Advancing Greenhouse Purchasing & Carbon Neutrality Framework

A criteria and policy framework to enable greenhouse purchasing

Acknowledgements

The Advancing Greenhouse Purchasing and Carbon Neutrality Framework was prepared by Hornsby Shire Council in collaboration with Manly Council. Carbon Planet and APP also provided input into the process. This project has been financially assisted by the Commonwealth Government through the Accelerated Action Grant Program.

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Contents

Introduction

The broader scientific community now accepts that increasing levels of greenhouse gases emitted into the atmosphere have the potential to induce adverse long-term changes to the environment. Unless significant and sustainable global action is taken to forestall projected climate change trends, large-scale, irreversible environmental, social and economic damage is likely to occur.

Local communities in Australia are not exempt from the likely impacts of climate change. Communities are therefore looking at a 'carbon-constrained future' in which the global production of greenhouse gas (GHG) emissions will have to be limited. As a consequence, governments, organisations and individuals will need to change the nature and patterns of energy generation and consumption, alter transport usage and consider the environmental cost of carbon embedded in procurement practices.

Local governments across Australia have been proactive in implementing programs and actions in an effort to reduce GHG emissions in their local communities. Leading by example and mandating greenhouse purchasing into policies, tendering and supply chain management is vital to ensure a successful transition by local government to a low-carbon future.

This framework was prepared by Hornsby Shire Council's Environmental Health and Sustainability Team and the Sustainable Procurement Committee in collaboration with Manly Council. Funded by the Department of Environment, Water, Heritage and the Arts, the framework is designed to assist local government authorities in reducing their corporate GHG emissions by developing sustainability criteria and a policy framework to mandate greenhouse purchasing into the supply chain and tendering processes.

'Greenhouse purchasing' refers to the purchase or procurement of products and services that will reduce an organisation's GHG emissions. It is a key component of a sustainable procurement system, which aims to ensure desirable environmental, social and economic outcomes through responsible purchasing decisions.

The framework focuses on how the local government procurement can be developed to support a carbon neutral framework. 'Carbon neutral' is a concept in which an entity measures its GHG emissions and then implements measures to reduce emissions, purchase renewable energy and offset residual emissions to achieve net zero greenhouse impact on the environment.

The term 'carbon neutral' is a relatively new concept, with no universally accepted definition. It is therefore important to have a transparent and rigorous approach to any carbon neutral claims. An entity can become carbon neutral simply by purchasing offsets for all of its emissions, however a more responsible, sustainable and cost effective approach to becoming carbon neutral involves a range of options, including reducing energy use, becoming more efficient and switching to renewable energy. These options are explored further in this framework.

The intent of this framework is to develop a generic pathway towards low-carbon procurement that can be adapted and applied by any Australian local government authority. Local government authorities are encouraged to use this framework to guide their purchasing decisions into the future.

Strategic Context*

This Framework has been developed with reference to the wider strategic context of national and international GHG emission protocols and standards.

National GHG Emission Reporting Framework

The National Greenhouse and Energy Reporting (NGER) Action 2007 establishes a legislative framework for reporting GHG emissions, abatement actions, and energy consumption and production by corporations. [1] The Act requires corporations to register and report if they emit greenhouse gases, produce energy or consume at or above the following specified quantities per financial year:

- Facilities that emit 25 kilotonnes or more of GHGs (CO_2), or produce/consume 100 terajoules or more of energy; or
- Corporate group that emits 50 kilotonnes or more of GHGs (CO_2), or produce/consume 200 terajoules or more of energy.

While councils are unlikely to trigger the mandatory reporting requirement, the Act is relevant as it:

- Aims to remove duplicate reporting requirements and streamline reporting from existing programmes such as the National Greenhouse Gas Inventory, National Pollutant Inventory and state based programs (e.g. NSW Energy Savings Program); and
- Provides a consistent approach to inventory design.

1. Greenhouse and Energy Reporting Department of Climate Change http://www.greenhouse.gov.au/reporting/index.html

* Information in this section taken from "Carbon Neutral Feasibility Study", prepared APP Corporation for Hornsby Shire Council, July 2008.

International GHG Emission Reporting Framework

The Greenhouse Gas Protocol (2005) – A Corporate Accounting and Reporting Standard published by the World Business Council for Sustainable Development and the World Resources Institute is the internationally-recognised standard for organisations to report on GHG emissions. The *NGER Act* has adopted the emission categories of the Greenhouse Gas Protocol.

Cities for Climate Protection (CCP™)

ICLEI's Cities for Climate Protection (CCP™) program is a global program aimed to reduce GHG emissions in the local community. The CCP™ program provides a framework to:

- Analyse the key sources of GHG emissions in councils and community, and forecast future emissions growth.
- Set an emissions reduction goal.
- Develop and adopt a Local Greenhouse Action Plan to achieve those reductions.
- Implement a local Greenhouse Action Plan.
- Monitor and report on GHG emissions and implementation of actions and measures.

The CCP™ program advises that 'carbon neutral' can be achieved by first reducing emissions as much as possible through avoidance, efficiency, alternatives and renewables, and then offsetting residual emissions.

The CCP™ program does not advocate a complete inventory (based on all indirect and direct emissions) as per the Greenhouse Gas Protocol Framework but rather focuses on the key sources of council GHG emissions such as buildings, street lighting, vehicle fleet, waste from council operations, local water pumping and sewage disposal services. It provides a good framework to build capacity and address GHG emissions.

However, when claiming 'carbon neutral' based on an inventory developed under the CCP™ program, councils should acknowledge the limitations of their carbon inventory.

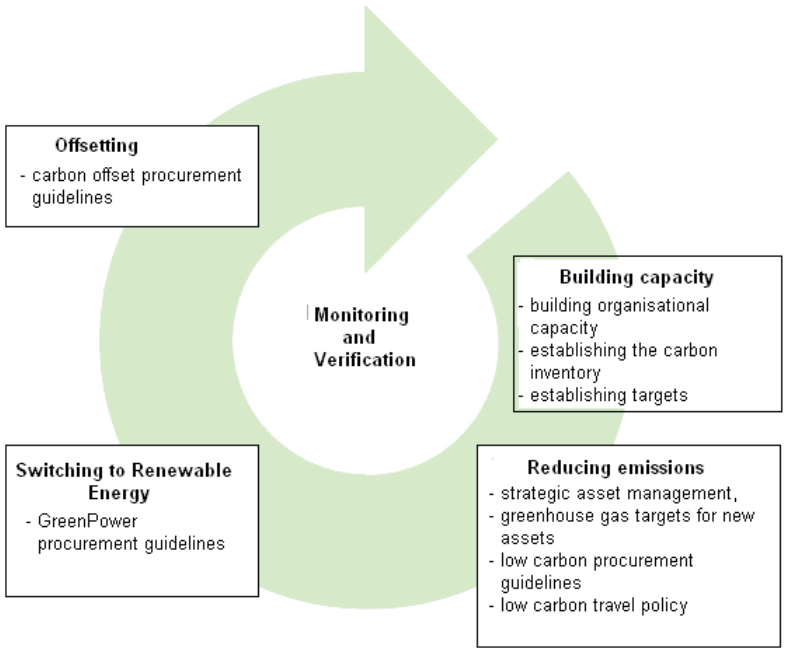
Solar panels on the Hornsby Community Nursery

