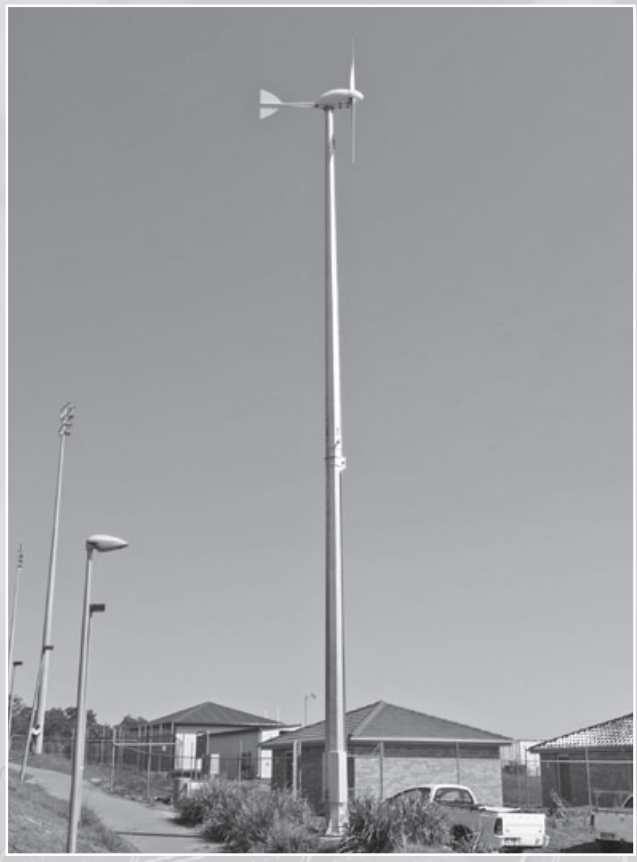
Clean energy

The Climate Change Fund is stimulating investment in clean energy technologies in NSW through $31 million in funding for commercialising emerging technologies and additional support for proven technologies such as wind and solar power.



Emerging technologies

Achievements

Six large-scale projects for commercialising emerging technologies are being funded $24.8 million to generate power or reduce grid power use by an estimated 96,000 megawatt hours and reduce summer peak demand by 11,400 kilowatts. This will save around 103,000 tonnes of greenhouse gas emissions a year.

These projects include applications of geothermal, solar thermal and biogas (energy from animal waste methane) technologies to generate electricity, the application of enabling technologies to store wind-generated energy and the testing of the potential for small-scale urban wind farms.

These projects are funded under the Renewable Energy Development program with support for technologies that are not yet market-ready. In the case of new technologies, early movers are often deterred or delayed by having to bear all the costs of trail-blazing without the ability to prevent subsequent competitors from free-riding.

The NSW Government has also committed $100 million over four years to the Clean Coal Fund, which provides funding (under the Climate Change Fund):

- to undertake research into and development of clean coal technologies
- to demonstrate clean coal technologies
- to increase public awareness and acceptance of the importance of reducing greenhouse gas emissions through the use of clean coal technologies
- for the commercialisation of clean coal technologies.

A call for Expressions of Interest under the NSW Clean Coal Fund closed on 4 December 2009, with 29 project applications received and assessed. In May 2010, 10 projects were successful with an allocated funding of $13 million. Funding agreements are currently being finalised for these projects. Project details are outlined in Appendix D.

Supporting proven technologies

Achievements

Seven clean energy projects with proven technologies are being implemented, with $6 million allocated under the Public Facilities Program and the former Energy Savings Fund. These projects will help generate 17,000 megawatt hours of electricity a year and save 17,645 tonnes of greenhouse gas emissions and $2.1 million on electricity bills annually. One of these projects has been completed.

These projects include harnessing methane gas from animal effluent and sewage and installing mini-hydro generators and photovoltaic panels. These are proven technologies that are not yet cost-effective. The Fund is helping to overcome the major barrier to investment by bridging the gap between the upfront cost of investment in this generation and the savings on energy bills.

