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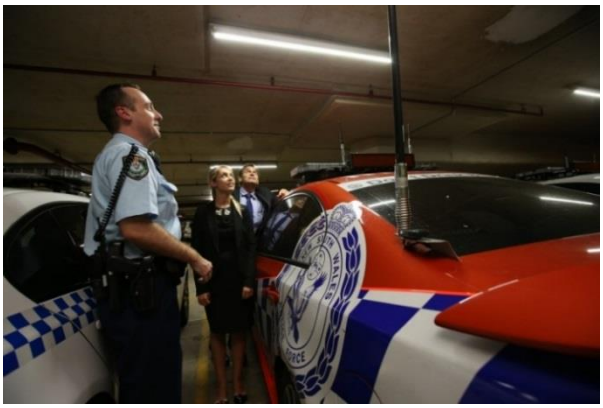

NSW Climate Change Fund

Annual Report 2013–14

Cover *(clockwise from top left)*: Luminaire with induction lighting technology (Energy Saver, OEH); Energy efficient lighting at Newcastle Police Station (Energy Saver, OEH); EBMP controlled hazard reduction burning being undertaken in 2013–14 (NPWS, OEH).

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ISSN 1836-5310
OEH 2014/0739
November 2014

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Minister's foreword

The NSW Government's Climate Change Fund (the Fund) is changing the way we use energy in NSW, driving energy efficiency and renewable energy growth across the state and supporting a new era for sustainability. In 2013–14 the Fund has continued support for programs that protect our natural environment and reduce the impact of energy use in NSW.

The Climate Change Fund is saving households, businesses, communities and government more than 897,000 megawatt hours of electricity a year, enough to power more than 138,000 NSW households, and more than 14.1 billion litres of water a year, the equivalent of more than 5600 Olympic-size swimming pools. On average, every $1 the Fund has invested in energy and water saving initiatives since its inception delivers more than $4.20 in utility bill savings.

Thanks to the Fund the hugely successful Home Power Savings Program achieved its target in February 2014 to help 220,000 low income households reduce energy use. Participating households are cutting more than $35.7 million a year off their utility bills. The Program reached out to many people, with more than 131,000 participating households in regional NSW and more than 30,000 households where English is a second language.

Over the last year the Fund provided in the order of $50 million to aid the construction of two solar plants at Broken Hill and Nyngan, which when completed will generate enough electricity to power more than 50,000 NSW homes. The Nyngan solar plant will be the largest in the Southern Hemisphere.

In conjunction with the launch of the NSW Renewable Energy Action Plan in September 2013, the solar plants are creating new jobs in regional NSW while increasing skills, knowledge and expertise in the NSW renewable energy industry.

With support from the Fund, the NSW Energy Efficiency Action Plan was launched in August 2013, setting a new direction for efficient energy use to improve economic productivity and help households, businesses, communities and government 'do more with less'.

The Energy Efficiency Action Plan is improving access to the NSW Energy Savings Scheme, to make energy efficiency part of everyday business and the easy choice for households. This year, 580 tradespeople and professionals received training to help them implement energy efficiency projects in their businesses, and the Smarter Choice Calculator was launched to help householders make informed decisions about energy efficient appliances.

The Fund is a central part of the NSW Government's plan to lead by example with practical steps to improve our environmental performance in NSW.

The Energy Efficient Government Program embodies this ambition. Established in 2013–14 to support the NSW Government's leadership role in adopting energy efficiency, the program establishes a clear example for business to follow and aims to deliver savings of up to $27.5 million a year on energy bills.

The publication of this Annual Report supports one of the original purposes of the Fund: to increase public awareness and acceptance of the importance of climate change and energy savings measures, and supports our commitment to Open Government in NSW.

The Hon Robert Stokes MP
Minister for the Environment

Overview of the NSW Climate Change Fund

What is the Climate Change Fund?

The NSW Climate Change Fund (the Fund) was established in 2007 under the *Energy and Utilities Administration Act 1987* (the Act) and is administered by the Office of Environment and Heritage (OEH).

The purpose of the Fund, as outlined in section 34F of the Act, is to provide funding to:

- reduce greenhouse gas emissions and the impacts of climate change associated with water and energy activities
- encourage water and energy savings and water recycling
- reduce the demand for water and energy, including addressing peak demand for energy
- stimulate investment in innovative water and energy saving measures
- increase public awareness and acceptance of the importance of climate change, and water and energy saving measures
- contribute to national energy regulation.