Greenhouse Purchasing and Carbon Neutral Framework

The intent of this framework is to develop a generic pathway towards low-carbon procurement that can be adapted and applied by any Australian local government authority. There are several elements of the greenhouse purchasing framework that need to be addressed on the path towards carbon neutrality:

- Building capacity
  - building organisational capacity
  - establishing the carbon inventory
  - establishing targets
- Reducing emissions
  - strategic asset management,
  - greenhouse gas targets for new assets
  - low carbon procurement guidelines
  - low carbon travel policy
- Switching to Renewable energy
  - GreenPower procurement guidelines
- Offsetting
  - carbon offset procurement guidelines
- Continual monitoring and verification

Figure 1: The greenhouse purchasing framework[2]



2 Adapted from "Carbon Neutral Feasibility Study", prepared APP Corporation for Hornsby Shire Council, July 2008.

This framework is designed to:

- Accelerate the formulation of greenhouse reduction goals for local government in Australia and assist in the transition to a low-carbon future;
- Affirm the role of local government as a leader and innovator in responding to climate change;
- To strengthen regional networks and to help influence the creation of a green supply chain;
- Improve purchasing to fulfil positive sustainability outcomes with a balanced triple bottom line – environmental, social and economic.

Building Organisational Capacity

Organisational capacity to deliver on environmental strategies and programs, including a program to achieve GHG reduction and/or carbon neutral status, is fundamental to the success of any initiative. Organisational capacity can be built upon in a number of ways within the local government context.

Identify the resources required

Sound project management is crucial to the success of GHG reduction and/or carbon neutral strategies. Identify the resources needed in terms of time, money, staff, equipment and consultants. Prepare a detailed project management plan to coordinate these resources.

Establish an internal committee

Reducing GHG emissions in the local government sector necessarily involves a wide range of service areas and departments. Consider creating an internal committee or working group compromising of staff from different areas of the organisation, including high level managers and executives. Alternatively there may be an existing group that can be employed. Involvement from all areas of the local government authority is important to ensure the mainstreaming of greenhouse issues and subsequent support for the identified intiatives.

Hornsby Shire Council's Environmental Sustainability Team

Identify skill needs and build professional capacity

Identify the skill sets within the organisation and consider developing professional skill sets for employees who will be responsible for the maintenance of GHG emission data management and monitoring. Initially some of the expertise required may need to be outsourced.

Gain the support of executives and councillors

It is crucial that high level managers and councillors are involved in GHG reduction initiatives and demonstrate support from the outset. It is at this level that decision-making has the highest level of credibility and impact. It is the elected council that will need to decide the overall direction to move towards carbon neutrality or the setting of a GHG reduction target, so their support is essential.

Key principles

Key principles for establishing organisational capacity for greenhouse gas reduction in local government:

- **Identify resource requirements;**
- **Establish an internal committee;**
- **Identify skill needs and build professional capacity;**
- **Gain the support of executives and councillors.**

Establishing the Carbon Inventory: Boundaries and Scope*

In order to accurately and comprehensively report on the GHG emissions of a local government authority, it is important to clearly define and establish the inventory boundary. A GHG emissions inventory is defined with consideration for:

- **Organisational boundaries** – identify who has control (financial and/or operational) over how these GHG emissions are generated.
- **Operational boundaries** – identify council activities and services that generate GHG emissions. A comprehensive inventory includes all direct and indirect emissions.
- **Managing risks** – understand GHG liability or exposure in a carbon-constrained future.
- **Mandatory reporting** – indentify whether the local government authority is captured by the mandatory reporting requirements of the *NGER Act.*
- **Voluntary reporting** – decide what GHG emissions to report on and the importance of reporting for maintaining corporate reputation and meeting community expectations.
- **Existing standards and guidelines** for defining the inventory boundary

Organisational Boundaries

The organisational boundary is defined by who has operational control over emissions from operations. Operations control is defined by the *NGER Act* as when an organisation "has the authority to introduce and implement operating, health and safety and environmental policies". In some circumstances operational control may not coincide with financial control.

In determining operational control, local governments should consider:

- Activities/services that local governments are required to provide under the *Local Government Act 1993* (e.g. wastewater treatment & disposal, municipal waste disposal, maintenance of public parks and reserves);
- Activities/services that local government has direct financial control over (e.g. electricity consumption associated with assets, work related travel, fleet vehicles, etc);
- Double counting where two parties report on the same emissions (e.g. where municipal waste disposal is undertaken by a third party and both the local government authority and the third party report on the emissions). This may not matter for voluntary reporting, however should be avoided if participating in carbon trading schemes and mandatory reporting programs.

* Information in this chapter taken from "Carbon Neutral Feasibility Study", prepared APP Corporation for Hornsby Shire Council, July 2008.

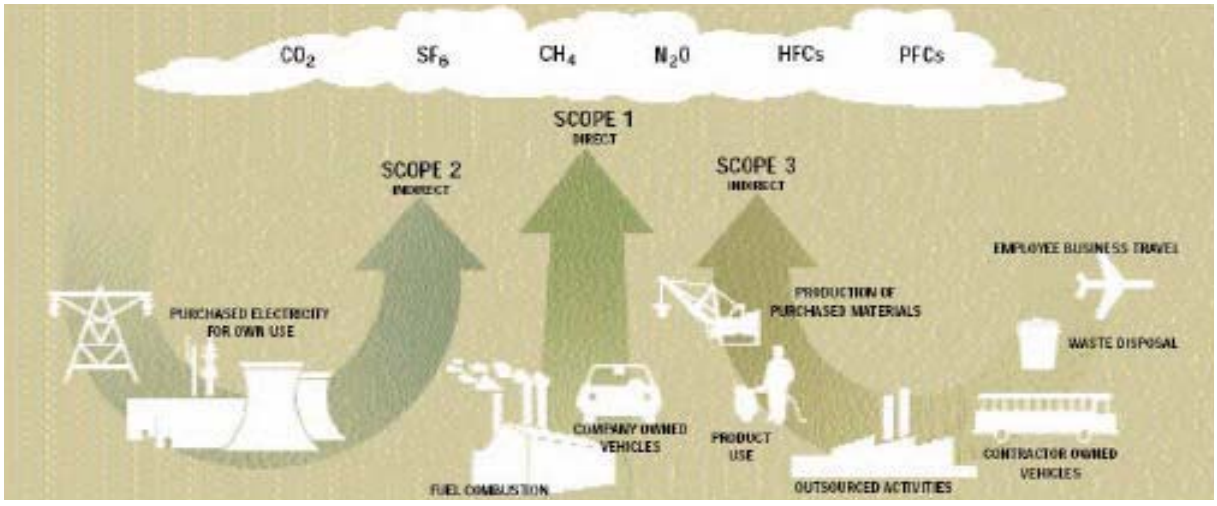
Operational Boundaries

The GHG Protocol delineates emissions sources into the following categories outlined in Table 1.