Funds of $3.2 million have also been allocated to eight projects that are installing photovoltaic panels, as well as power and water savings. These include greening of community centres, schools and public buildings. For example, the NSW Government has installed photovoltaic panels at Parliament House, which are now producing 29 megawatt hours of renewable energy each year.

NSW is positioning itself to attract substantial new wind farm investment with the creation of six Wind Renewable Energy Precincts. These precincts have been established in areas of the state with the best known wind resources – in the New England Tablelands, Upper Hunter, Central Tablelands, NSW/ACT Border Region, South Coast and Cooma-Monaro. Precinct Advisory Committees are being formed in each of the six regions to provide enhanced consultation and engagement with local communities regarding renewable energy development within their region. The Climate Change Fund provided $800,000 in 2009–10 to support the Precincts.

In May 2010, the NSW Government announced it would provide up to $120 million over 20 years for NSW projects under the Australian Government's Solar Flagships Program. The $1.5 billion national program aims to build four significant solar energy facilities in the coming years. The NSW package is the largest amount of financial support being offered by any state or territory for large-scale solar power. Three NSW based solar photovoltaic proposals have been short-listed for consideration. Proponents will now undertake further feasibility studies and submit full applications. The winners are expected to be announced in early 2011.

Visit www.environment.nsw.gov.au/grants/ccfund.htm for details of clean energy projects funded under the Climate Change Fund.

■ CASE STUDY

Sydney Water set to increase clean energy use

With more than $3.6 million from the Climate Change Fund, Sydney Water will harness treated water and biogas to increase renewable energy used by the company over the next 20 years.

The renewable energy project will install a 160 kilowatt mini-hydro turbine at Woronora, expanding the capacity of the mini-hydro at North Head sewage treatment plant from one megawatt to two megawatts and installing a 250 kilowatt biogas cogeneration unit at Warriewood wastewater treatment plant.

Once fully commissioned, these three projects are expected to generate around 13,000 megawatt hours of clean energy and save 13,910 tonnes of greenhouse gas emissions a year.

Using the company's access to water and wastewater resources had enabled Sydney Water to pursue cogeneration and hydropower projects.

The cogeneration facility converts biogas, which is a product of the wastewater treatment process, into electricity and heat that is used for the on-site digesters. The hydropower projects capture energy from the flow of water and wastewater travelling through Sydney Water's pipeline network.

Sydney Water's initiatives showcase environmental innovation. The mini-hydro at North Head is a first in Australia for capturing potential energy from sewage treatment effluent. The mini-hydro at Woronora demonstrates the integration of small scale hydroelectric plant into an existing facility.

The cogeneration plant at Warriewood is a small scale cogeneration plant installed at Sydney Water and provides a valuable model for the installation of small scale biogas cogeneration plants at other sewage treatment plants.

■ CASE STUDY

Community centre showcases green technologies

Comboyne Community Centre has used $60,953 from the Climate Change Fund to showcase environmental sustainability on the Mid North Coast of NSW.

The centre has installed a 5 kilowatt photovoltaic system on the roof and replaced the electric hot water system with a climate-friendly solar system. Skylights now let more natural light into the building, reducing the need for artificial lighting.

External floodlights have been replaced with compact fluorescent equivalent fittings, cutting overnight power use. Ceiling fans have been installed to keep the centre comfortable without the need for air conditioning.

These energy saving measures have slashed the centre's annual energy use by around 60 per cent and will save 107 tonnes of greenhouse gas emissions in the first 10 years. Excess power generated by the rooftop solar panels is being fed back to the grid for other customers to use and is providing the centre with welcome income.

