PROSPECT PRECINCT WATER THEME PARK

Environmental Management Guidelines

Interim Guidelines

Pending Final Design

Draft v5

Between Western Sydney Parklands Trust
and
Prospect Aquatic Investments

These Environmental Management Guidelines have been prepared with the aim of providing guidance to the water parks owners and operators on where actions might be taken to enhance the parks environmental performance with regard to water, energy and waste.

This document was prepared by Western Sydney Parklands Trust and Prospect Aquatic Investments with input from the Institute for Sustainable Futures at the University of Technology, Sydney.

1 Water

The challenge in creating a sustainable water theme park lies in using water as efficiently as possible and using alternative water supplies while maintaining the recreational value of the park. Fortunately, there are a wide range of initiatives that have been undertaken at various water theme parks, including Wet'n'Wild Gold Coast that can be applied at Sydney's proposed water park to improve water use efficiency. There are also a range of opportunities to use alternative water supply sources and implement measures to mitigate impacts on stormwater quantity and quality.

There are also opportunities to integrate water management at the park with energy and waste systems to maximise efficiency and minimise waste products. These issues will be discussed further in this document.

1.1 Objectives – Water

There are several concepts underpinning sustainable water management and these include 'integrated water management', which refers to maximising water use efficiency, minimising the impacts on stormwater runoff and waterways and making use of locally available water sources. A key concept within this is also that water used must be 'fit for purpose'. Naturally, water quality is important in a water theme park where water is primarily used for primary contact. However, there are other water uses within a water park which require water of a lesser quality, for example toilet flushing or irrigation.

While these concepts relate primarily to the park's operation, there are also significant water management issues to be addressed during construction. The exposed earth, stockpiles, construction materials and chemicals associated with building the water theme park all pose challenges to the local environment. Although basic soil erosion provisions are typically implemented, they tend to be much more damaging than post construction impacts, so it is important to develop and rigorously implement stormwater management controls.

A number of objectives for water management will include:

- Minimise water consumption overall by maximising water use efficiency
- Minimise use of mains water supplies
- Use water fit for purpose
- Use locally available water sources and recycle where possible
- Minimise stormwater contamination during construction
- Minimise other environmental impacts during construction, including soil erosion
- Minimise impacts on stormwater runoff quantity and quality during operation
- Practise continuous improvement

1.2 Aspirational Targets

The target for the park is to deliver, at the time of design, “best practice ESD and incorporate the latest technologies and environmental standards”.

This could be achieved by following these steps (described only briefly here):

- Firstly, maximise water efficiency throughout all aspects of the park
- Use devices to ensure losses are minimised
- Use alternative water sources where available / feasible
- At the operator’s option possibly taking advantage of available offsets, such as implement demand management programs in the community

The detailed actions and strategies that would enable reaching this target are provided in the next section.

1.3 Actions and Strategies

This section sets out the sustainability actions and strategies that can be undertaken at the park to minimise water use. The component design of the water park is to incorporate water park best practice and latest ESD technologies, environmental standards, measures and activities, as at the time of design.

The intention is to prioritise sustainability actions, starting with those that are simple, inexpensive and important to implement, however these actions have also been categorised according to design, construction and operational phases. Continuous improvement of water efficiency through the development and use of new methodologies and technologies is a key ongoing strategy where both practical and feasible.

Table 1 – Actions and strategies that can be undertaken to achieve targets

No.	Action / strategy	Comment
	Regulatory requirements	
1	Develop a construction environmental management plan, incorporating soil and water management controls.	Likely to be required.
2	Develop a stormwater management plan, incorporating water sensitive urban design.	Likely to be required.
	Sustainability actions and strategies (prioritised commencing with simple and inexpensive actions)	
	Design Phase	
3	Conduct a water balance for the proposed site design and investigate the following: - The potential for water efficiency measures. - The fraction of water demand that could be met with alternative water supplies.	This is a critical step for ensuring that water is used in the most efficient way at the park. The feasibility of alternative water supplies also needs to be considered to minimise the use of water from Sydney Water.