The Fund supports outcomes in three key ways:

- providing direct support to homes, businesses, communities and government to implement measures that will save water and power (and related greenhouse gas emissions), and so reduce their water and energy utility bills
- stimulating investment in clean energy technologies in NSW through funding for commercialising emerging technologies and additional support for proven technologies such as wind and solar power, and
- assisting the development of the energy efficiency products and services market by providing tools and incentives to ensure accessibility, quality and affordability.

How is it funded?

The main source of funding for the Fund for the financial year was annual contributions from the distribution network service providers (Ausgrid, Endeavour Energy and Essential Energy).

Under the Act, the Minister for the Environment requires distribution network service providers (and water utilities where required) to make contributions to the Fund via the annual gazettal of Contributions Orders. Where required, the Minister seeks the concurrence of relevant Ministers when preparing the Contributions Orders. Additional monies added to the Fund come from interest earned on cash balances.

What is the current focus of the Climate Change Fund?

The Climate Change Fund (the Fund) continues to support *NSW 2021: a plan to make NSW number one*. NSW 2021 consists of 32 goals and Goals 5 and 22 are directly relevant to the Fund. Goal 5 is to *place downward pressure on the cost of living*, help households and businesses manage their electricity bills, and achieve annual energy savings of 16,000 gigawatt hours (GWh) by 2020. Goal 22 to *protect our natural environment*, establishes the target of 20% renewable energy by 2020.

The Energy Efficiency Action Plan (EEAP) was announced in August 2013 and was supported with $15.5 million from the Fund in 2013–14, including $7.1 million to complete the Home Power Savings Program. The EEAP contains 30 actions to help NSW households, businesses and government save on power bills and improve the energy productivity of the NSW community into the future. The NSW Energy Savings Scheme (ESS) is the single biggest contributor to the NSW target to realise annual energy savings of 16,000 GWh by 2020.

Two new ESS Rules were gazetted on 30 May 2014. Actions in the EEAP will improve access to the ESS and grow the energy efficiency market, making energy efficiency part of everyday business and the easy choice for households.

The Renewable Energy Action Plan (REAP) was announced in September 2013 and contains 24 actions to help grow renewable energy generation in NSW. The Fund provided $1.8 million to the Regional Clean Energy Program (RCEP) in 2013–14. The RCEP aims to better engage the community in renewable energy projects and to support community-owned projects.

The 2013–14 Annual Report

This annual report has been prepared in accordance with the requirements of the Act (section 34H). Activities under the Fund are reported for the seventh financial year of operations, from 1 July 2013 to 30 June 2014.

As required by the Act, the annual report provides information on fund allocations and anticipated benefits, with reference to the Fund's key performance indicators:

- savings in water and energy (consumption and peak demand)
- greenhouse gas emission reduction
- savings in annual energy and water bills for households, businesses, communities and government
- clean energy generated
- cost effectiveness (per funding dollar spent)
- funds allocated.

The 2013-14 annual report shows the support the Fund has given over the last year for projects that are transforming energy use in NSW.

Highlights

The Fund expended $295.4 million in 2013–14 on the EEAP and programs such as the Solar Bonus Scheme, Regional Clean Energy Program and the Enhanced Bushfire Management Program.

On average, every $1 the Fund has invested in energy and water saving initiatives across all programs since its inception is expected to deliver more than $4.20 in utility bill savings (Table 1).

Milestones/achievements in 2013–14 include:

- Households
  - The Home Power Savings Program achieved its target to help 220,000 lower income households to reduce energy use. Participating households are saving more than $35.7 million a year off utility bills. The program concluded in April 2014 and extensive evaluation, including lessons about applying behaviour change and behavioural insights, and reaching regional, indigenous and vulnerable people, will inform the design of future support for this sector.
  - An online tool has been developed to allow householders to calculate the running cost of appliances before they buy. The Smarter Choice Running Cost Calculator allows users to compare products based on the make and model or by using the information on Energy Rating Labels.
- Businesses
  - Two Environmental Upgrade Agreements were signed in partnership with the City of Sydney, making energy efficiency more accessible and affordable for small and medium-sized businesses.
  - Fifty-six targeted investigations were undertaken through the Energy Saver Program to identify energy efficiency opportunities in NSW businesses.
- Government
  - The Energy Efficient Government Program was established to help government agencies identify energy efficiency projects, and streamline energy procurement processes and access to finance.
- Renewable energy
  - The Solar Bonus Scheme generated in the order of 425,000 megawatt hours of renewable energy during the year from small-scale solar and wind systems installed across the state.
- Climate change adaptation
  - The Enhanced Bushfire Management Program conducted controlled burning and mechanical hazard reduction activities (e.g. slashing undergrowth) on more than 112,000 hectares of bushland, to help minimise the risk to the community from extreme bushfire events.

