

2012

**THE LEGISLATIVE ASSEMBLY FOR THE
AUSTRALIAN CAPITAL TERRITORY**

**REPORT UNDER THE *CLIMATE CHANGE AND GREENHOUSE GAS
REDUCTION ACT 2010***

***CLIMATE CHANGE AND GREENHOUSE GAS REDUCTION ACT 2010*
– MINISTER'S REPORT 2011-12**

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The ACT Legislative Assembly passed the *Climate Change and Greenhouse Gas Reduction Act 2010* (the Act) on 26 October 2010 and was enacted on 5 November 2010. The Act requires that the Minister present a report to the Legislative Assembly within six months of the financial year on which the report is made. This report outlines the Minister's actions against the requirements of the Act taken in the 2011-12 financial year.

1. Actions the Minister has taken during 2011-12 in the exercise of the Minister's functions under the Act

a. Review issues relating to climate change

The Minister reviewed issues relating to climate change throughout the reporting period through briefings provided by the Environment and Sustainable Development Directorate and through meetings with industry, academics, community groups and Ministers in other States and Territories.

International issues

The first commitment period of the Kyoto Protocol ends on 31 December 2012. At the 17th Conference of the Parties, held in Durban in December 2011, Parties to the United Nations Framework Convention on Climate Change agreed to adopt a universal legal agreement on climate change as soon as possible, but no later than 2015.

Despite uncertainty around a binding international agreement, there is strong international consensus on the need to take action to stabilise global atmospheric greenhouse gases and many nations are implementing effective policies.

From 2013 there will be more than 50 national or sub-national emission trading schemes in place worldwide. These schemes will cover a combined population of more than 850 million people and will account for around 30 per cent of the global economy.

Thirty three countries will have national emissions trading schemes by 2013: Australia, New Zealand, Switzerland, the European Union's 27 member countries, Norway, Iceland and Liechtenstein. A range of countries are currently developing their own emissions trading schemes at the national or sub-nation level including: Brazil, Turkey, Chile, South Africa and Mexico. By 2015 all but one of the Organisation for Economic Co-operation and Development's (OECD) 34 member countries are expected to be pricing carbon through emission trading schemes.

National issues

The Australian Government has committed to reducing national emissions by five per cent compared to 2000 levels by 2020 in the absence of a binding international agreement. In order to achieve this national goal the Australian Government passed the Clean Energy

Legislative Package and associated legislation in November 2011. The *Clean Energy Act 2011 (Cwlth)* which commenced on 2 April 2012 is the central piece of the legislation package and establishes the carbon pricing mechanism along with assistance for emissions-intensive trade-exposed industries and the coal-fired electricity generation sector.

The legislation includes the establishment of a carbon price which commenced on 1 July 2012. The carbon price will be fixed for the first three years, starting at \$23 per tonne of CO₂-e and rising at 2.5 per cent a year in real terms. The carbon price is expected to cover around 500 of Australia's largest polluters, accounting for around 60 per cent of Australia's national emissions.

The implementation of a national carbon price will make an important contribution towards meeting the ACT's greenhouse gas reduction targets. This will happen in two ways. First, the carbon price is expected to lower the emissions intensity in the National Electricity Market, so each unit of electricity consumed in the ACT will, over time, lead to fewer greenhouse gas emissions. Second, a carbon price will change the relative prices for emissions-intensive goods and will provide businesses and households with incentives to choose low-emission technologies and to use energy and other resources more efficiently.

The introduction of a national price on carbon in the *Clean Energy Act 2012 (Cth)* led to the closure of the NSW and ACT Greenhouse Gas Abatement Schemes effective 1 July 2012. The Greenhouse Gas Abatement Scheme required NSW and ACT electricity retailers to meet mandatory targets for reducing or offsetting the greenhouse gases from the production of the electricity they supply or use.

b. Promote action to meet the ACT target and the other targets

Draft Action Plan 2

On 5 December 2011, the Minister for the Environment and Sustainable Development released *Weathering the Change* draft Action Plan 2 for public consultation and comment. Draft Action Plan 2 set out five indicative pathways to guide the Territory towards the 2020 interim target of 40 per cent below 1990 levels and set the Territory on a path to carbon neutrality by 2060.

Draft Action Plan 2 was based on a vision that, by 2060, the ACT will have become a sustainable and carbon neutral city that is successfully adapting to a changing climate.

