

Objective:

Planning, designing and communicating for an environmentally sustainable future

Sustainable Futures

This output takes a strategic approach to planning, designing and communicating an environmentally sustainable future, and leads the Toward Q2 green target: Cut by one-third Queenslanders' carbon footprint with reduced car and electricity use.

Office of Climate Change

Queensland Climate Change Fund

The 2008–09 allocation from the Queensland Climate Change Fund included a significant focus on helping Queensland households to reduce their carbon footprint.

The Queensland Climate Change Fund was established in May 2007 to provide an ongoing funding source of \$30 million each year for priority climate change initiatives which position Queensland to respond strategically to climate change.

Queenslanders will be supported by these programs to make changes to improve the energy efficiency of their households, reduce their carbon emissions and save on energy expenses. Queensland will be better prepared for natural disasters and for the challenge of adapting to changed climatic conditions.

Significant allocations from the Queensland Climate Change Fund in 2008–09 include:

- ClimateSmart Homes Service (\$20 million)
- Low Carbon Diet (ClimateSmart Living 2) (\$1.5 million)
- ecofundQ (\$1.2 million)
- National Climate Change Adaptation Research Facility (NCCARF) (\$0.8 million).

The ClimateSmart Home Service aims to provide support for up to 260 000 Queensland homes over two years. As at 30 June, 69 321 services had been completed and another 6700 services were booked.

The Low Carbon Diet program (ClimateSmart Living) has a goal to have 500 000 Queenslanders take the Low Carbon Diet by 30 June 2010. During the 2008–09 financial year, more than 120 000 Queenslanders were actively engaged in the Low Carbon Diet.

The ecofund will purchase land for environmental and carbon offsets and contribute to increasing protected areas in Queensland from eight million to 20 million hectares by 2020.

NCCARF is hosted by Griffith University with funding from the Commonwealth and Queensland governments, to coordinate and lead the Australian research community in generating information needed to facilitate adaptation to climate change.

The Queensland Climate Change Fund will continue to support these in 2009–10, with the following allocations:

- ClimateSmart Homes Service (\$25 million)
- Low Carbon Diet (ClimateSmart Living 2) (\$1.5 million)
- ecofundQ (\$1.8 million)
- NCCARF (\$0.4 million).

In 2009–10, the QCCF will also support the implementation of a number of significant new initiatives in Queensland's climate change strategy, ClimateQ. These include:

- Skills development for a low-carbon economy
- Green Building Skills Fund
- Cleaner Greener Buildings
- Low emissions energy generation in commercial buildings
- Supporting our Heroes
- Bushfire Community Training Package
- Disaster Preparedness in Vulnerable Communities
- Extending the Rural Water Use Efficiency Initiative (RWUE)
- Greening the taxi fleet
- Improved fire management in national parks.

Premier's Council on Climate Change

The Premier's Council on Climate Change was established to provide strategic, high-level advice to the Queensland Government on emerging climate change issues, and to propose best practice solutions to the challenges of climate change. The Council ensures Queensland's efforts in addressing climate change are informed by the best available local and national knowledge and experience.

The Council met once during the reporting period, on 30 June 2009, and reports the following progress:

- the government has responded to the Council's second working paper, Building ClimateSmart in Queensland. A number of regulatory and administrative reforms are being implemented by the Department of Infrastructure and Planning to give effect to recommendations from the paper

- the third working paper on ClimateSmart urban development has been presented to the government and it will provide a response in 2009–10
- an interim fourth working paper on biosequestration in the rural sector was presented for discussion by the Council. It summarised an Australian-first scientific report from CSIRO which assessed the potential of 12 options to store carbon in the rural landscape. The final working paper on biosequestration investigates the policy implications and opportunities that emerge from the findings of the CSIRO report. It is being finalised for consideration by the government
- two further working papers, on transport and energy issues, will be developed by the Council for the government's consideration in 2009–10.

Cloud seeding research

The Cloud Seeding Research Project is designed to test the viability of cloud seeding as a strategy to increase gains in water storage in south-east Queensland. The project established a scientific process to critically evaluate the methods and processes of cloud seeding of convective clouds. This internationally recognised research initiative has resulted in:

- the accelerated development of a sophisticated radar facility known as the CP2 radar at Redbank Plains
- an improved understanding of severe weather events
- an increased understanding of south-east Queensland's climate.

