A range of providers have indicated they are able to provide these fibre connections.

Under the Commonwealth’s National Broadband Network, the first areas to be provided with the new services are Tasmania and a number of identified ‘regional blackspots’. None of these regional blackspots are in the Illawarra. The other areas are spread across other states and the Northern Territory and comprise Geraldton, Victor Harbour in South Australia, Broken Hill, South West Gippsland, and Emerald/Longreach.

It is not yet clear what mix of wireless (eg WiMax) and FttH will be available in the Illawarra. Whichever system is used, the area will see significant improvements in internet connectivity. While the wireless offer is slower than the fixed line, the wireless service is likely to be even more sought-after in years to come as current trends are favouring laptops over desktop systems. Sales of ultraportable ‘netbooks’ in particular have been very strong as these computers offer portability and low purchase prices. Research company Gartner IDC estimates that in 2009 159 million portable machines (a segment that includes both notebooks and netbooks) will be sold, compared with 124 million desktop machines, according to. Gartner says that in the first quarter of this year, desktop sales declined 16 per cent year on year, while notebook sales fell by 3 per cent. Netbook sales, however, leapt sixfold, so that they now make up 20 per cent of all notebooks sold⁴.

In this dynamic environment, these trends towards mobility will require flexibility in how cabled broadband and access to a high speed wireless network are offered, and this mix is likely to be as important as FttH itself to residents of the Calderwood Urban Development Area as they move in.

⁴ ‘The future is mobile’, *Sydney Morning Herald online* November 5 2009

Implications for the Calderwood Urban Development Area

Improved ICT infrastructure on this scale will bring a variety of improved services and job/work opportunities to Calderwood. The NBN is focusing on improving access to public services like health and education, which should mean much more diversity in the nearby offerings of these. Local health services, for example, should include tele-health options for specialist diagnoses.

In terms of work opportunities, faster connections will lift the capacity of residents to work from home for a distant employer (tele-working) as well as enabling more efficiency in home-based business. Tele-work options will be important for the area to prevent it from becoming a commuting dormitory suburb for Sydney-based employees. Remote work options will mean residents will cut the daily commute back to a weekly commute without compromising their engagement with their colleagues.

Home-based business operations too will be enhanced, building on the correlation noted earlier between the level of internet use and business growth history.

Community facilities will be able to benefit from these technologies as well as private individuals, businesses and service organisations.

6. Green collar jobs

'Green collar jobs' have been highlighted in recent years as having the potential to underpin employment growth in Australia, compensating for likely declines in employment in energy intensive parts of the economy as energy prices rise. Opportunities for 'green jobs' have been identified in six main areas:

- Building Retrofitting
- Mass Transit/Freight Rail
- Smart Grid
- Wind Power
- Solar Power
- Advanced Biofuels

Collectively, these six industries could be generating \$US243 billion in investment for Australia and employing 847,000 workers by 2030⁵.

⁵ *Green Gold Rush, the future of Australia's green collar economy*, ACTU/ACF, October 2008

Sector	Possible jobs created
Renewable energy	Up to 500,000
Energy efficiency	75,000
Sustainable water systems	75,000
Biomaterials	33,000
Green buildings	230,000
Waste and recycling	50,000 (14,000 direct 36,000 indirect)

Source: *Green Gold Rush, the future of Australia's green collar economy*, ACTU/ACF
October 2008

In a similar vein, CSIRO has calculated⁶ that 560,000 new jobs will be created in high environmental impact industries (like manufacturing and heavy industry) by 2025, if Australia sets course to become carbon neutral by 2050.

The forecasts for jobs stemming from increased activity in renewable energy, and in energy conservation and efficiency, are of particular relevance to Calderwood as they are tied to the number of households in the region.

For renewable energy, the scale of employment creation will be driven by investment in any large scale generation capacity in the region, and on the forecast take-up rates for household-scale generation.

Jobs in energy conservation and energy efficiency can be estimated around five main activities:

1. Retrofitting (number of buildings for retrofitting and scale of investment in each)
2. New buildings (*additional* job demand created by constructing all new buildings to green specifications)
3. Industry and business (likely demand for green business services in Shellharbour)
4. Transport (jobs created by expanding and improving the public transport sector)
5. Food (the productive capacity of arable land in the sub-region – see the Agricultural Land Strategy for further details).

Implications for the Calderwood Urban Development Area

Over the medium term, a green overhaul of the Illawarra regional economy and infrastructure could be a primary driver of growth in the region. The 'triple crunch' of the global financial crisis, climate change and declining oil production will have a negative impact on the Illawarra economy. The global financial crisis has dampened private investment expenditure in the region already, leading to increased unemployment – as discussed earlier. Climate change and declining oil production

⁶ CSIRO, *Growing the Green Collar Economy: Skills and labour challenges in reducing our greenhouse emissions and national environmental footprint*, Report to the Dusseldorp Skills Forum, June 2008

will alter urban design, housing, office buildings and transport in the region. The growing population will also seek responses to climate change and move towards more environmental sustainable housing and transport.

CSIRO modelling on the green collar economy estimates 2.5 to 3.3 million jobs will be created in Australia in the next 20 years, and 8,500 of those jobs could be created in Shellharbour (based on the area's current 0.3% share of Australia's labour force).