	- The feasibility of using alternative supplies such as rainwater and stormwater.	
4	Develop a construction environmental management plan (as detailed in requirements above).	
5	Design water using rides to minimise splash out and evaporation.	This is a critical consideration during the design phase when it will be simple to incorporate shifts in design.
6	Design water sensitive urban design elements around the park to minimise pollution of stormwater runoff.	Likely to be required by local and state government.
7	Choose landscaping with low water use requirements.	Choice of plants will be important, but landscaping can also include elements that minimise evaporation from soil, such as ground cover and soil wetting agents.
8	Where possible, use tree cover and shading adjacent to water rides to reduce evaporation losses.	Technical staff at Gold Coast Wet'n'Wild noted that the river ride loses less water to evaporation due to the tree cover around the ride.
9	Where technically and practicably feasible use regenerative pool filters (or alternatives that are comparable in terms of minimal backwash loss).	Filtration equipment varies greatly in its ability to retain more or less water in operation. Gravity or pressure sand filters, for example, can lose a high proportion of throughput as backwash, while regenerative filters, lose almost no water as the filter media is constantly in a fluidised state and no backwash is released.
10	Design systems for alternative water supplies options that are found to be feasible .	This might include rainwater collection, stormwater harvesting or wastewater reuse for non-potable water uses in the park. Most likely uses are irrigation, toilet flushing and deck wash down.
	Construction Phase	
11	Develop an operational water management plan, incorporating a water efficiency plan.	This is an extension of the efficiency measures identified in the design phase. This plan will incorporate both physical elements (fittings and appliances) as well as a plan for improving water use behaviour.
12	Unless practical considerations dictate otherwise, install the highest star rating in water efficient fixtures and appliances, including toilets, showers, taps, dishwashers and washing	See WELS star ratings.

machines.

13	Sub-metering of significant water sources, circuits and sinks to enable fast identification of leaks as is practicable and feasible. To be reviewed at appropriate zoning locations within the circulation system.	Ideally, each discrete management unit in the park should be sub-metered, e.g. a café, the water circuit for a ride or group of features.
	Operation Phase	
14	Use water efficient trigger nozzles on all hoses.	See Smart Approved WaterMark products.
15	Only carry out deck wash down in critical areas. Use water efficient trigger nozzles for this purpose.	See Smart Approved WaterMark products.
16	Where practical use soil moisture sensors so that landscapes are watered only when required wetting agents for gardens.	See Smart Approved WaterMark products.
17	Analyse the practicality and cost/benefits of using pool covers/blankets to minimise evaporation while pools are not in use and adopt where practical.	A simple and effective measure, subject to technical design constraints.
18	Monitor water use in the park during operation to ensure that leaks are quickly detected. Monitor overall water use over time so that improvements in water use efficiency can be measured.	Monitoring water use for early leak detection and water use efficiency management.
19	Provide education and training for all staff, so that water efficient practices become part of the park's operations and culture.	Education for staff is critical for ensuring the success of the park as a 'green' facility.
20	Set up signage around the park to encourage park users to be water conscious (for example, by taking shorter showers). This signage could also explain the measures that have been undertaken to reduce the park's water use and this could have educational value.	Signage is simple and inexpensive and if done well, can be integrated as part of a sustainability theme around the park. This could be an educational element aimed at school students.

1.4 Indicators

The following table sets out indicators that can be used to monitor the performance of the park over time with regards to energy use and carbon abatement.

Table 1 – Indicators that should be measured to monitor performance and progress over time

Indicator	Metric	Reason
Total Sydney Water consumption	L	To monitor overall efficiency from year to year
Potable water consumption per visitor based upon design number of visitors	L/ design number of visitors	To monitor overall efficiency from year to year.
Percentage total water sourced from alternative supplies	%	To demonstrate the extent to which local alternative water supplies are being utilised

2 Energy & Carbon

Energy use, specifically electricity and gas and the associated greenhouse gas emissions, will be a significant contributor to Prospect Water Park's overall environmental footprint. Incorporating energy management from the early planning stages of the project is essential for maximising the identification and integration of energy efficiency and greenhouse gas (GHG) management practices into all phases of the proposed development thereby lowering the overall impact of energy use in this project. This integrated method is best approached from a systems perspective where energy is optimised by looking at all aspects of the Park's basic design and services in terms of energy inputs and end uses. The opportunities associated with designing on a greenfield site also provides opportunities to design and develop Wet'n'Wild Sydney as an internationally recognised theme park/tourist attraction benchmarked against its sustainable and innovative energy and GHG management practices and technologies.

To achieve this the following objectives, criteria and guidelines can be used by the proponent to guide both the construction and operational phases.