In support of this vision, four outcomes were identified:

- Outcome 1- Reducing greenhouse gas emissions in the ACT;
- Outcome 2- Ensuring a fair society in a low carbon economy;
- Outcome 3- Adapting to a changing climate; and
- Outcome 4- Leading a sustainable future.

The final Action Plan 2 was released after the reporting period, it provides a strategic pathway and initial set of actions to achieve our emission reduction target for 2020.

c. Develop, adopt or promote policies and programs relating to climate change

Sustainable Energy Policy

In September 2011 the Government released the *Sustainable Energy Policy*. The purpose of the Policy is to establish an integrated policy framework for managing the social, economic and environment challenges faced by the Territory to 2020 as they relate to energy production and use.

The framework consists of four key targeted outcomes:

- Outcome one: secure and affordable energy;
- Outcome two: smarter use of energy;
- Outcome three: cleaner energy; and
- Outcome four: growth in the clean economy.

Related to each outcome are a series of measures which will underpin the Government's energy policy work program to 2020.

Micro (small)/Medium scale electricity Feed-in-Tariff

The ACT Feed-in Tariff Scheme closed on 13 July 2011 as the legislated 30 megawatt total installed capacity cap had been fully committed. The closure followed an extraordinary surge in demand for photovoltaic installations in the first half of 2011. As at 30 June 2012, there were 11,145 installations (over 7 per cent of households) connected to the ACT electricity network, with a combined capacity of 26.9 megawatts.

Energy Efficiency Improvement Scheme

The *Energy Efficiency (Cost of Living) Improvement Act 2012* was passed in May 2012. The Act establishes a Territory-wide energy savings target and mandatory energy savings obligations for individual energy retailers, commencing from 1 January 2013 and running initially until 31 December 2015.

Tier 1 electricity suppliers (energy retailers with more than 5,000 customers selling more than 500GWh in a year) must participate by undertaking eligible energy efficiency activities in ACT households and businesses. Remaining 'Tier 2' suppliers may undertake activities or pay an 'Energy Savings Contribution' to the Scheme Administrator which will be spent on complementary energy saving measures.

The Scheme will contribute towards meeting the ACT Government's greenhouse gas reduction targets by reducing energy demand. The reduction in energy demand is estimated to reduce the Territory's greenhouse gas emissions by around 750,000 tonnes CO₂-e in 2020.

Large scale solar auction

On 6 January 2012, an Instrument was notified in the Legislative Assembly for the release of 40 megawatts of solar generation renewable energy capacity in the ACT by way of a competitive process, the Large-scale Solar Auction. The capacity release forms the first component of a total 210 megawatts of large-scale renewable energy generation provided for in the *Electricity Feed-in (Large-scale Renewable Energy Generation) Act 2011*, introduced in December 2011.

The Solar Auction opened on 27 January 2012 and interested proponents lodged prequalification proposals in April 2012. Successful proponents were entitled to submit a final proposal, including a nominated feed-in tariff price, in either a fast-track stream or regular stream. The closing date for the fast-track stream was 20 June 2012 and the closing date for regular stream proposals is 4 March 2013. An announcement on the fast-track stream was made after the reporting period.

Waste Management Strategy

The *ACT Waste Management Strategy 2011-2025* was released on 15 December 2011.

The Strategy implements new measures to achieve a world best practice resource recovery rate of over 90 per cent by 2025 with the construction of new resource recovery facilities and the delivery of new waste services. The Strategy focuses on achieving the four key outcomes of:

- less waste generated;
- full resource recovery;

- a clean Canberra; and
- a carbon neutral waste sector.

Greenhouse gases in the waste sector are primarily produced by the breakdown of organic material in landfills to produce methane, a greenhouse gas with a global warming potential 25 times greater than carbon dioxide.

The four key outcomes presented by the Strategy have the potential to reduce greenhouse gas emissions from the waste sector by reducing the amount of waste generated, and consequently reducing the amount of waste interred in landfills. In addition, by diverting recoverable resources towards energy-from-waste technologies, the waste sector has the further potential to generate electricity from biomass and other organic products. This displaces electricity sourced from the National Electricity Market at higher emission intensity periods and makes a further contribution towards lowering the Territory's greenhouse gas emissions.