The overall contribution of the Fund to the environmental health of NSW can be seen in Table 1.

Table 1: Overview of NSW Climate Change Fund savings

Sector	Funding allocated[1] ($)	Estimated water savings (ML/yr)	Estimated electricity savings (MWh/yr)	Estimated greenhouse gas savings (tCO2-e/yr)	Estimated utility bill savings ($/yr)	Return on investment for every dollar allocated ($)
Households	248,028,881	5,545	595,912	619,538	115,496,187	3.94
Business	91,040,803	5,611	200,434	184,216	53,305,105	5.86
Government	59,804,235	1,709	74,809	75,850	18,850,820	3.15
Community	23,521,236	1,299	26,130	26,765	9,012,548	3.83
Totals	**422,395,156**	**14,165**	**897,285**	**906,369**	**196,664,659**	**4.23**

[1]Funding allocated between 2007 and 30 June 2014.

Table 1 includes the following programs only:

Climate Change Fund grant projects, Energy Saver, Fridge Buyback Program, Government Building Retrofit Program, Home Power Savings Program, Home Saver Rebates Program, public housing retrofits and the proportion of Sustainability Advantage – Resource Efficiency module attributed to the Fund. Refer to **Appendices B** and **C** for further information on savings.

It does not include funding spent on Enhanced Bushfire Management Program, Regional Clean Energy Program, Solar Bonus Scheme or other Fund administration and external funding.

The Energy Efficiency Action Plan

The Energy Efficiency Action Plan (EEAP) was announced in August 2013 as a key strategy to place downward pressure on the cost of living. The EEAP contains 30 actions to help NSW households, businesses and government to save on power bills and improve the energy productivity of the NSW community into the future.

Visit www.environment.nsw.gov.au/energyefficiencyindustry/policy.htm for more information on the EEAP.

Strengthening the energy efficiency market

The Fund supports policies and programs in the EEAP that aim to strengthen the energy efficiency market in NSW. The EEAP aims to do this through actions designed to enhance the Energy Savings Scheme (ESS) and improve the availability of energy efficiency information and tools to households, businesses, regional communities and government agencies.

Energy Savings Scheme Review

The ESS creates a financial incentive for households and businesses to save energy. The ESS places an obligation on electricity retailers and large energy users to purchase energy savings in the form of certificates. These certificates can be created for any eligible energy saving activity by accredited service providers in NSW.

The financial incentives provided by the ESS help overcome a range of barriers to the uptake of energy efficiency opportunities in NSW, such as high upfront costs. Energy efficiency product and service providers use the financial incentives to provide their customers with cost effective, accessible and high quality energy efficiency products and services.

The Fund provides funding for actions in the EEAP to review and enhance the ESS in order to facilitate the growth of the energy efficiency market by reducing red tape and providing incentives, tools and skills to improve access for households and businesses.

The ESS Review Issues Paper was released by the NSW Government on 23 December 2013. More than 245 stakeholders from 148 organisations attended a public forum on the paper and 39 written submissions were received, which will be considered as part of the Review. The ESS Review is expected to be completed in 2014 and will consider options to target energy savings at the times and locations of peak demand, and provide financial incentives for gas efficiency.

Visit www.resourcesandenergy.nsw.gov.au/energy-consumers/sustainable-energy/efficiency/scheme/energy-saving-scheme-review for more information on the ESS Review.

Energy Savings Scheme Rules

The NSW Government gazetted two new ESS Rules on 31 May 2014 allowing new opportunities for households, businesses and industry to gain access to ESS incentives. The rule change includes the following methods, which were developed by the NSW Government with the support of the Fund:

- the new Home Energy Efficiency Retrofits sub-method, which provides incentives for tradespeople to upgrade residential and small businesses' building fabric (e.g. window glazing) and fixed appliances (e.g. air conditioners). The Fund is also funding the development of an online tool to help service providers use the new method to identify and implement energy savings activities
- a new Aggregated Metered Baseline sub-method to quantify energy savings from innovative behavioural change programs for households and small businesses
- changes to the Rule to streamline appliance retailers' access to incentives for the sale of energy efficient appliances

- a new High Efficiency Appliances for Businesses sub-method which provides streamlined access to financial incentives for standardised appliances and equipment such as refrigerators and air conditioners
- a new Project Impact Assessment with Measurement and Verification method for businesses to access upfront financial incentives and calculate energy savings for large energy efficiency projects based on robust measurements of energy savings.