2.1 Objectives – Energy & Carbon

Key objectives for energy and carbon management will be to:

- Minimise energy usage and carbon emissions – particularly fossil-fuel based energy use, in both construction and operation
- Maximise energy efficiency in design
- Minimise peak demand for electricity sourced from the grid
- Optimise energy use in operations and practise integrated energy management

At the operator's option the park could consider participating in existing greenhouse gas abatement projects in the community as a means of offsetting the park's GHG emissions.

2.2 Aspirational targets

The target for the park is to deliver, at the time of design, "water park best practice ESD and incorporate the latest technologies and environmental standards".

In order to reduce overall Carbon Emissions at the water park, Wet'n'Wild Sydney could investigate the following:

- Firstly, optimising energy efficient design
- Minimise energy losses throughout all aspects of the park
- Implement good energy management practices in operation of the site and integrate this throughout operations and maintenance, management, reporting
- Use renewable sources of energy where available and or practically feasible
- Look for continual improvement opportunities such as staff training, installation of new and more efficient and or renewable technologies in maintenance and upgrade planning.

Early consideration of energy flows through the system can provide more cost effective carbon abatement across the life of the project. Then where further maximisation of energy efficiency and reduction of usage is not feasible, investigation of credible and reliable emissions offsets can be sought. At the operator's option the park could create or invest in existing greenhouse gas abatement projects in the community as a means of offsetting the park's GHG emissions.

2.3 Actions and Strategies

This section sets out the sustainability actions and strategies that can be undertaken at the park to minimise energy use and carbon emissions. The intention was to prioritise sustainability actions, starting with those that are simple, inexpensive and important to implement, however these actions have also been categorised according to design, construction and operational phases. Continuous improvement in energy efficiency and management is a key ongoing strategy. This can be achieved by modifying management practices as new methods are discovered and wherever practicable and feasible, replacing older technologies with new technologies to improve energy efficiency as time goes on.

Table 1 – Actions and strategies that can be undertaken to achieve targets

No.	Action / strategy	Comment
	Regulatory requirements	
1	NGERS reporting requirements should be designed into the Energy Management Plan.	There is much guidance on opportunities for best practice in different aspects of the park such as buildings and facilities, design.
	Sustainability actions	
	Design Phase	
2	Optimisation of energy flows to be taken into consideration of park design.	The park layout should be designed to optimise energy flows. Engage an energy consultant in the detailed construction design phase.
3	Design for peak load reduction.	Peak load reduction can be designed in to the park, through selection and placement of technologies and equipment.
4	Pumping efficiency – optimisation and selection of pumps to match volumes and flows of water. Use variable speed drives to allow for ramp up and down as necessary.	Will require modelling of water and energy flows through system to determine pump capacity requirements.
5	Analyse the practicality and cost/benefits of using pool covers/blankets to minimise evaporation while pools are not in use and adopt where practical and feasible.	A simple and effective measure, subject to technical design constraints.

6	Efficient lighting options for outdoor facilities. Indoor considerations should be covered by the use of Green Star design manual.	This could be provided by super-bright clustering of LED lighting. Solar outdoor lights could provide ambient lighting of the park grounds. These lights charge during the day and turn on when the light levels are low. The outdoor lights could also been on a timer and sensor system to minimise light pollution from the site after dark and conserve energy. (See automated controls section.)
7	Utilise the Office Green Star Design Manual in the design of the office buildings on site.	The Green Star Office Design Manual has clearly set out guidance for a range of energy impacts. Where a relevant tool exists, seek a Green Star rating.
	Construction Phase	
8	Hire local labour, sourcing local materials and resources and purchasing equipment close to the park as appropriate.	
	Operation Phase	
9	An Environmental Management Plan developed during the design phase and prior to operations and communicated to all operational staff, linked in to policies and procedures across the site.	Incorporate guidance from the NSW Energy Savings Action Plan Guidelines and Energy Efficiency Opportunities Guidelines which outline good practice management. Allocation of responsible people for implementation and communication of the plan. To specify all topics set out in this document – e.g. metering and monitoring, responsibilities, implementation, reporting, evaluation etc.
10	Investigate the establishment of an energy management committee with members from park maintenance, facilities and operations, park management, corporate management and communications.	Regular meetings and report back on performance to stakeholders. Responsible for: - Setting energy and GHG management targets. - Monitoring performance. - Identifying good energy management barriers and issues and providing solutions to overcoming these.