The University Corporation for Atmospheric Research based in Boulder, Colorado (USA) completed the field research component of the project in February 2009. The final report on the research findings will be reviewed and finalised by 30 October 2009.

The project has also enhanced research capability across a range of disciplines including cloud physics, radar technology, project management, the impact of air pollution on precipitation, and atmospheric research. This enhanced capability will also improve understanding of the region's climate, which is critical to understanding and appropriately responding to climate change.

High-quality and detailed datasets such as those collected during the cloud seeding project will be important and useful for ongoing research.

The project will provide information to support decision making on cloud seeding and water resource management, and will contribute to national-level interest in this issue.

Queensland–China climate change fellowships

On 1 April 2008, the Queensland Premier signed a memorandum of understanding in Beijing with the Minister of Science and Technology for the People's Republic of China to establish a fellowship program to exchange knowledge and advance ideas on climate change.

The program is initially for a term of three years (2008–10). Up to six fellowships will be offered each year, with three awards for applicants from Queensland to travel to China, and three for applicants from China to travel to Queensland. The Fellows participate in short-term reciprocal exchange visits to improve mutual understanding of climate change, its potential impacts, mitigation strategies and adaptation responses.

The program strengthens links between research institutions in Australia and China. It also improves understanding of the impacts of changing climatic variables on Queensland and reveals where similar issues in Queensland and China would benefit from collaborative research.

The program is jointly managed by International Collaborations within the Department of Employment, Economic Development and Innovation and the Chinese Government's Ministry of Science and Technology. The Queensland Climate Change Centre of Excellence is involved in managing and delivering the program.

Historical climate data recovery collaborations

The Queensland Government, through the Queensland Climate Change Centre of Excellence (QCCCE), is working with British and American researchers to digitise and analyse historical weather data to better understand the climate system.

This international collaboration called ACRE (Atmospheric Circulation Reconstructions over the Earth) is with the Hadley Centre Meteorological Office in the UK, and the National Oceanic and Atmospheric Administration's (NOAA) Earth System Research Laboratory and the Cooperative Institute for Research in Environmental Sciences at the University of Colorado, USA.

International specialists met in Queensland in April 2009 to review progress and to identify priority applications of data. Data from the project will be available publicly (through the Global Climate Observing System) as it is analysed and verified.

This more detailed knowledge of past weather events will enable scientists to test and improve the reliability of climate modelling tools and establish a better understanding of the links between climate change and extreme weather events.

The historical weather reconstructions being produced by the ACRE project will be invaluable for policy and decision makers across Queensland as they will enable a more complete story of the influences of weather and climate in their area of interest.

Sustainable communities

Tenure actions

The department moved closer towards the Q2 green target of protecting 50 per cent more land for nature conservation by 2020, with additions to the Conway, Littabella and D'Aguiar national parks as well as two new national parks, Wrattens and Oakview. At the end of the reporting period, a total of 4.61 per cent of Queensland is now national park, protecting 7.9 million hectares of land with high ecological and cultural values.

Nature refuges

The department increased gazetted nature refuges by approximately 196 097 hectares by negotiating conservation agreements for privately managed lands of significant value through the Nature Refuge, NatureAssist, and Environmental Partnerships Scheme programs. By the end of the reporting period, the Queensland Nature Refuges Program had grown to 338 nature refuges covering 750 988 hectares.

Threatened species

Only a single population of the endangered hairy-nosed wombat exists, and that is at Epping Forest National Park (scientific) near Clermont. To spread the risk this small population faces from disease and natural disasters, a new colony is being established on a property near St George. The two-year, \$3 million project to establish a new colony on Yarran Downs commenced in 2008 after several years investigating its feasibility.

Seven animals (five males and two females) were trapped and radio-collared between March and May 2009 in preparation for their move in late winter 2009. A predator-proof fence was completed at Yarran Downs in May 2009 and celebrated at a special function attended by the Minister for Climate Change and Sustainability and representatives from Xstrata, the project sponsor.

Comprehensive mapping of koala habitat in south-east Queensland was completed in May 2009, as part of the government's Koala Crisis Response Strategy. The mapping was completed by GHD, which was assisted with koala sighting records from DERM's WildNet database and the department's Koala Hospitals Information System, and was overseen by an expert knowledge management group. These comprehensive koala habitat maps will be used for decision making and the development of future policy. DERM will continue to assess koala values on State-controlled land intended for sale or clearing (under the Cabinet freeze initiated in December 2008 on the clearing or disposal of State-owned land except where there is a need for urgent social infrastructure).