Visit www.ess.nsw.gov.au/Scheme_Changes/ESS_Rules_2014 for more information on the ESS Rule changes.

Program evaluation

The Fund supports ongoing evaluation of energy efficiency programs to ensure they are being delivered efficiently and effectively to households, businesses and government. Making data available to the public will help inform decision-making and increase resource efficiency.

Funding is providing for:

- measurement and verification of energy savings to show actual return on investment
- monitoring and tracking market changes driven by Government interventions
- development of evaluation capacity in the Government and in industry partners to reduce the cost of undertaking evaluation programs.

In 2013–14 the Fund supported the development of a detailed plan for evaluating the effectiveness of the EEAP and the ESS, including market impacts of savings during peak demand, and impacts on energy bills. The first evaluation report on the EEAP is scheduled for public release in March 2015.

Evaluation findings from past energy efficiency programs have been published on the OEH website.

Visit www.environment.nsw.gov.au/energyefficiencyindustry/evaluation.htm for more information on evaluation of energy efficiency programs.

Energy efficient homes

The Fund is assisting the NSW Government to reduce cost of living pressures for households by making energy efficiency more accessible and affordable. The Fund also supports programs that assist consumers to make energy efficient choices.

Home Power Savings Program

Under NSW 2021, the Home Power Savings Program committed to supporting 220,000 lower income households to reduce their energy use by June 2014. The NSW Government's commitment to reaching this target was re-stated in the EEAP.

Eligible households received a free in-home energy assessment by an energy expert, a free Power Savings Kit valued at around $200 (installed by the energy assessor), and a personalised Power Savings Action Plan containing tips to reduce energy use in the home. The free kit included a stand-by power board, water efficient showerhead, shower timer, tap aerator, energy efficient light bulbs, door snakes, a set of draught-proofing strips for doors and windows, and a thermometer.

The Home Power Savings Program met its target of 220,000 lower income households in February 2014. More than 225,000 assessments had been completed by the end of the program in April 2014. Participating households are saving more than 120,000 megawatt hours of electricity and $35.7 million off power bills a year.

The program achieved consistently excellent customer feedback, with an average of 97% of audited households reporting a positive customer experience across the life of the program.

More than 5100 home energy assessments were delivered in households that identified as Aboriginal or Torres Strait Islander, and more than 30,000 assessments took place in culturally and linguistically diverse households. The program also came in considerably under budget, with expenditure of $53.8 million against a total program budget of $63 million.