		- Communicating required actions to staff and visitors.
11	In the design phase, investigate feasibility of sub-metering and connecting all significant energy end uses to an energy management system. Install sub-meters where appropriate.	Sub-metering and energy management systems provide feedback for energy efficiency management.
12	Investigate the operation of an energy management system to provide metering, monitoring and reporting of all major energy intensive operational plant, equipment, facilities and systems where appropriate.	Sub-metering and energy management systems provide feedback for energy efficiency management.
13	Insulate where practical all relevant equipment and piping to reduce heat loss. e.g. gas boilers, water piping and water storage areas.	
14	Automated controls on all lighting: - Outdoor lighting (including carparking and perimeter lighting) be set for minimum lux levels and monitored and adjusted seasonally.	
15	Pumping systems linked to automated timers.	
16	Water heating and space heating controls to be automated – set and monitored.	
17	Establish an energy education, communication and continual improvement program incorporating both internal and external aspects: - Training of staff. - Communications and marketing strategy.	Energy management training for all full-time staff, with different components for those with greater responsibility including operations and maintenance staff and managers. Staff induction to outline energy and water efficiency management features and responsibilities. External: School education on sustainability/energy management to be put in place; school outings to link water, energy and fun. Communications and marketing strategy including: - Best practice reporting and management of energy use & carbon emissions information. - Potential for school tours of sustainability initiatives and

		features prior to spending a day at the park.
18	Minimise waste to landfill to avoid methane emissions generated from decomposition.	Refer to waste management strategies.
19	Transport and Travel Strategy to be implemented.	Minimise induced traffic creation through transport strategy and travel plan. Strategy to include (but not limited to): - maximising public transport usage. - minimise individual vehicle travel.
20	Consider the fleet of permanent on-site vehicles within Wet'n'Wild to be either electric vehicles or rate 5 stars for emissions under the Green Vehicle Guide.	
21	Investigate the option of a cogeneration plant.	Utilisation of a co-generation system, with natural gas boiler back-up could supply all or a portion of the electricity required for pumping, filtration, lighting, etc and also heat required for space and water.
22	Solar thermal to be used for water heating where possible and feasible.	Solar hot water could be used for amenities blocks.
23	Consider sourcing some of the electricity load from accredited Green Power Sources.	All grid-connected electricity used could be sourced from an accredited Green Power source. There is potential to negotiate a contract directly with a renewable energy supplier.
24	Energy Offsets: The park could consider participating in existing greenhouse gas abatement projects in the community as a means of offsetting the park's GHG emissions.	Being part of Western Sydney Parklands, the park could participate in local or regional greenhouse gas abatement projects e.g. local tree plantings, Eastern Creek Recycling Facility to capture waste energy from materials off the site.
25	Education and marketing for sustainability.	A range of opportunities exist to market this as the most sustainable water park in Australia or the world.

2.4 Indicators

The following table sets out indicators that can be used to monitor the performance of the park over time with regards to energy use and carbon abatement.

The target indicators for power and carbon emissions have been derived based on the final design, and will be used to track performance year on year.

Table 1 – Metrics for Energy and Carbon Management

Indicator	Metric	Purpose
Total energy use	MJ or kWh	To monitor the total energy impact of the site on an annual basis
Total carbon emissions (Scope 1 and Scope 2) as per NGERS requirements	t CO2-e	To monitor the carbon emissions from operation of the site.
Energy Intensity - Electricity consumption per visitor and Gas consumption per visitor based upon design number of visitors	MJ or kWh/visitor	Allows benchmarking of electricity and gas use on site related to patronage on a comparable basis
Carbon Intensity - emissions per visitor based upon design number of visitors	t CO2-e /visitor	Allows benchmarking of emissions on site related to patronage ona comparable basis
Percentage total energy sourced from renewable sources	% (MJ or kWh)	This percentage will allow for the measurement of the usage of renewable energy sources

Note: The above tables outline the key overall indicators for the park. All metrics are on an annual basis. Reporting as per the Energy Management Plan should incorporate a range of sub-category indicators for key aspects of the park and those areas to be targeted, e.g. buildings, % peak versus off peak demand. These would also utilise shorter timeframes e.g. daily, monthly and quarterly to allow appropriate management regimes to be implemented and communicated.