According to modelling undertaken to inform *Weathering the Change* Draft Action Plan 2, by diverting waste from landfills and generating energy from waste the sector has the potential to reduce the Territory's emissions by around 130,000 tonnes CO₂-e in 2020.

ACTSmart sustainability programs

Over the 2011–12 reporting period the ACT Government delivered a range of ACTSmart incentive and educational programs focusing on water and energy efficiency and waste reduction across the residential, low income residential, business, schools and community sectors.

The following ACTSmart programs support climate change and greenhouse gas reduction policies:

- HEAT Energy Audit and Advisory Service;
- Low Income Energy and Water Efficiency program;
- ToiletSmart and ToiletSmart Plus;
- ACTSmart Office and Business Programs and Public Event Recycling Trial; and
- Australian Sustainable Schools Initiative (AuSSI) ACT.

Full details on the ACTSmart programs can be found online at www.actsmart.act.gov.au.

ACT Planning Strategy

The ACT Planning Strategy was adopted by the ACT Government on 26 June 2012. It replaced the Canberra Spatial Plan.

The planning strategy provides long-term planning policy and goals to promote orderly and sustainable development, consistent with the social, environmental and economic aspirations of the people. A long-term planning strategy is required under the *Planning and Development Act 2007*.

Carbon Neutral ACT Government

Over the 2011–12 reporting period the ACT Government continued work on the Carbon Neutral ACT Government Framework to develop arrangements and actions by ACT Government Directorates to achieve carbon neutrality. The Carbon Neutral ACT Government Framework was considered by the Government after the reporting period.

The purpose of the framework is to enable and coordinate a whole-of-government approach to achieving carbon neutrality by 2020. The framework will build on agency Resource Management Plans, supported by access to an expanded Resource Management Fund, and improved systems for monitoring and reporting energy use and greenhouse gas emissions within Directorates.

More accurate data was identified as critical in informing decisions and monitoring progress towards carbon neutrality. The Government has continued to support the development of an ACT Government Sustainability Data Management System to collect and manage ACT Government Directorate data on energy and water use. This will assist monitoring of the effectiveness of actions undertaken by Directorates to reduce greenhouse gas emissions.

The 2012-2013 ACT Budget provided \$5 million to establish the Carbon Neutral Government Fund - a loan facility accessible to ACT Government agencies to implement energy saving and greenhouse gas reduction initiatives. This new Fund absorbs the Resource Management Fund (an existing loan facility of \$1.9 million).

The Framework will be available publicly in early 2013 in conjunction with the release of the Government's own greenhouse gas inventory.

d. Consult business and community entities about issues relating to climate change

The Minister met with a range of business and community groups throughout the year and discussed, *inter alia*, climate change and other environmental issues. These meetings included direct meetings, presentations, conferences and informal discussions.

Draft Action Plan 2 consultation

A comprehensive consultation was held on Draft Action Plan 2. Two community events, a World Café and a Technical Workshop, were undertaken as part of the consultation process. More than 90 participants from stakeholder groups and the general public came together at the World Café event to discuss the pathways presented in Draft Action Plan 2.

The Technical Workshop was an invitation-only event attended by those who had expressed interest in further consultation. Based on feedback from the World Café, the workshop focused on energy efficiency and energy supply.

The consultation process included the opportunity to provide written comment via the *Time to Talk* website. A further fifteen submissions were received through this avenue.

Officers from the Environment and Sustainable Development Directorate also engaged with industry, government and stakeholder groups through 13 targeted briefings. ESDD staff discussed Draft Action Plan 2 with members of the public at shopping centres in Dickson, Jamison and Erindale with the aim of providing information on the draft Action Plan, encouraging submissions and participation in the consultation events.

Consultation closed on 2 March 2012 with 46 formal written submissions being received.

ACT Climate Change Council

In October 2011 the Minister announced the establishment of the Climate Change Council under the Act. The Council's purpose is to provide advice to the Minister on reducing greenhouse gas emissions; and addressing, and adapting to, climate change.

The Council is required to report to the Minister annually within three months of the end of financial year. These reports will be made available to the public, with the Climate Change Council Annual Report 2011-12 available on the Environment and Sustainable Development Directorate's Website.

The Council met three times during the reporting period. The first meeting was held in November 2011, with further meetings being held in February and May 2012.

In providing advice to the Minister, the Council has consulted with business and community groups throughout the Territory.