ClimateSmart programs

DERM continued to deliver the ClimateSmart Home Service to Queensland households, improving energy efficiency by installing an energy monitor, energy-saving compact fluorescent lamps (CFLs), and a water-efficient shower head, and providing customers with detailed advice on ways to reduce energy use. This service contributes to the Toward Q2 green target to cut Queenslanders' carbon footprint.

The department also continued to deliver the ClimateSmart Retail program which provides training and point-of-sale materials for almost 40 retailers to increase sales of appliances that are more water and energy efficient. The program assists Queensland shoppers to choose the most appropriate energy and water efficient products for their household.

The ClimateSmart Business program made progress, with 33 small businesses across Queensland forming a partnership with DERM to improve environmental outcomes and reduce their costs. DERM has also been seeking business leaders for clusters of up to 20 businesses. The leader of each cluster will be funded to assist participating companies to measure their footprint, make efficiency changes and measure the outcomes. This initial pilot should be completed by March 2010.

More than 500 businesses are now participating in the ecoBiz partnerships program. The ecoBiz program provides information, free tools, free training and fee-for-service facilitators to assist industry to identify efficiencies in waste, water and energy for financial and environmental benefits. During the reporting period, six participating ecoBiz businesses completed the ecoBiz steps to achieve partner status.

QSEIF

The Queensland Sustainable Energy Innovation Fund (QSEIF) is the longest running Queensland Government program to specifically target innovation in energy and water savings. QSEIF provides financial and other incentives to help stimulate the availability, uptake and commerciality of new sustainability technologies and practices.

QSEIF Expo 09 was held in May 2009 to mark the program's tenth year and to celebrate the achievements of many QSEIF participants. Nine Queensland companies that demonstrated technical innovation and market leadership were recognised with QSEIF achievement awards. These represented technologies as diverse as water-efficient nursery pots, biogas production from banana waste, and solar panel coatings. The expo was part of the 2009 Brisbane City Council CitySmart Innovation Festival.

Sustainability innovation

Innovation specialists

DERM has a specialist team that undertakes research into issues, ideas and concepts on future sustainability. The team delivers its findings and advice through submissions and reports, and presents ideas and information at workshops and conferences to progress innovation, create partnerships and leverage change.

To help build the resilience of Queensland's natural environment and communities, the team is involved in identifying and supporting original, renewable and low-impact technologies and industries. In the reporting period, the team:

- hosted two information sessions on industrial ecology for the Western Corridor Manufacturers Sustainability Group, in conjunction with the Department of Employment, Economic Development and Innovation. As a result, a pilot waste assessment survey of manufacturing businesses in the Carole Park Industrial Estate will be undertaken

to identify and develop by-product synergies.

This is the first step towards establishing an eco-industrial park

- continued to support a shared approach to clean energy uptake by:
 - facilitating the Solar Suburbs initiative which aims to accelerate a more cost-effective uptake of photovoltaic solar power through a bulk purchase approach. This concept has led to a commitment by the University of Queensland to build a 1 MW solar power micro-grid at its St Lucia campus
 - running a workshop 'Greenhouse and energy in Queensland homes', which was attended by experts from the public and private sectors. A discussion paper produced for the workshop is being widely used as a key reference document by organisations such as the Brisbane City Council and the CSIRO.

Other activities undertaken by the team during the reporting period include:

- facilitating stakeholder forums and workshops, including the Waste Policy Unit's policy development workshop and the inter-agency 'Making the Smart State the sustainable state' forum
- coordinating sustainable behaviour workshops, aimed at assisting government, industry and communities with the development and implementation of targeted behaviour change campaigns and strategies. A project to identify how community knowledge, barriers and concerns can drive or impede engagement in sustainability issues is ongoing
- participating in the State of Environment review group by assisting with the inclusion of green accounting, urban metabolism measurement, ecosystem services, and ecosystem health evaluation within a broader sustainability framework.

Strategy and policy

Moreton Bay park zoning and structural adjustment

Moreton Bay is a multiple-use marine park where zones and designated areas define the types of bay activities that are appropriate based on conservation values.