Table 1. Emission Source Categories

Emission Source	Description	Examples
Scope 1 (direct)	Emission sources are owned and controlled by the organisation and are generated within the organisational boundary.	Fuel consumption from car fleet, natural gas & LPG consumption in assets.
Scope 2 (indirect)	Electricity that is purchased or is consumed in the organisational boundary. Scope 2 emissions occur at the facility where electricity is generated.	Street lighting, electricity consumed in assets owned and operated by the local government authority.
Scope 3 (indirect)	Emissions that are a consequence of the activities of the organisation, but occur from sources not owned or controlled by the organisation.	Water, wastewater, telecommunications, travel undertaken by staff, IT equipment, clothing, municipal waste services and other contracted services.

Figure 2. Overview of Scope Boundaries and Emission Sources [3]



3 Greenhouse Gas Protocol (2005) – A Corporate Accounting and Reporting Standard. World Business Council for Sustainable Development & World Resources Institute.

Figure 2 illustrates the different scopes of emissions and provides examples of related activities.

Scope 1 and Scope 2 emission sources form the minimum inventory boundary for reporting GHG emissions under the *NGER Act*. Scope 3 emissions are consequences of activities of an organisation but occur from sources not owned or controlled by that organisation.

In developing a greenhouse purchasing/carbon neutral framework it is important to include the three scopes as it provides a comprehensive understanding of a local government authority's total GHG emissions and demonstrates areas where local governments can influence the supply chain through procurement.

Existing standards and guidelines

The following standards for defining the inventory boundary and calculating emissions should be followed:

- **Greenhouse Protocol** – A Corporate Accounting and Reporting Standard (GHG Protocol published by the World Business Council for Sustainable Development and the World Resources Institute) http://www.ghgprotocol.org/standards/corporate-standard;
- **ISO 14064-1 Greenhouse gases** – Part 1: Specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removals http://www.iso.org/iso/catalogue_detail?csnumber=38381;
- **The National Greenhouse Accounts (NGA)** Factors, published by the Department of Climate Change http://www.climatechange.gov.au; and
- **The Greenhouse Gas Protocol Initiative** – Provides calculation tools and guidance documents for the service sector, under the headings of scope 1,2 and 3 http://www.ghgprotocol.org/calculation-tools/service-sector

These standards can be complex and difficult to understand for people with little knowledge of GHG emissions accounting. Local governments should consider engaging a consultant to determine their carbon footprint if the expertise is not available internally.

The organisational boundary should be defined with consideration for the activities and services that local governments are required to provide as conferred under Chapter 6 Part 1 of the *Local Government Act 1993*. Local governments should consider including in their inventory activities provided by a third party (contractor) such as municipal waste collection and maintenance of public parks and gardens, as the community may perceive these activities to be the responsibility of the local government authority. Inclusion of street lighting should also be considered as it is the local government authority that pays for the electricity; however some authorities may wish to exclude it from their inventory as it is the energy provider who owns the street lighting assets and determines the nature of their operation.

Waste management and disposal is another contentious issue. Local government authorities report regularly on municipal waste management and disposal and the community may perceive the local government authority to be responsible for waste management and its associated emissions. Depending on the waste disposal arrangements that are in place, local government authorities should include emissions relating to municipal waste collection but not necessarily waste land filling processing as the landfill operator, recycling plant or other will be claiming responsibility for these emissions (unless Council is that operator).

Local government authorities adopt a wide operational boundary to include Scope 1, 2 and 3 emissions in its carbon inventory to ensure transparency and completeness in its carbon reporting. At a minimum, all scope 1 and 2 emissions should be included, and scope 3 emissions may be determined for inclusion on a case-by-case basis to ensure there is no double counting of emissions. While local governments are unlikely to meet the mandatory reporting requirements in relation to GHG emissions under the *NGER Act*, the regulatory framework is in a state of flux and this should be monitored closely. Despite this, comprehensive voluntary reporting on GHG emissions is vital if local government authorities are to maintain their corporate reputation with the community as well as broader recognition as a leader in sustainability. The inclusion of scope 3 emissions is particularly important if local government authorities are to exert any influence in "greening" the supply chain.

Key principles

Key principles for establishing a carbon inventory for local government:

- **Determine the organisational and operational boundaries of your carbon inventory by determining what assets are owned and operated by your local government authority;**
- **Classify emission sources as either scope 1, 2 or 3 emissions. Include all emissions in the carbon inventory, including scope 3 emissions, particularly where the community expects the local government authority to have control over these emissions and it can be ascertained with certainty that no other organisation has claimed control for these emissions;**
- **Keep up to date with the latest changes in legislation to stay informed of any mandatory reporting requirements under the NGER Act and refer to the *Local Government Act* in order to determine what types of services/ activities should be included in voluntary GHG reporting;**
- **Calculate the carbon inventory with reference to internationally and nationally recognised standards and protocols. Engage a consultant if required in order to implement these standards.**

Establish Greenhouse Gas Emissions Targets

Once the baseline carbon inventory is accurately defined and the local government authority's emissions have been calculated, the first step for any local government authority wishing to reduce its GHG emissions is to set clear and achievable GHG emissions targets. This is particularly pertinent in light of the Australian Competition and Consumer Commission's (ACCC) report *Carbon claims and the Trade Practices Act (1974):*

To make a claim about a future matter, you must have reasonable grounds for making the representation. Without a robust implementation strategy, making claims about aspirational goals such as 'going carbon neutral by 2030' may place your organisation at risk of engaging in misleading and deceptive behaviour. The overall impression generated by such claims may be that more is being done than the actual outcomes reflect.

If challenged, your organisation may be required to establish that there was a reasonable basis for making this claim. A structured implementation strategy including interim goals and periodic reassessment may help substantiate this claim. [4]

While the *Trade Practices Act* applies to private enterprise as opposed to local government authorities, targets and claims made by all organisations should be able to be substantiated. This means clearly documenting and stating what the reduction figure indicates and where it comes from, i.e. whether it refers to corporate emissions only, emissions from the community how the inventory boundary is defined, whether it refers to a reduction from a selected baseline year or a net reduction in emissions.