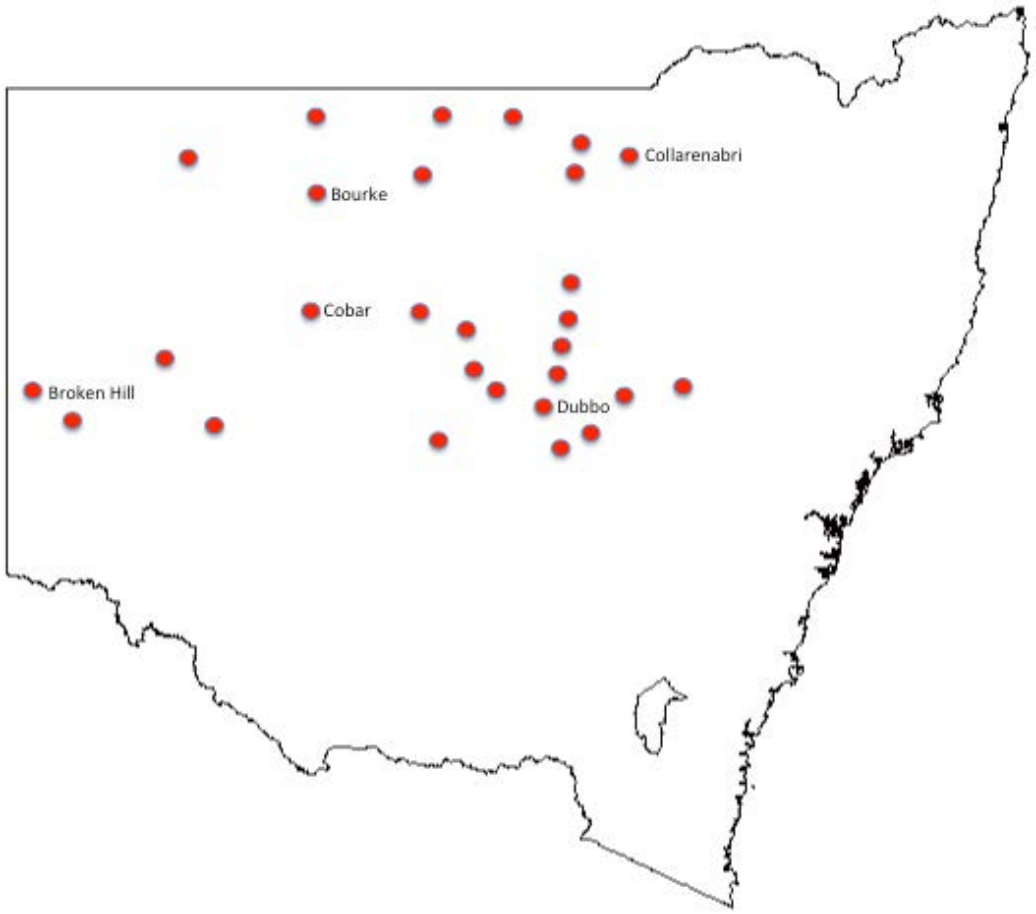
Aboriginal Community Project

The Aboriginal Community Project tailored the Home Power Savings Program to the needs of communities based in North West NSW. The project was designed and delivered in partnership with Murdi Paaki Regional Enterprise Corporation (MPREC), an Aboriginal community organisation.

MPREC used its stakeholder networks and knowledge of its customers to engage people through community events and group-based activities. Each eligible household received a free in-home energy assessment by an energy expert, a free Power Savings Kit and personalised Power Savings Action Plan.

More than 1000 assessments were completed by MPREC in 2013–14 and of these, 75% were in households that identified as Aboriginal or Torres Strait Islander. This accounts for approximately 15% of all Home Power Savings Program assessments conducted in Aboriginal and Torres Strait Islander households.

The Aboriginal Community Project was delivered in 35 communities across an enormous area of nearly 300,000 square kilometres.



Regional communities which benefited from the Aboriginal Community Program, including Dubbo, Walgett, Coonamble, Broken Hill and Lightning Ridge (Map courtesy of Inca Consulting)

Behaviour Change Trial

The Behaviour Change Trial aimed to improve energy savings from the Home Power Savings Program through behaviour change interventions rather than technology. This was done in partnership with researchers and academics through Monash University's Behaviour Works Australia consortium and the NSW Department of Premier and Cabinet's Behavioural Insights Team.

The trial provided valuable lessons about applying behaviour change principles to energy efficiency and was the first time behavioural insights were applied to the low income households sector in NSW.

The trial had three main elements:

(1) Re-training Home Power Savings Program energy experts in techniques to change behaviour (based on behaviour change principles of commitment, loss aversion and social norms)

(2) Redesigning the personalised Power Savings Action Plan based on behaviour change principles

(3) A randomised control trial in which Home Power Savings Program participants were allocated into one of three groups that received follow-up support in the form of second in-home visits from an energy expert, follow-up phone calls from an energy expert, or SMS text message reminders from an energy expert, plus a control group.

The trial engaged more than 9000 Home Power Savings Program participants between June 2013 and February 2014. Evaluation of the trial strongly emphasised the importance of adaptive management in program delivery and placed high value on research partnerships. Evaluation results will be published on the OEH website in early 2015.

Low Income Review

Following the completion of the Home Power Savings Program, the NSW Government is committed under the EEAP to identify opportunities for increased access to energy efficiency for low income households.

In 2013–14 the Fund provided funding for a review of energy efficiency programs by the NSW Government to identify opportunities to help low income households to manage their energy bills. Consultations included a stakeholder forum in February 2014 and targeted communications with a group of key stakeholders from community organisations, the energy industry and Government agencies.

Smarter Choice

The Smarter Choice Program partners with key appliance retailers to help consumers make cost effective purchases of major household appliances that have less of an impact on the environment. Smarter Choice engages with partner retailers through store visits by field service representatives, who stock stores with buyer guides and train retail staff.