The Moreton Bay Marine Park Zoning Plan 2008, which came into effect in March 2009, will protect a diverse range of species and habitats from pressures such as population growth, development and climate change.

The new zoning plan achieves a number of conservation goals, including increasing the amount of area in marine national park (green) zones or 'no-take' areas from less than half a per cent to 16 per cent. A sample of all 16 different habitat types in the marine park is now protected in green zones, and vessel go-slow areas have been expanded to reduce the risk of boat strike on turtles and dugongs.

In February 2009, the department implemented a structural adjustment package (or licence buy-back scheme) to help the commercial fishing industry in Moreton Bay adjust to the bay's new zoning arrangements. This successful work was continued during the reporting period.

The surrender of these licences will reduce competition between the remaining licence holders and help them modify their fishing operations. The department has also been developing a package for the nine licence holders of the commercial aquarium fish fishery to help them adjust to new zoning arrangements.

Barrier Reef safeguard

In the final months of the financial year, the department took strong action towards delivering on the Queensland Government's \$50 million commitment to protect the reef through a package of legislative reforms and industry support tools that will reduce threats to this world heritage-listed icon and give the reef a fighting chance against compounding climate change threats.

The Great Barrier Reef Protection Amendment Bill 2009 was introduced into parliament in June 2009 to reduce the amount of nutrients, sediment and pesticides that enter waterways flowing to the Great Barrier Reef. The new regulations will apply to cane farmers and cattle graziers in certain reef catchments and include new controls and restrictions on pesticide use, rules for applying fertiliser, and a requirement for larger high-risk farms to prepare Environmental Risk Management Plans for their property.

Protecting biodiversity

Half of Queensland's plant and animal species are unique to the world. Threats to this precious biodiversity are accelerating through climate change pressures and an ever-expanding human footprint.

In the reporting period, DERM began developing a state strategy to protect Queensland's biodiversity and to keep pace with national approaches to biodiversity conservation. This strategy will provide a coordinated, whole-of-landscape approach in which government, industry and the community work together to meet the Queensland Government's commitment to protect 50 per cent more land for nature conservation and public recreation.

Queensland heritage

Encroaching development—along with the impacts of drought, fire and climate change—place pressure on the capacity to protect and manage Queensland's natural and cultural heritage. Amendments to the *Queensland Heritage Act 1992*, which commenced on 31 March 2008, shifted responsibility for development assessment decisions affecting privately owned registered places from the Queensland Heritage Council to the department. New time limits were also introduced for nomination decisions, and owners were given the right to be heard by the Heritage Council before decisions are made.

A set of strategic policy documents is being developed to support this legislative change and provide a framework for managing Queensland's heritage. These include a heritage strategy and management principles for State-owned heritage places.

Heritage grants

The Living Buildings and Places heritage grants program provided funding for many essential conservation projects such as: roof and guttering replacements, stone repairs for churches, timber repairs to community buildings and private residences, and restumping and other urgent structural works—delivering on the government's commitment to the state's cultural heritage.

In the last few months of the 2008–09 financial year, the program had expanded with 165 conservation projects across the state at a total of \$3.5 million.

The Minister for Climate Change and Sustainability recently approved funding for another 59 key projects totalling \$1 million on the recommendation of an expert panel.

Coastal management

The department recently revised the state's coastal plan in accordance with the *Coastal Protection and Management Act 1995*. Coastal plans are the main mechanisms under the Act to influence planning, development and natural resource management outcomes. The new Queensland Coastal Plan will better integrate Queensland's planning laws, deliver a stand-alone State Planning Policy under the *Integrated Planning Act 1997* (IPA), reduce unnecessary red tape processes, and increase resilience in the face of contemporary environmental pressures such as sea-level rise.

Youth Environment Council

The department continued its role in advising the Minister for Climate Change and Sustainability and the Minister for Education and Training on key environmental sustainability issues through the Queensland Youth Environment Council.

The Council commissioned a survey on youth and the environment which was tabled in Parliament in May 2009. The survey—which sought to address gaps in knowledge about young Queenslanders' understanding, attitudes and behaviours around environmental issues—was accessed online between October and December 2008 by approximately 4450 young people. The results suggest that most young people are very concerned about the environment and climate change. The main issues of concern were water availability, climate change and land clearing, followed closely by species extinction and the hole in the ozone layer.