3 Waste and Material Resource Management

Waste and material management present significant environmental challenges, particularly for a theme park expecting thousands of visitors daily. Key environmental problems flowing from waste generation range from pollution caused by improper waste disposal, such as contaminating ground water and other water sources, the creation of greenhouse gases generated as waste decomposes, and harm to surrounding flora and fauna, to significant water and energy consumption and generation of greenhouse gases associated with the transportation and treatment of waste. Waste avoidance and resource recovery are key priorities for the NSW Government in its aim to protect the environment and conserve resources for future generations[1]. Waste avoidance and resource recovery greatly benefit the natural environment – reducing greenhouse gases, saving water and energy, prolonging the availability of rare earth minerals and minimising land degradation and destruction of ecological resources. An appropriate waste management plan (WMP) will also enable significant social and economic benefits to be realised (social benefits may be associated with education and health; economic benefits may be arise from resource efficiency and via additional revenue streams through the sale of compost output, which can be significant).

Sustainable waste management will be of great importance for Wet'n'Wild Sydney, which envisages approximately 925,000 visitors per year on average and between 9,000 and 10,000 per day during the peak period.

A Waste Management Plan (WMP) should be designed for and implemented during the design/construction and operation stages of Wet'n'Wild Sydney. Solid waste can be broken down into three categories: biodegradable and non-biodegradable, combustible and non-combustible, and hazardous. Each category of waste requires a different management system so it is important to understand the nature of each of Wet'n'Wild's waste sources. Potential sources of design and construction waste include excess construction material (due to inefficient design and cut-off scrap) and packaging. Potential sources of operational waste include:

- Food
- Merchandise
- Office
- Lawn keeping chemicals
- General cleaning chemicals
- Water treatment chemicals
- Bathrooms

3.1 Objectives – Waste

The overarching and long-term objective for waste and materials management for Wet'n'Wild Sydney will be to achieve minimal waste to landfill. If waste cannot be avoided the next step will be to reuse 'waste'. Waste that cannot be reused and is recyclable will be recycled.

To most easily achieve this objective a further objective will be to source material resources that have maximum recycled content (i.e. maximum post consumer-use material) and maximum recyclable content (maximum material able to be recycled). A 'front of process' approach will ensure that recycling is treated as a last resort option.

[1] (2007). NSW Waste Avoidance and Resource Recovery Strategy 2007.

Key objectives for sustainable waste management will be to:

Design/Construction

- Minimise construction waste - starting from design stage
- Maximise recycled and recyclable content of construction materials
- Maximise re-use of and recycling of construction material
- Select construction materials with minimal environmental impact where appropriate

Operation

- Minimise waste to landfill
- Maximise local or on-site recovery and re-use of waste streams
- Maximise recycled and recyclable content of all operational equipment and product
- Maximise recycling of materials
- Minimise use of environmentally hazardous chemicals for water treatment, cleaning and first aid
- Practise continuous improvement

3.2 Aspirational targets

The target for the park is to deliver, at the time of design, “best practice ESD and incorporate the latest technologies and environmental standards”.

The aspirational target for the park is to minimise waste to landfill.

This could be achieved by following the following steps (described only briefly here):

- Firstly and most importantly, design the park to ensure the most efficient use of material resources.
- Select construction material that scores highest on the basis of a complete life cycle analysis and ensure the most efficient use of such materials.
- Select operational material that scores highest on the basis of a complete life cycle analysis and ensure the most efficient use of such materials.
- Implement appropriate type and number of recycling and composting facilities that will enable recycling and composting of all recyclable and compostable material resources.
- Implement programs and facilities that educate staff and visitors on how to use the recycling and composting facilities appropriately and that encourage staff and visitors to minimise consumption of material resources (both on and off-site).

The detailed actions and strategies that would enable reaching this target are provided in the next section.

3.3 Actions and Strategies

Continuous improvement in waste management through the development and use of new materials, methodologies and technologies is a key ongoing strategy where practical and feasible.