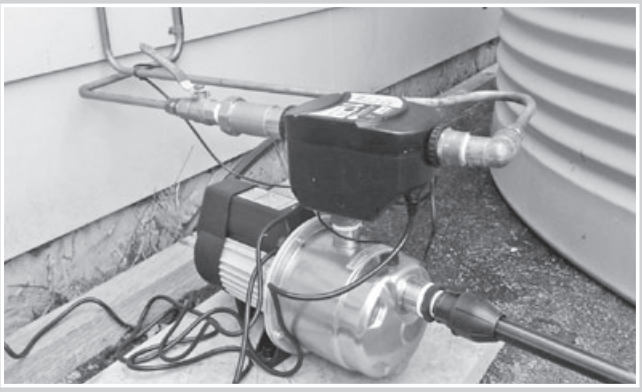
Through the installation of an online energy meter, the centre can measure clean energy as it is being generated by the solar panels.

The centre has also increased their sustainability by installing a 10,000 litre rainwater tank which has slashed the amount of drinking water used to flush toilets.

Now that the energy and water saving initiatives are in place, the centre's 2,500 annual visitors are keen to see how they can also save water, energy and money.

The project has had a lot of support from the community and local tradespeople have generously donated their time. Students, councils, local businesses and not-for-profit organisations will be shown through the refitted facility.

Administration and AEMC



Governance arrangements

Under the Act, the Minister approves payments out of the NSW Climate Change Fund if satisfied projects promote a purpose referred to in the legislation. The NSW Climate Change Fund is administered by DECCW.

Contestable grants under the Fund are assessed by an evaluation panel with an independent chair and members with relevant industry and technical expertise. DECCW conducts technical assessments of all applications received to assist the evaluation panel in their assessments. Applications are assessed according to set selection criteria given in the relevant publicly available Guide for Applicants. The evaluation panel makes recommendations on funding to the Minister for Climate Change and the Environment.

Under the legislation, the Minister has the power to establish Advisory Committees to provide advice on strategy and priority areas for the Fund. The Climate Change Fund Advisory Committee was established in August 2007 and met twice in 2009–10. The members of the Committee for 2009–10 and its terms of reference are listed in Appendix B.

Principles for administering the Fund

DECCW applies the following key principles in administering the Fund:

- funding allocations and expenditures will ensure responsible financial management
- a strategic approach will be used in setting priorities for expenditure
- the detailed priority setting process and fund allocation will closely follow strategic Government policy (including the election commitment of the NSW Climate Change Fund, the NSW State Plan and the NSW Energy Efficiency Strategy).

DECCW will:

- regularly assess and review outcomes achieved through expenditure
- provide a program of regular reporting to provide oversight of the Fund
- establish strong accountability and adhere to clear corporate governance principles.

Funding streams

There are four types of funding available under the NSW Climate Change Fund:

1. Competitive grants – providing funding on a contestable basis for projects that meet specific selection criteria. These include the Public Facilities Program, Renewable Energy Development Program, Green Business Program, Central Coast Water Savings Fund and projects previously funded through the Water and Energy Savings Funds.
2. Rebate programs – funding provided in the form of rebates for specified water or energy savings measures under certain terms and conditions. These include the current commitment for the Home Saver Rebates.
3. External programs – funding from the NSW Climate Change Fund for programs implemented by an organisation other than DECCW to meet government commitments or policies. These currently include the Sydney Water Demand Management Program.
4. Other programs or projects – funding for programs or projects which are not competitive grants or external programs. These include programs that are jointly delivered by DECCW and other agencies and potential new programs, which may include:
    - funding the demonstration of new technologies or practices (not yet able to compete for grants because they cannot clearly demonstrate cost-effective water/energy savings)
    - extension of successful competitive grants
    - studies/research projects needed to effectively target Fund programs
    - community awareness raising efforts
    - projects or programs to fill gaps in Fund programs (e.g. sectors or approaches not yet covered).

All contestable funding rounds are advertised via the NSW Climate Change Fund subscriber e-newsletter, the NSW Climate Change Fund News, DECCW's website (www.environment.nsw.gov.au/grants/ccfund) and in metropolitan, regional and ethnic newspapers.

Reporting

Funding recipients must report on the progress of projects and their success in achieving the anticipated outcomes (e.g. water and/or energy and greenhouse gas savings). In the case of residential rebates, recipients must provide receipts to validate purchase and installation details.