- e. Consider and promote actions or strategies by business entities, including technological developments, to address or adapt to climate change or reduce greenhouse gas emissions**

Business Development Strategy

On 30 April 2012 a new strategy to help guide the future growth of the Territory economy was launched. *Growth, Diversification and Jobs - A Business Development Strategy* sets out numerous initiatives to encourage economic growth and diversification of the private sector economy, and contribute to job growth.

Canberra already has many advantages including leading education, research and cultural institutions, a highly skilled and educated workforce, a connected and collaborative business community, and is the hub for a dynamic and growing region. The Strategy builds on these strengths to create the basis of a thriving, knowledge-based economy.

The three key themes for the strategy are:

- accelerating business innovation;
- supporting business investment; and
- fostering the right business environment.

f. Promote the Territory's involvement in state, national and international climate change forums

The ACT Government participates in a range of national forums to achieve a nationally consistent approach on energy and climate change matters.

Such forums include the Standing Council on Energy and Resources (SCER) and the Select Council on Climate Change (SCCC), as well as the numerous working groups under these councils that are working to progress nationally consistent energy and climate change policy reforms.

The SCCC supports an effective response to climate change policy issues with national implications and provides a forum to engage the Commonwealth on implementation issues.

The ACT Government's involvement in the SCCC includes:

- Working with jurisdictions to oversee the National Partnership Agreement on Energy Efficiency;
- Developing national adaptation priorities and work plans; and
- Developing a national approach to assessing the complementarity of existing and future climate change measures with the national carbon price mechanism.

The SCER forum gives the ACT Government the opportunity to consider market conditions and trends and discuss initiatives to support the development and efficient operation of the nation's energy and resources sectors.

The ACT is also a party to the National Partnership Agreement on Energy Efficiency (NPA-EE) under the National Framework on Energy Efficiency, which provides for a nationally consistent and cooperative approach to energy efficiency.

**g. Promote the commercialisation, generation and use of renewable energy
in the ACT**

Micro (small)/Medium scale electricity Feed-in-Tariff

The ACT Feed-in Tariff Scheme closed on 13 July 2011 as the legislated 30 megawatt total installed capacity cap had been fully committed.

30 megawatts of installed capacity is expected to produce approximately 42,000 megawatt hours of renewable electricity each year, enough to power approximately 5,200 households and reduce greenhouse gas emissions by approximately 37,000 tonnes CO₂-e each year.

Despite the Feed-in Tariff Scheme having closed, ACT households continue to install solar generators at an average rate of 100 installations per month to offset their electricity expenses and benefit the environment.

Solar Auction

This is the first auction for a Feed-in Tariff entitlement conducted in Australia and will ultimately ensure the highest levels of renewable energy generation at best value to the ACT community.

Industry has been able to propose optimum-sized facilities up to a maximum of 20 megawatts based on emerging technologies and economies of scale. A capacity limit of 20 megawatts per proponent means that the auction should deliver at least two facilities.

Once installed, 40 megawatts of large-scale solar generation capacity is expected to produce approximately 74,000 megawatt hours of renewable electricity each year, enough to power approximately 8,800 households and reduce greenhouse gas emissions by approximately 1,120,000 tonnes CO₂-e over the 20 year term of the feed-in tariff entitlement awarded to successful proponents.

h. Promote the commercialisation and use of other technologies to reduce greenhouse gas emissions in the ACT

In December 2011 the Minister released the ACT Waste Management Strategy 2011-2025. The Strategy identifies opportunities to establish energy from waste technologies to produce energy from some organic wastes such as wood, contaminated paper, cardboard and food, where it can't be recycled.

Energy-from-waste technologies, such as anaerobic digestion, pyrolysis and gasification may provide opportunities to reduce the ACT's greenhouse gas emissions through reducing the amount of organic materials sent to landfill and the production of bioenergy and biochar (a stable form of carbon).

i. Promote research and development consistent with the objects of this Act

During the reporting period the ACT Government continued to support research and local partnerships through the Canberra Urban and Regional Futures (CURF)- a joint initiative of the ANU and the University of Canberra (UC). CURF is a platform for information on sustainability and climate change in the Canberra region, facilitating the sharing of information between university, research, federal, state and local government institutions.

j. Support the development of regional, national and international approaches to addressing climate change

NSW and ACT Regional Climate Model (NARClIM)

The ACT Government is in partnership with the NSW Government Office of Environment and Heritage in developing new, fine-scale climate projections for New South Wales and the Australian Capital Territory using a regional climate model called the NSW and ACT Regional Climate Model or NARClIM.