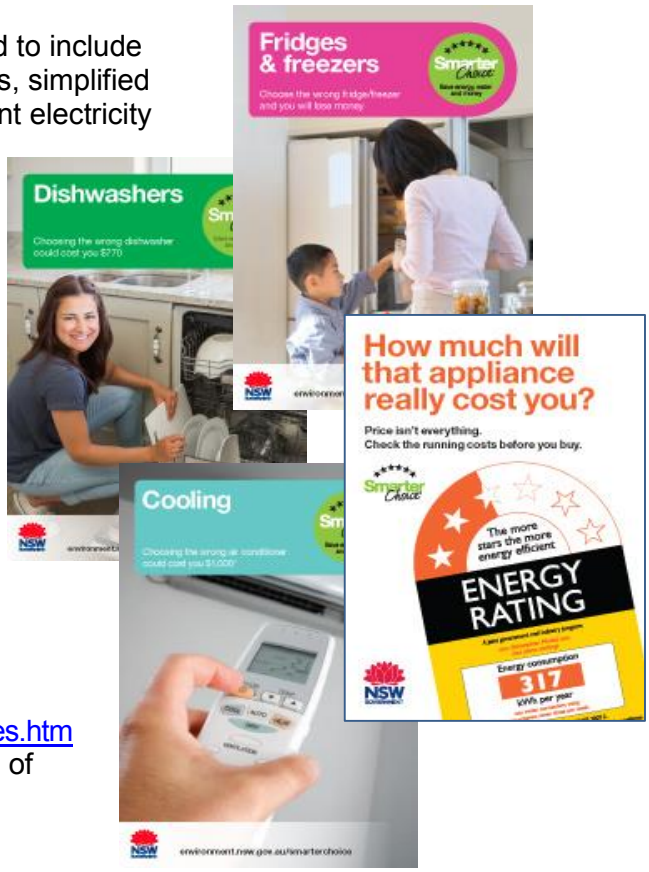
More than 230 white goods, electrical and appliance stores participated in the program in 2013–14. Stores include Harvey Norman, The Good Guys, Betta Electrical, Myer, David Jones and independent retailers. Fifty-two per cent of participating stores are in regional NSW. More than 1200 store visits were conducted by field service representatives, who trained in the order of 2100 staff to help customers choose energy efficient appliances. Online training modules for retail staff are being explored to enhance service provision and increase cost effectiveness of onsite training. This initiative will inform the future delivery of the Smarter Choice program in 2015.

Phone surveys of 126 partner retail store staff were conducted in June 2014, which found that 81% of respondents believed that the program helped customers to understand long-term savings from purchasing efficient appliances. The average score given by respondents to the usefulness of their conversations with field service representatives was 3.7 out of 5.

In 2013–14, buyer guides for consumers were updated to include behaviour change messaging to increase effectiveness, simplified messaging focusing on purchase decisions, and current electricity and natural gas savings tariffs.

Twelve buyer guides are available for:

- star ratings
- washing machines and clothes dryers
- fridges and freezers
- televisions
- dishwashers
- lighting
- heating
- cooling
- hot water systems
- solar hot water systems
- disposal of whitegoods.



Visit www.environment.nsw.gov.au/households/appliances.htm for more information about Smarter Choice and a map of participating retailers.

Tools and training

The Fund is also providing funding for tools and training for suppliers of household energy efficiency products and services.

New incentives were announced on 30 May 2014 for the NSW Energy Savings Scheme (ESS) to help deliver further energy bill savings to households and small businesses. The Office of Environment and Heritage commenced the development of a Home Energy Assessment Tool (HEAT) in late 2013 for accredited assessors to identify and record energy savings activities under the new Home Energy Efficiency Retrofits method. Funding also includes the development of an online data storage and management system, online training, and licensing of tradespeople to use the tool.

For more information about the Home Energy Efficiency Retrofits method, visit www.ess.nsw.gov.au/Methods_for_calculating_energy_savings/Home_Energy_Efficiency_Retrofits.

CASE STUDY: Smarter Choice Calculator

Online resources are becoming increasingly important for consumers as they research appliance purchase decisions. Although sales through online channels are still small, the importance of online channels in influencing the purchase decision-making process is increasing.