Table 1 – Actions and strategies that can be undertaken to achieve targets

No.	Action / strategy	Comment
	Regulatory requirements	
1	Comply with the reasonable objectives relating to waste in the Plan of Management set by Western Sydney Parklands Trust.	The Western Sydney Parklands Trust Plan of Management includes waste management as a key action within its environment and conservation objectives.
2	Comply with all applicable legislation and environmental planning instruments relating to waste in NSW.	
	Sustainability actions and strategies	
	Design/Construction Phase	
3	Implement a waste management plan in design and building processes. The 'front of process' approach to waste management was detailed earlier in this section of the report – in short avoid, reduce, re-use, recycle.	Implementation a Waste Management Plan will provide benefits in resource efficiency, cost savings and contribute to achievement of the WSPT Plan of Management objectives.
4	Require construction contractors to explore opportunities to use excavated earth generated during construction for Parkland management and consider creative use of remaining excavated earth such as creating embankments.	Excavated earth and rock can be crushed, stockpiled and recycled for use in developments that require fill.
5	Where practical provide dedicated storage areas for the separation and collection of recyclable and compostable waste[2].	This action is a Green Star action that obtains the highest available points for a criterion that addresses recycling. Green Star is a voluntary rating tool used to evaluate the construction and design of buildings.
6	Require contractors to have valid ISO 14001 Environmental Management System (EMS) accreditation prior to and throughout construction as	This will help to ensure that other 'sustainable' strategies and actions are achieved

[2] Must be adequately sized to handle the Water parks total waste generated and to accommodate the storage of cardboard, glass, plastics – mixed containers, plastics – soft containers, plastics – polystyrene, metals, used cooking oils and organic compost material.

	appropriate.	
7	Maximise re-use or recycle/compost all demolition and construction waste where possible.	Adoption of recycling practices can achieve high percentages (by mass) of reuse or recycling of all demolition and construction waste.
	Operation Phase	
8	Implement a 'front of process' approach to waste management (detailed earlier in this section of the report – in short avoid, reduce, re-use, recycle) to all operational processes. Related actions under this strategy include staff training and staff and visitor education on sustainable consumption and appropriate use of recycling facilities.	If managed appropriately, and with sufficient resources dedicated to it (including the marketing of education initiatives), this action has potential to lead to considerable commercial reward. This action, if performed well, will position Wet'n'Wild Sydney as a socially and environmentally responsible entity. The corporate social responsibility value and associated economic value of such action should not be underestimated.
9	Negotiate minimal packaging of operation materials, food products and merchandise with manufacturers as far as practical and appropriate.	This action relates to the above action 8. This action has potential to avoid considerable costs, most significantly in avoiding the purchase of material that will not be needed.
10	Provide appropriate recycling facilities for visitor and staff use[3].	Such facilities are to be widely available, colour coded and signed to encourage prompt recycling of recyclable and compostable material.
11	Office space operation to achieve NABERS Waste 5 Star.	Performance at this level has significant related cost savings and the use of this performance tool will enable effective communication of the achievements of the Park being a performance tool widely used and known amongst industry and community.
12	Disposable food equipment (such as cutlery, plates and cups) to be recyclable where practical and feasible.	
13	Require contracted food providers to comply with Wet'n'Wild Sydney's waste management plan including use of on-site recycling facilities[4].	This action will only apply if the park decides to contract food providers. In such a case this action should be managed contractually. The park will be in a position to negotiate such a term into the leasing contract due to existing market competition.

[3] Recycling facilities must be of an appropriate number and location to make recycling of all waste practical and convenient for visitors and staff – eg at all common waste generation sites.
[4] The waste management plan must have an objective to minimise packaging.

14	Give preference to all operational materials (including chemicals) on the basis of high life cycle analysis (LCA). The LCA will cover the materials energy and water intensity and associated greenhouse gases – local sourcing will thus be given priority due to lower associated greenhouse gases[5].	Whilst this action may appear costly initially (as more environmentally friendly product may come at a premium) such action has potential to provide a unique product with strong marketing and PR value.

3.4 Indicators

Table 1 – Indicators that should be measured to monitor performance and progress over time

The target indicators for waste have been derived based on the final design of the park. These indicators are to be used to track performance year on year.

Indicator	Metric	Reason
Total waste generation (including recyclables)	Kg	To monitor overall waste from year to year.
Percentage total waste to landfill	%	The target here is to minimise waste to landfill, so this is to track whether this target is being met.
Total waste generation based upon design number of visitors	Kg/visitor	To monitor organic waste generation from year to year on a comparable basis.

[5] This could involve establish purchasing guidelines and set standards to guide material selection (additional to LCA) – standards should relate to recycled and recyclable content, durability and chemical impact on the environment.