NARClIM will improve our ability to predict changes in temperature, wind and rainfall in the state which, in turn, will provide critical information to manage the impacts of climate change on health, settlements, agriculture, weather extremes and services, such as water and energy supplies.

k. Consider and recommend amending a Territory law (including this Act) or a government policy or practice if the Minister reasonably believes an amendment is necessary to achieve the objects of this Act

Legislation enacted in this reporting period included the:

- *Electricity Feed-in (Large-scale Renewable Energy Generation) Act 2011;*
- *National Energy Retail Law (ACT) Act 2012;* and
- *Energy Efficiency (Cost of Living) Improvement Act 2012.*

With the introduction of a national price on carbon in the *Clean Energy Act 2012 (Cth)*, the *National Energy Retail Law (Consequential Amendments) Act 2012* amended the *Electricity (Greenhouse Gas Emissions) Act 2004* to bring the ACT Greenhouse Gas Abatement Scheme to an end effective 1 July 2012.

Further legislation and policies and practices were under consideration during the reporting period and these will be reported when enacted in future reports. This includes legislation to support AP2.

I. Assess the impact of climate change on the Territory

No impact assessments were released for climate change impacts on the Territory during the reporting period. However research and analysis was progressed through the reporting period which informed the reporting of potential climate impacts in Draft Action Plan 2.

ACT Greenhouse Gas Inventory

The ACT Government is responsible for monitoring the greenhouse gas emissions from the ACT community as a whole. The emissions are calculated and published in an annual ACT Greenhouse Gas Inventory (GGI), using methodologies consistent with national and state requirements, but specific to the unique energy requirements of the ACT. Almost all electricity used within the ACT is generated outside of the ACT. The ACT GGI series includes the emissions associated with electricity purchased from the National Electricity Market.

The ACT GGI is a source of information for the ACT Government, business and community about the major sources of emissions we can influence through our policies and actions and it is not intended as a strict carbon accounting report. The major sources of greenhouse gas emissions in the ACT are electricity, transport fuels and natural gas.

The 2009 ACT GGI was prepared by the Independent Competition and Regulatory Commission and released in September 2011 to track the greenhouse gas emissions profile of the ACT and to track progress towards the ACT's legislated greenhouse gas reduction targets.

m. Support public education about climate change

The one-stop-shop ACTSmart website continued during the 2011-12 reporting period. The website has been designed to assist Canberrans to live more sustainable lives and ensure a sustainable future for our city.

Community education and engagement has been identified as a key component through the consultation on Draft Action Plan 2.

n. Any other functions given to the Minister under this Act.

No other functions had been given to the Minister under the Act as at 30 June 2012.

2. Effectiveness of government actions taken to reduce greenhouse gas emissions during 2011-12

The Minister has sought or obtained information on actions undertaken by each ACT Government Directorate. All Directorates report their greenhouse gas emissions in their annual reports. Directorates also have, or are developing, Resource Management Plans to address their environmental resource use.

The following section is based on Directorate action reported through annual reports. A more qualitative analysis will be taken in future years with the introduction of the Sustainably Data Management System.

Chief Minister and Cabinet Directorate

CMCD progressed a number of initiatives in support of the portfolio's across government role in sustainability policy coordination, including:

- piloting of a Triple Bottom Line Assessment Framework, which aims to provide a scalable approach to inclusion of sustainability principles in policy analysis;
- releasing of Climate Change Impact Assessment Discussion Paper, that related to impact assessment on all Government Bills and major policy proposals and has been incorporated into the Triple Bottom Line Assessment Framework; and
- developing of a draft Climate Change Vulnerability Assessment Framework for Infrastructure.

The *draft Triple Bottom Line Assessment Framework*, *Climate Change Impact Framework* and the *draft Climate Change Vulnerability Assessment Framework for Infrastructure* are available at www.cmd.act.gov.au/policystrategic/sustainability.