Sustainable environmental design generates jobs in architecture, urban planning, landscaping, transport, engineering, construction, research and development and environmental management as well as tourism. The manufacturing and engineering sector could foster niche sustainable production or support the green makeover. The professional, scientific and technical service industries could also be innovative or support green technology either at a local or Australia-wide level.

A 'green jobs initiative' for the Illawarra is already being promoted by the South Coast Labour Council.

A green makeover of Shellharbour's existing 23,000 private dwellings would have significant benefits to employment in the region too. A potential 70 additional trades people per year will be required to convert 10 per cent of houses to renewable energy sources. Further expansion of existing solar businesses would occur with the potential employment of more installers, administrative, distribution, supplier and maintenance jobs. In addition, the education and training sector such as Illawarra TAFE and Wollongong University would need to cater for the increased skill requirements, retraining and trades courses as well as retail outlets expanding their range and services to cater for the increased sustainable energy requirements.

7. Aerotropolis

Shellharbour's airport precinct will be the site of expansion of supply of industrial land, as set out in the 2009 update to the Illawarra Regional Strategy and the rezoning of land on the western side of the airport for the Illawarra Regional Business Park. To the extent that suitable land is in short supply, and the new release areas are taken up and offer suitable sizes, there is every likelihood that the 'business park' component of the airport precinct will find tenants. But is there more value that could be drawn from this development, leveraging off its proximity to the airport?

The 'aerotropolis' concept comes from integrated development approaches to land around some of the world's largest airports, and argues that filling land alone does not constitute 'best use' in economic development terms. The concept of the 'aerotropolis' comes from US academic John Kasarda, with all the early examples being huge land areas and service centres like Detroit, Chicago and Michigan in the US.

Kasarda acknowledges that the development of these sprawling mixed use areas has been haphazard and has caused as many problems as it has created

opportunities and a more purposeful design approach is the core of the aerotropolis concept, to avoid the negative reactions to sprawling airport developments. New examples, still focusing on very large airports, are emerging in Europe (Schiphol, Frankfurt)) and the Middle East (Dubai) and Asia (Hong Kong, Singapore (Changi)).

The concept is becoming increasingly popular, and the term is being used in relation to many Australian regional airports as a way of examining long term, strategic and structured processes to get full value from airport locations and facilities. While a more strategic approach to airport precinct planning should be valuable, the aerotropolis concept itself applies to the world's largest airports, and seems to have limited applicability to regional airports in Australia.

Implications for the Calderwood Urban Development Area

One of the challenges to applying aspects of the aerotropolis concept to Shellharbour's airport precinct is competition from the large number of small regional airports, many of which are currently developing new management and masterplans for the airports and surrounding land. Each of these is seeking to establish its own 'points of difference' in what will become over the next few years, a crowded market. Many are using the aerotropolis terminology without understanding the implications for planning, design and infrastructure. Shellharbour will need to address the same issues, and the starting point is some hard-edged reality checking on the potential for the attractiveness of the four core offers of an airport precinct:

Aeronautical

- Aircraft, passenger and goods movement, training

Aviation support

- Aircraft movement related services (air services, maintenance services, goods transfer, fuel, catering, waste management etc)

Aviation related

- Aircraft customer services (charter, air survey, parachuting, car hire etc)
- Ancillary uses (aviation related design, manufacturing etc)

Non-aviation complementary uses (ie not disadvantaged by proximity to airport)

- Light industrial, sporting, short-term accommodation, horticulture, warehousing/storage, car park, community facilities

A recent media report of lack of developer interest in the Business Park site⁷ underscores the importance of detailed and realistic positioning and development strategy for this important parcel of employment land.

⁷ Illawarra Mercury, 1 Oct 2009, *Welcome to Aerotropolis, aka Albion Park Rail*

Conclusions

Overall, this update informs the mix of residential, commercial and industrial land in and around the Calderwood Urban Development Area. It will help guide masterplanning of the mix of business spaces, and the locations (traditionally centralised versus future focused decentralised) of each type of space and the services offered.

Business diversification and higher value jobs are important goals for economic development in Shellharbour. Calderwood's contribution to regional business diversification will be enhanced by affordability and flexibility. New areas available for business will need to be affordable, technologically enabled, and available under different occupancy regimes (ownership, long term leasing, short-term leasing etc). The local planning framework should reflect this need for flexibility over time to help respond to these needs.

The usual approach to estimating and designing employment land is based on using accepted ratios to forecast floorspace demand for retail to service residents. This update highlights that the service sector is a crucial part of the future mix, and the usual ratios do not handle this sector well. Personal and business services in a variety of industry classifications will be required to service new residents in the development, and customers outside.

Currently, the IRS emphasises the airport precinct as the centre of business and employment growth in Shellharbour, and while these lands should be able to host some new jobs, they will not be well-suited to higher value service oriented jobs that are needed to diversify the local economy and increase average wages. The implications from this report are that the airport precinct needs to be complemented by other areas and employment-generating initiatives which will attract the higher value service sector jobs necessary to strengthen the region's economic base. The Calderwood Urban Development Area can play a key role in stimulating and hosting these jobs.

Attachment 1: Location Plan