GHG emissions targets can only be established once the carbon inventory (i.e. an emissions audit of local government authority's operations) has been completed, specifying the amount of GHG emissions resulting from its operations within the defined organisational boundary. Targets are usually calculated as a percentage reduction in emissions based on data from a specified baseline year (e.g. 10% reduction in emissions from 1996 levels). Alternatively a local government authority may establish the target of becoming carbon neutral by a certain date (and beyond), which is likely to incorporate GHG emissions reduction targets as well as targets for offsets.

Accurate reporting of target achievement requires robust data sets to be available and careful management of this data. Good data management is essential in order to substantiate any reductions that are achieved. Ensure that the baseline year data is the most accurate available and maintain a GHG database to monitor reductions now and into the future. This may be managed internally by staff with experience in this area or may be outsourced to a consultancy firm. There are a number of companies that are now offering services for the monitoring of GHG emissions.

4 Australian Competition and Consumer Commission (ACCC) (2008), Carbon claims and the Trade Practices Act. This document is available online at http://www.accc.gov.au/content/index.phtml/itemId/833279.

Solar collectors at Hornsby Aquatic Centre

Construction of Cogeneration System at Hornsby Central Library

Key principles

Key principles for GHG reduction target setting in local government:

- Adopt an action plan to achieve your reduction target;
- Set a staged reduction target that demonstrates progress and commitment to improvement over time (e.g. 30% reduction based on 1990 levels by 2010, 50% reduction based on 1990 levels by 2020);
- Ensure that the target is achievable but ambitious enough to make a significant contribution to reducing greenhouse gases;
- Good data management is essential in order to substantiate any reductions that are achieved.

Strategic Asset Management

Asset management is a key aspect of local government operations, with significant impacts on its GHG emissions. Therefore strategic asset management is an important facet of any carbon neutral plan or greenhouse purchasing strategy.

Local government facilities can be built, operated and maintained in accordance with design guidelines to maximise energy efficiency. Energy and water efficiency improvements should therefore be considered as part of any new facility, major refurbishment or upgrade. All local government assets ought to be benchmarked using an energy performance ratings tool. The details of some are listed below:

NABERS

NABERS (the National Australian Built Environment Rating System) is a performance-based rating system that measures an existing building's overall environmental performance during operation.

www.nabers.com.au

Green Star – Office ratings

Green Star – Office ratings, developed by the Green Building Council of Australia, are designed to assess the environmental potential of office buildings. These ratings establish how the premises will perform under ideal circumstances based on design information and management processes.

http://www.gbca.org.au/green-star/what-is-green-star/1539.htm

A goal may be set to achieving a minimum star rating in each tool within a set time period.

Consider instigating a minor works program focussed on improving asset performance through implementation of energy efficient measures that achieve a payback of 4 years or less. Councils may consider undertaking an Energy Performance Contract, an agreement between the owner of a facility and an energy services company that uses future energy savings to pay for the entire cost of a building's electricity and energy efficiency retrofits. These contracts guarantee that the energy savings will pay for all project costs. Setting up a Revolving Energy Fund may also be considered to ensure ongoing funding for energy reduction works in council facilities.

Key principles

Key Principles for Strategic Asset Management for Local Government:

- **Consider energy and water efficiency improvements in any refurbishment or upgrade to existing facilities;**
- **Benchmark facilities using online ratings tools and set a goal to achieve a minimum star rating within a set time period;**
- **Consider implementing a minor works program or an Energy Performance Contract.**

Greenhouse Gas Emission Target for New Assets

Many local government authorities are experiencing significant population growth and hence require new assets. In order to ensure that the goals of infrastructure provision and greenhouse gas reduction are both met, local governments should establish a GHG emissions target for new assets, expressed as a percentage amount below the average emissions of existing equivalent facilities. For example, a new library will be designed to ensure that its GHG emissions will be 50% of emissions of the existing library, over the entire life of the asset.

Ways to achieve this target include:

- Efficient energy design (north-facing, naturally shaded, ventilation, insulation);
- Embedded energy generation (photovoltaics, wind turbines, cogeneration);
- Purchasing GreenPower for the new asset;
- Purchasing carbon offsets as a last resort to offset any residual emissions that cannot be feasibly offset by actions listed above.

It is advisable that additional parameters are placed on this target that take into account financial considerations. For example, projects for which the additional cost to meet this target is less than 10% of the normal capital cost of a non-complying equivalent, or which have a 15 year internal rate of return (IRR) greater than 12% could be approved automatically. Projects which do not meet either of these financial criteria could be considered by the council on a case by case basis. Local governments should assess their financial situation carefully before formulating such a target.

All new projects must be approved conditional on the design passing an independent review by an emission reduction verifier.

Key principles

Key principles for setting greenhouse gas emission targets for new assets:

- **Set a reduction target using the average emissions of a comparable existing facility as a baseline;**
- **Identify how the target will be achieved;**
- **Ensure that additional parameters are placed on this target in order to take into account financial considerations;**
- **Ensure that all new designs are independently verified.**

Low Carbon Procurement and Tendering Guidelines

Guidelines for procurement and tendering should be designed to ensure that local governments make a conscious effort to curb the GHG emissions produced by the products and services they purchase. These guidelines should also take into account broader sustainability considerations beyond GHG emissions to ensure additional benefits such as environmental protection, economic prosperity and social well-being. This can be achieved by:

- Adopting an allowable price differential for sustainable products;
- Utilising online tools to search for sustainable products;
- Considering water and energy efficiency ratings when purchasing products;
- Introducing sustainability considerations into the tendering process.

Adopt an allowable price differential for sustainable products

There is often a perception among purchasers that buying sustainable alternatives to existing products involves a higher cost. This may be true in some instances based on the initial purchasing price, but when the products are compared in terms of environmental cost and life-cycle analysis, the sustainable alternative will often prove to be the most viable option. In recognition of this, local governments may consider allowing a 10% (to a specified maximum amount) leeway for price differential when making a procurement decision regarding a product that is more sustainable than a conventional alternative.