Community Services Directorate

In all new constructions and major refurbishments commissioned by CSD energy and water saving measures have been implemented. All public housing commissioned by CSD meets or exceeds a 6 star energy rating under the Nationwide House Energy Rating Scheme (NatHERS). To achieve the 6 star rating, dwellings are appropriately oriented for solar gain and include wall and ceiling insulation, energy efficient glazing and shading and draught

proofing to windows and doors. Energy efficiency appliances are installed such as high efficiency gas or electric boosted solar hot water systems. The aim is to reduce the energy costs of those who are amongst the most vulnerable in the community.

One of the primary initiatives in relation to Community Facilities was setting up a four year program (ACT Community Facilities Go Energy Smart) to significantly increase energy efficiency as well as engage the local community and other ACT Government agencies in the area of continuous improvement.

Economic Development Directorate

In September 2011, the ACT Government endorsed the ACT Environmental Leasing Policy. The Policy was developed to support the implementation of the National Green Leasing Policy and other green leasing practices in the ACT Government.

'Green Leasing' is the full set of environmental activities, considerations and impacts that occur throughout the leasing process. This process includes the period leading up to the lease agreement, the term of the lease and the end of a lease.

A Green Lease Schedule (GLS) which forms part of the lease agreement between the ACT Government and a private landlord, defines the minimum energy standards with regard to the performance of an office building. The Policy commits, as far as practicable, the ACT Government to utilising green leasing for all buildings where the area leased is in excess of 1,000m² for a lease of 2 years or longer.

The energy rating tool used is the National Australian Built Environment Rating System (NABERS) for offices. A GLS requires the building owner and tenant to achieve and maintain an energy efficiency performance equivalent to a NABERS energy rating of at least 4.5 stars where the highest possible rating is 5 stars. The NABERS scheme requires 12 months of activity before a rating can be calculated.

In 2011, approximately 55% of the Government's office accommodation portfolio was in offices owned by the private sector. Of this total, around 92% of the space was in offices greater than 1,000m² and Green Lease Schedules have been negotiated for 52% of this space. Most of the remaining space is in offices where the leases will not expire for several years, but will be transitioned as appropriate on renewal.

Education and Training Directorate

ETD continued to pursue initiatives aimed at delivering the ACT Government's objective for ACT public schools to be carbon neutral by 2017. This included:

- installation of photovoltaic (solar panel) systems at schools;

- installation of pulse (smart) meters at schools;
- installation of water tanks, providing a non-potable water supply to schools;
- construction of sustainable landscapes at pilot sites;
- designs for artificial grass areas at priority schools; and
- 5 Greenstar design ratings for the Harrison School and Bonner Primary School.

During the 2011-12 reporting year, ETD completed the installation of roof mounted photovoltaic panel systems at 19 schools allocated grant funding under the Australian Government's National Solar Schools Program (NSSP). Additional funding was allocated from the ACT Solar Schools Program to assist schools to install larger solar panel systems. The rollout in 2011-12 follows the successful trial installations conducted at Evatt Primary School and Kingsford Smith School. This brought the total number of ACT public schools with functioning solar panel systems at the end of the reporting period to 25 (Directorate is responsible for a total of 84 public schools in the ACT).

Arrangements were in place at the end of the reporting period for the installation of solar panel systems at a further 27 schools. These schools had also been allocated NSSP grants in the second funding round. These installations will occur in the 2012-13 year. Arrangements for the installation of solar panel systems for the final 33 schools will also occur in the 2012-13 year (including a second system at Gold Creek School).

Following the installation of solar panel systems at ACT public schools, ETD is rolling out a program to install smart meter technology at schools to capture electricity, gas and water consumption and solar energy generation. Works to develop the recording and reporting systems, together with the installation at the initial 25 schools, were substantially progressed during the reporting period with final works to be completed early in the 2012-13 year. Further installations will also occur at the remaining schools during 2012-13.

These systems will provide schools with real time data on consumption and energy generation which will support both the management of energy and water use by schools and, through a web-based interface, the development of curriculum studies for students.

Health Directorate

Due to the nature and scale of its operations, the Health Directorate is a significant consumer of energy and water, and generates a significant amount of waste. In line with the government's legislative requirements to reduce carbon emissions, the Health Directorate has undertaken a feasibility study to determine the Canberra Hospital's energy options, given the redevelopment of the hospital campus and increased infrastructure.