The Fund is committed to keeping the NSW community fully informed about progress in achieving its climate change goals and expenditure and achievements under the Fund. DECCW reports regularly on its progress in meeting its NSW State Plan emissions target and publishes information on the range of funding available and projects awarded funding under the NSW Climate Change Fund.

Australian Energy Market Commission

The NSW Climate Change Fund provides the funding for NSW's contribution to national energy regulation initiatives, as provided for under section 34H of the Act. In the 2009–10 financial year, NSW paid $5.516 million to the Commonwealth as NSW's share of the Australian Energy Market Commission's (AEMC) annual operating budget. Under established funding arrangements agreed between relevant jurisdictions, NSW is responsible for 37.5 per cent of the AEMC's budget.

The AEMC was established in July 2005 by the Council of Australian Governments, through its Ministerial Council on Energy. The AEMC is the national body responsible for rule-making, market development and policy advice with regard to the National Electricity Market and, from 1 July 2008, with regard to access to natural gas pipeline services and elements of the broader natural gas markets. The Ministerial Council on Energy (on which the NSW Minister for Energy sits) approves the annual budget for the AEMC.

Budget and spending status

Revenue

Electricity distributors and water utilities were required to make contributions to the Fund through annual contribution orders gazetted on 1 May 2009 for energy and on 19 June 2009 for water. A breakdown of revenue to the NSW Climate Change Fund in 2009–10 is shown in Table 11.

Expenditure

Expenditure was $213 million in 2009–2010. The proportion of program administration expenditure was 3.3 per cent. Expenditure for each of the components of the Fund is presented in Table 12.

Table 11

NSW Climate Change Fund 2009–10 revenue

Source	Amount ($)
EnergyAustralia	67,353,873
Integral Energy	42,385,378
Country Energy	32,989,294
Sydney Water	33,592,470
Gosford City Council	1,050,000
Wyong Shire Council	950,000
Environmental Trust	1,000,000
Interest	4,732,252
Miscellaneous revenue	75,920
Total	**184,129,187**

Table 12

NSW Climate Change Fund 2009–10 expenditure

Program/component	Recipient	Expenditure ($, GST excluded)
Home Saver Rebates Program	Residents	90,439,473
Green Business Program	Business	4,628,557
Public Facilities Program	Various	13,099,432
Renewable Energy Development Program	Business	3,832,383
Recycling and Stormwater Harvesting Program	NOW	530,000
Schools Energy Efficiency Program	Schools	5,205,909
Central Coast Water Savings Fund	Various	1,476,622
Water and Energy Savings Funds (funding allocated prior to the establishment of CCF)		
• contestable	Various	10,323,901
• non-contestable	Various	2,189,362

NSW Climate Change Fund 2009–10 expenditure (cont.)

Program/component	Recipient	Expenditure ($, GST excluded)
Energy Efficiency Strategy		
• Energy Efficiency for Small Business Program	Business	3,363,149
• Sustainability Advantage Energy Saver	Business	1,740,845
• Green Skills	Various	3,096,592
• Energy Efficiency Community Awareness Program	Various	6,618,979
• Home Power Savings Program	Residents	2,358,641
• Government Energy Efficiency Team Program	DECCW	225,843
• Energy Efficiency Data Collection Program	DECCW	176,806
Metropolitan Water Education Program	Office of Water	2,000,000
Sydney Water Demand Management Program	Sydney Water	16,196,109
Australian Energy Market Commission (for national energy regulation purposes)	AEMC	5,516,420
Greenhouse Innovation Fund projects	Various	334,078
Public Housing retrofits	Housing NSW	6,484,648
Rainwater Tanks in Schools	DET	1,968,000
Carbon Neutral Government – carbon offset for NSW Cabinet to become Carbon Neutral by 2008/09	Carbon Planet Australia	41,149
Clean Coal Fund	I&I NSW	25,000,000
NSW Climate Change Fund administration (includes Home Saver Rebates Program administration and administration of Savings Action Plans)	DECCW	6,998,198
Total		**213,845,096**