Utilise online tools to search for sustainable products

It can be difficult to find information to assist in determining what is the most sustainable, low carbon or environmentally preferable product. Generally purchasers within councils will not have this breadth of knowledge. There are now a number of sustainable procurement websites that allow purchasers to compare products according to various sustainability criteria. A number of these are listed below:

Good Environmental Choice – Australia (GECA) – The Good Environmental Choice Label is administered by the Australian Environmental Labelling Association Inc, a non-profit organisation which establishes standards that comply with the requirements of ISO 14 024: International Standard for Third Party Environmental Labelling and Declaration Programs. The site also contains a certified product register and a searchable product database.

http://www.aela.org.au

Sustainable Choice – Sustainable Choice is a sustainable procurement program for local governments in New South Wales established by the NSW Local Government and Shires Association (LGSA), with funding from the NSW Department of Environment and Climate Change (DECC). The site contains a searchable product database in which products can be compared according to a number of different sustainability indicators.

http://www.lgsa-plus.net.au/SustainableChoice

EcoBuy – EcoBuy is a not for profit company established to encourage the purchasing of green products funded by the Department of Sustainability & Environment and Sustainability Victoria. The site contains a searchable sustainable product database.

http://www.ecobuy.org.au

Ecospecifier – Ecospecifer is aimed at builders, designers and architects and homeowners to assist them in finding environmentally preferable products and materials.

http://www.ecospecifier.org

Consider water and energy efficiency ratings when purchasing products

Local governments should also ensure that products comply with a high standard for water and energy efficiency by comparing products according to star ratings for energy and water consumption. Information can be found at the websites listed below:

www.energystar.gov.au
www.energyrating.gov.au
www.waterrating.gov.au

Introduce sustainability considerations into the tendering process

By introducing sustainability considerations into the tendering process, local governments can begin to exert their significant purchasing power by influencing the behaviour of suppliers, and ensuring that local government suppliers are also mandating sustainability criteria in their own purchasing processes. A suite of sustainability questions, divided into 4 categories (organisational commitment to sustainability, triple bottom line assessment, product specifications and criteria for new buildings and construction) is provided in Appendix 1 as a model for developing sustainability criteria for local government tenders.

Hornsby Shire Council's Sustainable Procurement Information Day

Key principles

Key principles for Low Carbon Procurement and Tendering for Local Government:

- **Adopt an allowable price differential for sustainable products;**
- **Utilise online tools to search for sustainable products;**
- **Consider water and energy efficiency ratings when purchasing products and specify minimum standards for purchasing these items;**
- **Introduce sustainability considerations into the tendering process.**

Low Carbon Travel Policy

Business travel, including the travel of employees to and from work, forms a significant percentage of the overall carbon footprint of most local government authorities. Adopting policies to reduce the impact of transport on an organisation's carbon footprint is a key element of any purchasing strategy. A low carbon travel policy should address the following:

- Vehicle fleet
- Flights
- Lobbying
- Incentives for staff to adopt low carbon travel modes
- Promoting National Ride/Walk to Work days
- Carpooling

Bicycle racks and lockers in Hornsby Shire Council's staff carpark

Vehicle fleet

Most local government authorities operate and manage a significant vehicle fleet which is utilised for both business and private purposes. Increases to fleet sizes associated with growth in the activities and responsibilities of local government authorities, coupled with increasing fuel prices, presents significant obstacles to reducing GHG emissions and fleet operating costs. To explore these issues, councils may consider undertaking a detailed sustainable fleet management study to consider the most cost-effective ways to reduce the GHG emissions of the fleet. The study could consider:

- savings in operational costs and greenhouse gas emissions by replacing six cylinder vehicles with four cylinder vehicles. The federal government website can be used to check and compare vehicle's environmental credentials – www.greenvehicleguide.gov.au;
- using motorcycles/bicycles/scooters as an alternative to car travel for short journeys;
- the viability of alternative fuel, energy and technology options, comparing each via cost-benefit and triple bottom line (TBL) analysis.

Flights

Most local government authorities spend money each

year on sending delegates to meetings, conferences and events both interstate and overseas. Local governments should consider teleconferences where appropriate as an alternative to air travel. Offsetting emissions from air travel is another option for local governments to reduce its carbon footprint in the travel sector. See the Carbon Offset Watch 2008 Assessment Report for details of air travel offset providers and the methods used to calculate emissions from air travel.

Lobbying higher levels of government

Local governments have limited control over the provision of public transport infrastructure as this is a state government responsibility. However local government has an important role to play in lobbying state government to improve local transport infrastructure. Local governments are encouraged to form regional alliances to develop a robust policy position on local transport infrastructure.

Local governments should also lobby for changes to the fringe benefits tax (FBT). At present FBT is levied at a lower rate for vehicles that accumulate higher mileage, based on the assumption that the higher mileage is indicative of more intensive business use. In reality this may not be the case and in some instances the FBT creates a financial incentive to increase private use of business fleet vehicles. This creates an environmental cost (increased greenhouse gas emissions) and a significant economic cost (increased fuel costs).

Offer public transport incentives in staff employment packages

Most local government authorities have arrangements in place to offer private vehicles as part of the employment package for some positions. These packages are a useful way of attracting staff to a position. To encourage sustainable transport, local government authorities may consider introducing public transport options in staff packages as an alternative to the private vehicle in order to reduce the cost and greenhouse impact of operating a large fleet.

Promote National Walk/Ride to Work Days

By actively and supporting these events, local governments can achieve both savings in GHG emissions as well as social benefits via improved health and wellbeing of staff who participate in the event. A breakfast may be organised for staff, who can register for the events and calculate their GHG savings, which can be promoted by the local government authority both internally and externally.

For more information, please see the following websites:

National Ride to Work Day
http://www.ride2work.com.au

Walk to Work Day
http://www.walk.com.au

Establish a carpooling scheme

Local government authorities can reduce their GHG emissions (as well as noise/air pollution, traffic congestion and parking space requirements) created by employee work-related travel by introducing a formal carpooling or scheme. It is likely that many staff who travel to work alone by car take the same route as other staff, therefore presenting a significant opportunity for GHG reduction. The scheme could be established and managed via the organisation's intranet or a carpooling software program, where staff could enter details into a database in order to be linked with potential drivers and passengers.

TravelSmart Victoria have produced a guide to assist organisations in developing a carpooling scheme for their workplace. The guide can be viewed here: http://www.travelsmart.vic.gov.au

Key principles

Key Principles for Developing a Low Carbon Transport Policy for Local Government:

- Conduct a detailed sustainable fleet management study to determine the most cost-effective ways to reduce the greenhouse gas emissions of the fleet;
- Consider teleconferencing as an alternative to air travel and purchase carbon offsets for any business travel;
- Form alliances to lobby higher levels of government for improvements to local transport infrastructure and changes to the fringe benefits tax;
- Offer public transport incentives in staff employment packages;
- Promote National Walk/Ride to Work Days;
- Establish a carpooling scheme.

GreenPower Procurement Guidelines

GreenPower is government-accredited new renewable energy sourced from wind, water, waste and the sun. The benefit of purchasing GreenPower is that it will drive the development of renewable energy production and uptake, thus increasing the mix of renewable energy in the electricity grid, reducing reliance on fossil fuel based energy production and thus reducing greenhouse gas emissions. There are now over twenty electricity retailers in Australia that offer a range of different GreenPower accredited products.