The feasibility study found that sustainability in healthcare facilities need not compromise functionality, nor significantly increase the cost of operating buildings. Healthcare facilities stand to gain more than other building types by focusing on sustainable design. Well-designed sustainability initiatives can provide the following benefits:

- significant reduction in operating costs, especially in light of the inevitable rising costs of water and electricity;
- improved internal environment quality for staff and visitors;
- future proofing of buildings so that they are able to adapt to future requirements;
- informed choices during design, based on whole-of-life considerations; and
- reduction in carbon emissions.

Justice and Community Safety Directorate

During the 2011–12 reporting year JACS delivered energy efficient projects across a number of high use sites, including:

- Alexander Maconochie Centre – upgrade of building management systems;
- Ainslie Fire Station – lighting upgrades, HVAC upgrade and the planning of installation of Solar Panels;
- Greenway Fire Station – installation of Solar Hot Water and lighting upgrades;
- LED Lighting Upgrades – level 9, 12 Moore Street and Level 1, 255 Canberra Avenue;
- Magistrates Court – Level 3 lighting upgrade and installation of window insulation;
- publication of JACS Energy Saving Guide;
- Staff Sustainability Survey and Publications of Survey Results and Recommendations; and
- further rollout of ACTSmart recycling program.

The Ainslie Fire Station has been identified as a key site to work towards becoming the first carbon neutral fire station. It will serve as a model for further upgrades across other ACT Fire & Rescue stations and other Emergency Services Agency sites.

Territory and Municipal Services Directorate

TAMS undertakes its core business activities in a way that strives towards ecologically sustainable development of Canberra's infrastructure and natural assets. TAMS has

continued to maintain a strong focus over the reporting period on reducing the environmental footprint of all services provided to the ACT community.

Highlights for 2011-12 include:

Roads and public transport

- continuing ACTION's bus replacement program;
- constructing the Park and Ride facility at Mawson to encourage the use of public transport;
- undertaking cycling signage and path maintenance under the walking and cycling infrastructure project;
- constructing new Park and Ride and Bike and Bus facilities on rapid and commuter transport routes to encourage use of public transport; and
- completing master planning for a commuter cycle network.

Waste

- progressing the establishment of a new dry commercial and industrial materials recovery facility;
- continuing to increase the recovery of resources at the Mitchell Resource Management Centre;
- introducing the free national television and computer recycling scheme which has proven to be very successful; and
- undertaking the pilot program for public place recycling within the retail core of Canberra's City centre to guide decisions on the suitability of installing public place recycling in other major shopping precincts.

Water sustainability

- using non-potable water to irrigate trees and shrubs and to top up public fountains.

Treasury Directorate

In 2011-12 Treasury has supported the Government's greenhouse gas emissions reduction target by assisting other directorates implement their policies and programs, including:

- providing economic advice and analysis on the development of the Government's carbon neutral framework and AP2; and
- participating on the panel for the Resource Management Fund which considers loan applications for energy efficient investment by ACT Government Directorates.

3. Findings of a cost-benefit analysis of any government policies or programs implemented to meet the targets

Energy Efficiency Improvement Scheme

During the reporting period the Government commissioned a comprehensive regulatory impact assessment on the energy efficiency improvement scheme (EEIS) under the *Energy Efficiency (Cost of Living) Improvement Act 2012* which found that the EEIS would deliver net economic benefits of \$40 million dollars while reducing 742,000 tonnes of greenhouse gas emissions based on total life-cycle greenhouse gas savings against the ACTs emissions baseline.

The Scheme, that requires electricity retailers to undertake energy savings measures across the Territory, will be funded by electricity retailers who will pass a portion of those costs through to ACT electricity customers. However this pass-through cost is small compared to the energy savings that we expect the scheme to achieve. The net benefit to an average household is expected to be around \$300 by the end of 2015 (around \$100 per annum) and cost savings will continue to grow to around \$2,140 over the lifetime of measures.

Year	Average annual bill savings	Average annual cost to household	Net bill savings
2013	\$66	\$19	\$47
2014	\$135	\$35	\$100
2015	\$191	\$33	\$158
Lifetime impacts*	\$2,227	\$87	\$2,140

** While scheme costs end in 2015, savings from energy efficiency measures implemented will continue to accrue.*

Some households will have greater opportunity to make savings than others. Factors that may impact a household's energy savings potential include:

- Household size (underlying demand);
- Relative efficiency of existing premises and appliances (eg EER 0 rated premises);
- Willingness/ability of the occupants to adopt complementary behaviour change; and
- Number of energy efficiency activities undertaken in a household.