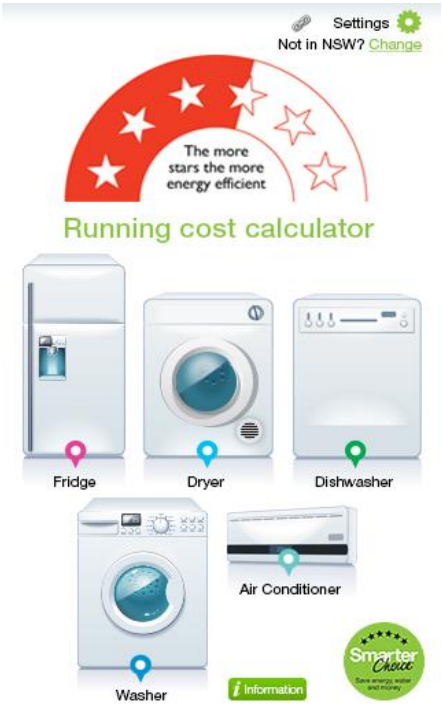
Research conducted by Sustainability Victoria showed that nearly half (46%) of 1000 people surveyed about purchasing new appliances looked at manufacturer websites, whilst 37% looked at online forums/review websites when sourcing information on energy efficiency. Similarly, when asked which sources of information are used to help decide which brand and model to purchase, retail store websites ranked third at 24%, behind in-store sales staff (46%) and friends and relatives (26%). This was closely followed by manufacturer websites (21%) and online forums or product review websites (18%).

The Smarter Choice Running Cost Calculator was launched in July 2013 and has been on the Harvey Norman website since November 2013. Since December 2013 the online calculator has received between 125,000 and 200,000 hits per month.

The calculator assists consumers to choose products that provide the best value for money by helping them to understand the total cost of ownership of an appliance, including purchase price and running costs. Householders get an instant estimate of how much the appliance will cost to run in the long term simply by entering information from energy ratings labels. The calculator covers appliances such as televisions, fridges, washing machines and air conditioners.

The second version of the calculator, allowing side by side comparison between different appliance models, was launched in May 2014. A third version, which will include information about Energy Savings Certificates (ESCs) under the Energy Saving Scheme, is in testing. This version will allow retailers and energy service providers to calculate the indicative ESCs applicable to any appliance model.

Visit www.smarterchoicecalculator.com.au/ for more information about the Smarter Choice Running Cost Calculator.



Smarter Choice Running Cost Calculator App (OEH)

Energy efficient business

The Fund is assisting the NSW Government to improve energy management in NSW businesses by helping them identify and implement energy efficiency opportunities.

Energy Saver

The Energy Saver Program enables businesses to reduce their energy consumption and cost. The Fund is supporting business through delivery of EEAP actions including:

- targeted energy investigations, which help businesses identify energy saving opportunities and upgrades
- project and technical support for the implementation of energy efficiency upgrades, including the development of detailed business cases
- measurement and verification of energy consumption and the savings made through upgrades
- assistance accessing financial incentives such as the ESS
- best practice tools and resources for priority industry sectors and technologies
- energy efficiency training
- provision of data to support new ESS methods.

Under the EEAP, more than $4.3 million was expended in 2013–14 to:

- undertake 56 targeted investigations to identify energy efficiency opportunities in NSW businesses
- develop five toolkits/guides to provide confidence to businesses upgrading or optimising equipment
- provide energy efficiency training to 580 tradespeople and professionals. Training courses included heating, ventilation and air conditioning (HVAC) for business; cogeneration feasibility; and energy efficiency for the aged care sector.

Since 2009 the program has helped more than 18,000 small and medium-to-large NSW businesses save more than $31 million a year through energy efficiency projects. These businesses are saving more than 115,000 megawatt hours of electricity, 127,000 gigajoules of natural gas and 122,000 tonnes of greenhouse gas emissions a year. Individual sites in the program (medium-to-large) have reported average savings of more than $475,000 a year (over a 10 year period).

Energy Saver Program staff continue to build strong relationships with peak bodies and industry associations that work with businesses in priority sectors. In addition to this, a strong relationship has been forged with the NSW Business Chamber who partner with OEH to deliver energy efficiency resources and information across the state.

Over the next 12 months the Energy Saver Program will conduct a further 80 targeted investigations across priority industry sectors and technologies to gather evidence about what upgrades work and what is most cost effective for NSW businesses. Investigations allow the development of case studies and the promotion of energy efficiency leaders, and the data is shared with other jurisdictions and research bodies to improve energy efficiency practices and knowledge. Training for around 1000 tradespeople and professionals will also be conducted, providing them with practical energy skills and resources that can be brought back to their organisations.