Many local government authorities are reducing GHG emissions by purchasing GreenPower for their facilities. It is vital that local governments understand what they are actually purchasing as some products are more effective than others in driving renewable energy generation in Australia. There are several factors to consider when purchasing GreenPower[5] :

Is the product fully accredited?

Many GreenPower products include only a small percentage of accredited GreenPower. While these products may be '100% renewable', the non-accredited portion is already a part of Australia's energy mix and is likely to be merely meeting Australia's mandatory GHG emission reduction targets; it will not contribute to reductions beyond this. Local governments should purchase 100% GreenPower accredited products.

Figure 3. The GreenPower logo.

Is there a mandatory minimum amount of the GreenPower product that must be purchased?

At present, any business may use the GreenPower logo (see above) to advertise its use of accredited renewable energy regardless of the proportion used. Therefore Company A may be purchasing 100 percent GreenPower yet Company B will enjoy the same positive corporate image for purchasing just 5 percent GreenPower. Local governments should be transparent in publicising the proportion of their own GreenPower use, and should scrutinise the GreenPower claims of contractors and suppliers.

Choose GreenPower products that have been rated 3 stars or above by Green Electricity Watch

Green Electricity Watch is a coalition of three leading Australian environmental organisations (Australian Conservation Foundation, WWF Australia and Total Environment Centre) which provides a ranking of green electricity products to help consumers choose which ones make the most difference to reducing GHG emissions. Using a star system (4 = very good, 1 = poor), products are rated according to a range of

5 These factors are considered in greater depth in the 2007 Green Electricity Watch Surveys. These reports can be viewed online at www.greenelectricitywatch.org.au.

criteria, including information that would be difficult to ascertain by individual local government staff, such as:

- The extent to which it drives the development of renewable energy products;
- The extent to which the product increases the uptake of GreenPower;
- Clarity and transparency in advertising, including the provision of information to customers on why the product is beneficial and the suggestion of ways to reduce electricity use rather than steering customers to non-accredited products and offset options.

The site can be visited at http://www.greenelectricitywatch.org.au.

There are a number of independent organisations that provide information on the comparative financial costs of GreenPower products. For more information visit the Choice website at www.choice.com.au or GreenPower PriceWatch at http://greenpowerpricewatch.com.au.

Will the GreenPower product support local renewable energy projects?

There may be organisations within the local government area that are involved in generating renewable energy. Ask your GreenPower retailer if they support renewable energy projects in your local area.

Key principles

Key Principles for GreenPower Procurement for Local Government:

- Ensure that the GreenPower Product is 100% accredited
- Be transparent about the claim your council makes in relation to renewable energy use and scrutinise the GreenPower claims of contractors and suppliers
- Choose products that have been awarded with a 3 star rating or above by Green Electricity Watch. This will ensure the GreenPower product purchased will:
  - Drive the development of renewable energy products
  - Increase the uptake of GreenPower
  - Be advertised clearly and responsibly
- Choose a GreenPower product that presents the best value for money option for your council
- Ask your GreenPower retailer if they support renewable energy projects in your local area.

Carbon Offset Procurement Guidelines

A 'carbon offset' is an emission reduction credit from another organisation's project that results in less carbon dioxide or other GHG in the atmosphere than would otherwise occur. Organisations purchase these credits to offset the impact of emissions resulting from their own operations. Councils should only purchase offsets after reducing emissions as much as possible by reducing energy use, adopting energy efficient technologies and behaviours and purchasing GreenPower. There is now a vast array of carbon offset providers, offset products and offset standards existing in Australia and internationally, and it can be difficult to ascertain what products are the most effective in reducing greenhouse gas emissions. This section provides a brief guide for local governments who wish to purchase carbon offsets for their emissions. [6]

Is the offset retailer providing detailed and reliable information?

It is important that retailers of carbon offsets provide accurate and detailed information relating to the integrity of their products. Always investigate the claims of carbon offset providers to ensure that the purchase is actually contributing to reducing GHG emissions. See how carbon retailers rated in 2008 by reading the Carbon Offset Watch 2008 Assessment Report, available online at www.carbonoffsetwatch.org.au

Choose offsets that are generated locally

Where possible, try and purchase offsets that are generated within the local government area. This supports the local economy and may help to encourage local businesses to engage in renewable energy and energy efficiency projects by creating a local offset market.

Consider holding 'carbon neutral' council events

Councils may consider adopting a policy to offset all major festivals and other events held within the local government area. This will limit the greenhouse impact of these large events and will also serve to enhance the local government authority's reputation as a leader in environmentally sustainable initiatives.

Choose offsets that are independently accredited by a recognised scheme or standard

It is important to choose offsets that are accredited by independent bodies. The voluntary carbon market is unregulated and therefore offset retailers can accredit their own products, which is likely to be far less reliable than accreditation by an independent body. A

6 Information in this section is based on C. Riedy & A. Atherton, Carbon Offset Watch 2008 Assessment Report, Institute for Sustainable Futures, UTS 2008. This report can be viewed online at http://www.carbonoffsetwatch.org.au/full-report-on-carbon-offset-providers.

number of accreditation schemes and standards exist in Australia, including:

- The Gold Standard
- Greenhouse Friendly
- Voluntary Carbon Standard (VCS)
- VER+
- Mandatory Renewable Energy Target (MRET)
- NSW Greenhouse Gas Reduction Scheme (GGAS)

For information on these schemes and how they compare, visit the Carbon Offset Watch website at www.carbonoffsetwatch.org.au.

What types of offsets are there?

The main types of offsets available can be broadly classed as belonging to one of three categories: renewable energy, energy efficiency and forestry projects. The advantages and disadvantages of each are summarised in the table below.

Table 2. Main types of offset projects in Australia[7]

Type of Offset	Description	Advantages	Disadvantages
Renewable Energy	Investment in renewable energy technology – wind, solar, waste, biomass, tidal energy.	- Displaces fossil fuel energy generation - Easy to determine quantity of emission-free electricity produce	- Difficult to accurately quantify displacement of fossil fuel energy generation
Energy Efficiency	Investment in projects that reduce energy consumption from business-as-usual scenario.	- Cheapest way of reducing greenhouse gases - Results in actual reduction of the need to produce more energy	- Difficult to prove 'additionality' (i.e. that the project would not have occurred under a business-as-usual scenario - Offsets sometimes sold for future projects – Difficult to guarantee that abatement will occur
Forestry Projects	Investment in planting trees or avoiding deforestation to sequester carbon from the atmosphere.	- Easily marketable – trees are a symbol of environmental conservation - Potential to create additional conservation benefits	- Difficult to guarantee permanence of the offset as forests are susceptible to being destroyed in the future - Scientific uncertainty as to the effectiveness of trees to sequester carbon - Some credits are created merely by avoiding further deforestation, raising concerns over additionality - Offset is not fully realised until a long time into the future

7 Adapted from Downie, C., "Carbon Offsets: Saviour or cop-out?" The Australia Insitute, Research Paper No. 48 (August 2007).

Renewable energy and energy efficiency projects are considered more desirable for local government authorities because they are contributing to actual reduction of GHGs produced from the burning of fossil fuels. Tree planting schemes, while popular, are fraught with scientific and technical difficulties and do not actively promote behaviours that cause less greenhouse gases to be released into the atmosphere. Offsets from forestry may be considered by local government if the project occurs locally and has potential to offer additional benefits, such as biodiversity and soil stability.

Documentary evidence of offset purchase

Documentary evidence of the purchase of an offset is important to verify that the volume of offsets sold matches the volume of assets purchased, and transfers ownership of the offset from the retailer to the buyer, or retires the offset from the market on behalf of the customer.

More Information

Carbon Offset Watch, a partnership between the Institute for Sustainable Futures (an academic research institute at the University of Technology, Sydney), the Total Environment Centre (representing environmental interests) and CHOICE (representing consumer interests) that has produced Australia's first independent ranking of voluntary carbon offset providers.

www.carbonoffsetwatch.org

The Carbon Offset Guide Australia was developed through a partnership between EPA Victoria and Global Sustainability at RMIT University. The website provides a directory of carbon offset providers and allows users to search for offset providers via a number of categories including provider type, accreditation standard, price per tonne, project location and project type.

www.carbonoffsetguide.com.au

Key principles

Key Principles for Carbon Offset Procurement for Local Government:

- Before considering purchasing offsets, reduce GHG emissions as much as possible by reducing energy use, adopting energy efficient technologies and behaviours and purchasing GreenPower;
- Only purchase offsets from retailers who provide detailed information about their products and services, and the projects they undertake to generate offsets;
- Where possible, choose offsets that are generated within your local government area;
- Consider adopting a policy of 100% offsetting major events, functions and festivals organised by your local government authority;
- Choose offsets that are independently accredited by a recognised scheme or standard;
- Choose offset products that change or prevent the underlying activities that create GHGs, such as energy efficiency projects and those that promote the use of renewable energy;
- Avoid purchasing offsets from tree planting schemes unless it can be proved that the project will create additional biodiversity benefits;
- Ensure that you receive documentary evidence of the offset in order to guarantee of transfer and retirement of the offset, so that the offset cannot be sold again.

Monitoring and Verification

Monitoring

Monitoring GHG emissions over time is important for local government in order to:

- meet high community expectations for public reporting of GHG emissions;
- establish informed and accurate GHG emission reduction targets;
- manage risks and opportunities.

Monitoring emissions over time requires local government authorities to set a performance datum, or base year with which to compare current emissions.[8] Local governments should choose a base year for which verifiable emissions data are available. Reasons for choosing this baseline should be clearly outlined. For example, some local government authorities have joined the ICLEI CCP™ program , which recommended the use of 1996 as the baseline year, while many organisations have adopted 1990 as the baseline year in order to remain consistent with the requirements of the Kyoto Protocol. Local government authorities should choose as a base year the earliest relevant point in time for which they have relevant and robust data.

There may be a need to recalculate the base year from time to time. This may be necessary due to structural changes that alter the organisational boundary (e.g. outsourcing/insourcing of emitting activities), or improvements and adjustments to calculation technology and discovery of significant errors. See the Greenhouse Gas Protocol for more detail on base year recalculation. [9]

It is also crucial to monitor the risks and opportunities inherent in moving towards carbon neutrality, particularly in relation to the cost of abatement and offset options, which may be subject to fluctuations in a climate of financial uncertainty. It is advisable that local government authorities review their carbon neutral strategies annually to ensure that the most appropriate investment decisions are made for achieving carbon neutrality.

8 Greenhouse Gas Protocol (2005) – A Corporate Accounting and Reporting Standard. World Business Council for Sustainable Development & World Resources Institute, p. 35, available online at http://www.ghgprotocol.org/standards/corporate-standard

9 Greenhouse Gas Protocol (2005), note 9, pp. 35 – 39.

Verification

Verification is an objective assessment of the accuracy and completeness of reported GHG information and the conformity of this information to pre-established GHG accounting and reporting principles. [10] Verification is important for local government as it provides many benefits, including:

- increased credibility of publicly reported emissions information;
- increased confidence from the community in the local government authority's greenhouse gas reduction claims;
- increased confidence in reported information for future decisions and targets by senior managers and councillors;
- improvement of internal accounting and reporting practices;
- preparation for voluntary reporting requirements where necessary (e.g. CCP™, specific grant-funded projects where GHG emissions savings need to be demonstrated).

Local government authorities should consider engaging an independent, external third party where feasible to undertake the verification process. Internal verification is also useful if the local government authority has access to staff with GHG reporting skills. This will also assist the external verification process.

Key principles

Key principles for monitoring and verifying greenhouse gases for local government:

- **Set an appropriate baseline year to compare with future reduction targets. Choose as a base year the earliest relevant point in time for which relevant and robust data is available;**
- **Be aware that recalculation of the baseline may be necessary if the organisational boundaries change;**
- **Consider engaging an independent party to verify greenhouse gas emissions savings.**

10 Greenhouse Gas Protocol (2005), note 9, p. 68.

Definitions

Carbon Credit
Carbon credits certify the removal of greenhouse gases from the air or the prevention of future greenhouse gas emissions. Each carbon credit is equivalent to a single tonne of carbon dioxide.

Carbon Neutral
Netural (zero) total carbon release. Greenhouse gas emissions are reduced through energy conservation measures, avoided through the use of renewable energy or offset through the purchase of carbon credits.

CCP™
The Cities for Climate Protection™ program assists cities to adopt policies and implement quantifiable measures to reduce local greenhouse gas emissions, improve air quality, and enhance urban liveability and sustainability. http://www.iclei.org/index.php?id=800

CO_2
Carbon dioxide. A greenhouse gas released from burning fossil fuels.

CO2e
Carbon dioxide equivalent. There are several different greenhouse gases (e.g. methane) as well as carbon dioxide. Each greenhouse gas has a different strength of effect on global warming. However, the world needs a single dimension on which to measure greenhouse gas emissions, so emissions are expressed as CO_2 equivalent emissions to provide a single unit of measurement for comparison purposes.

Direct emissions
Greenhouse gas emissions that are owned or operated by the reporting entity.

Energy Hierarchy
A hierarchy of greenhouse gas reduction measures based on avoidance, energy efficiency, fuel switching, renewable energy and offsetting the balance of emissions. Additionally any continued use of fossil fuel must be done so cleanly.

GHGs
Greenhouse gases are components of the atmosphere that contribute to the greenhouse effect. Without the greenhouse effect the Earth would be uninhabitable; in its absence, the mean temperature of the earth would be about -19^{0}C rather than the recent mean temperature of about 15^{0}C. Greenhouse gases include, in the order of relative abundance, water vapour, carbon dioxide, methane, nitrous oxide, and ozone and and CFCs (chlorofluorocarbons). The majority of greenhouse gases come from natural sources but are also contributed to by human activity ("the enhanced greenhouse effect").

GreenPower
Renewable energy from sun, wind, water or waste sourced from commonwealth government accredited suppliers. www.greenpower.com.au

ICLEI
International Council for Local Environmental Initiatives. Founded in 1990, ICLEI provides technical consulting, training and information services to build capacity, share knowledge and support local government in the implementation of sustainable development at the local level. www.iclei.org

Indirect emissions
Greenhouse gas emissions that are influenced by the activities of the reporting entity, but physically occur from sources outside of the entity.

NGER Act
National Greenhouse and Energy Reporting (NGER) Act 2007

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Appendix 1: Sustainable Procurement Tender Criteria

PART A: TRIPLE BOTTOM LINE ASSESSMENT PRIOR TO GOING TO TENDER
Prior to calling for tender Council must should undertake a triple bottom line assessment of the purchase. To ensure good governance all purchases should take into account environmental, economic and social considerations.

TBL Element	Criteria to be addressed
Environmental	• Will the tender assist council in conserving the natural environment? • Will the tender assist council in meeting its greenhouse gas reduction targets? • Does the organisation submitting the tender demonstrate a commitment to greenhouse gas reduction and conservation of the natural environment?
Social	• Will the tender benefit the community? • Will the tender help to achieve the council's vision? • Will the tender contribute to community development through sustainable facilities and services?
Economic	• Will the tender support the local economy? • Will the tender promote local employment? • Will the tender assist council in maintaining sound corporate and financial management?

PART B: SUPPLY OF PRODUCTS (staff to consider prior to purchase)
The following enquiries are to be made prior to making a purchase.

Question	Yes	No
Acquisition		
Is acquisition of the product necessary?		
Can the product be borrowed from another department?		
Is there a short-term lease or rental alternative?		
Life Cycle		
Is the product durable?		
Is the product easy and economical to service and maintain?		
Is the product designed to reduce GHG emissions and minimise waste?		
Can the product be re-used, refilled, recharged or reconditioned to extend its life?		
Can the product be technically and economically recycled?		
Is the product accredited with a recognised environmental standard? (e.g. GECA, EcoBuy, EcoSpecifier, Sustainable Choice)		

PART C: QUESTIONS TO ASK ORGANISATIONS TO DEMONSTRATE COMMITMENT TO ENVIRONMENTAL MANAGEMENT AND SUSTAINABILITY

The following questions can be cut and pasted into tender documents or expressions of interest depending on the size of the organisation and the nature of the product/service.

Question	Yes	No
Does your organisation produce a public environment report? If yes, please attach or provide a web address.		
Does your organisation have an Environmental Management System (EMS)? Is the EMS certified? If so, by whom? Does the Environmental Management Plan have set quantified objectives and targets for environmental improvement? If yes please specify below:		
Does your organisation evaluate its supply chain in relation to the environmental performance of its suppliers and subcontractors? Provide examples.		
Has your organisation been fined or issued with a Notice for breaches of environmental legislation?		
Does your organisation demonstrate commitment to sustainability? How is this done? Provide any details of: • Water efficiency measures • Energy efficiency measures and greenhouse gas reduction • Design attempts to reduce environmental impact of products and services • Purchase of GreenPower and carbon offsets • Carbon neutral/carbon reduction policies • Public environmental reporting • Support for community initiatives		
Recycling & Waste Reduction		
Does your company provide recycling or safe disposal service for products supplied?		
Is the product biodegradable and how does this work?		
Is the product made using recycled, remanufactured or redefined materials? Please specify material and percentage used.		
Can the product be economically recycled locally or in NSW?		
Has the packaging been designed to minimise waste?		
Can the packaging be reused or recycled?		
Are there any recycled materials used in the packaging?		
Will you accept the packaging back for reuse or recycling?		
Will you accept the product back for recycling at the end of its useful life?		
Toxic & Hazardous Materials		
Do any of the products supplied or used in the process contain any toxic or harmful materials (e.g. paints, plastics etc)?		
Is the product free of hazardous materials that require special disposal?		
Energy consumption		
Does this product incorporate initiatives to reduce/minimise the quantity of energy consumed and the level of greenhouse gas emissions generated?		
Is your product / service accredited with a recognised energy standard? (e.g. energy star ratings)		
Are there sleep/snooze modes available to conserve energy when the product is not in use? (e.g Energy Star)		
Transportation		
Where is the product manufactured? Is there a locally manufactured alternative?		
Emissions		
Is your organisation carbon neutral? If yes, has this been independently verified? If your organisation is not carbon neutral, what plans are in place to achieve this outcome? Please specify:		

PART D: CRITERIA FOR NEW BUILDINGS AND CONSTRUCTION

Any council wishing to construct a new building should take into consideration the following to ensure that future developments are sustainable.

Element	Criteria to be addressed
1. Sustainable Energy	Ensure that supplier has read and understood Council's policy in regards to sustainable energy for new assets.
2. Management	• Does the organisation have an Environmental Management System? • Waste management
3. Indoor Environment Quality	• Ventilation • Natural light • Energy efficient lighting • External vision • Thermal control • Internal noise control • Low volatile organic compounds (VOCs) • Mould prevention

4. Energy	• Energy efficient design features
	  ○ Insulation
	  ○ North facing
	  ○ Solar hot water
	  ○ PV
	  ○ Natural shade
	• Sub-metering

5. Electric Lighting Zone	• Peak energy • Demand reduction
6. Transport	• Proximity to cyclist facilities • Proximity to public transport
7. Materials	• Recycled waste storage • Shell and Core or integrated fitout • Recycled content of steel, concrete • Sustainable timber
8. Land and ecology	• Ecological value of site • Re-use of land
9. Emissions	• Refrigerants
10. Innovation	• Innovative strategies and technologies • Environmental design initiatives
11. Waste disposal	• Disposal of all solid, liquid and gaseous contaminants in accordance with the Department of Environment and Climate Change (DECC) • Recycling and diversion from landfill of any surplus soil, rock and other excavated or demolition materials • Separate collection and streaming of waste concrete, bricks, timber, plasterboard, paper and packaging, glass and plastics and offer them for recycling wherever practical.

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