Visit www.environment.nsw.gov.au/business/energy-saver.htm for more information about technical support, energy efficiency training and resources for business.

Environmental Upgrade Agreements

Environmental Upgrade Agreements (EUAs) are an innovative finance solution the NSW Government has legislated to encourage building owners to upgrade to energy efficient technologies and improve the financial performance of their buildings.

EUAs are a financial arrangement between a building owner and a finance provider, with councils acting as a conduit for repayments. Under an EUA, the financier provides the building owner with funds for the upgrade, and the owner repays the loan through an additional charge on their rates notice, called an Environmental Upgrade Charge. Tenants can be asked to provide contributions equal to or less than the savings they make in their utility bills as a result of the works, with the building owner using the contributions to part-service the loan repayments.

EUAs are currently available for non-strata commercial and light industrial buildings from these local councils:

- City of Sydney
- Parramatta City Council
- North Sydney Council
- Lake Macquarie City Council
- The City of Newcastle.

Four EUAs worth a total of $30 million have been signed – three in City of Sydney and one in Parramatta City Council. Two of these were signed in 2013–14.

Visit www.environment.nsw.gov.au/business/upgrade-agreements.htm for more information about EUAs.

CASE STUDY: National Ceramic Industries Australia

The Energy Saver Program is helping Australia's largest ceramic tile manufacturer save a potential $1.1 million through energy efficiency.

National Ceramic Industries Australia (NCIA) produces quality ceramic tiles from its plant in Rutherford in the Hunter Valley region.

NCIA were aware of some heat-recovery retrofit options available from kiln manufacturers and engineering companies in Italy, but 'we didn't have the in-house expertise to evaluate them', said the company's Plant Manager, Craig Oliver.

Through the program, NCIA accessed an audit of the plant and found there was potential for them to save up to $1.1 million a year, and the capital costs could be recouped through energy savings in under two years.

With expert advice from an auditor and the Energy Saver team, NCIA were able to ascertain the potential benefits to their business of some existing energy efficiency measures, and explore some alternative heat-recovery options for their kilns.

The next steps for NCIA are to design and implement their new heat-recovery system.

Potential savings identified through the audit are:

- a reduction in electricity use of more than 750 megawatt hours a year
- natural gas savings of 133,000 gigajoules a year
- cost savings of more than $1.1 million a year
- a reduction of more than 9500 tonnes of greenhouse gas emissions a year.

The main kiln where tiles are fired (Photo: Energy Saver, OEH)

Energy efficient government

The Fund is assisting the NSW Government to lead by example by investing in energy efficiency.

Energy Efficient Government Program

The Energy Efficient Government Program (EEGP) was established in 2013–14 in direct response to the EEAP. Over the four years to June 2017, $3.3 million from the Fund will be invested to help NSW Government agencies and energy service providers deliver energy and bill savings.

In 2013–14 the NSW Government established a whole-of-government team of energy efficiency specialists to help government agencies identify and implement energy efficiency projects and gain access to a range of financial mechanisms to pay for energy efficiency projects over time.

Over the past year, energy efficiency building upgrades worth $40 million have been developed with the support of the Fund. These projects cover more than 30 sites, including both large and small government facilities delivering front line services such as hospitals, corrective centres, court houses, train stations, schools and entertainment and cultural facilities in urban and regional areas. These projects are now eligible for a capital advance from government finance facilities and are estimated to save more than $5 million a year off energy bills.

Other key activities and achievements assisted by the Fund in this foundation year for the EEGP include:

- establishing a panel of pre-qualified energy service companies to streamline the procurement process for government agencies
- supporting NSW Health to develop a hospital benchmarking tool to measure energy and water consumption in public hospital buildings, and rate and compare energy and water performance in NSW public hospitals
- working with the Energy Efficiency Council, the peak industry body for energy efficiency services, to develop and launch an Energy Efficiency Certification Scheme, which will give confidence to government agencies buying these services. The scheme provides professional certification for energy efficiency professionals who manage comprehensive energy retrofits of commercial buildings; 20 professionals were accredited in 2013–14
- working with NSW Treasury to review and revise the rules and administrative framework for the government energy efficiency finance facility to streamline the application process and increase the number and value of applications.

Visit www.environment.nsw.gov.au/government/energy-efficient-program.htm for more information on the EEGP.

Government Resource Efficiency Policy

The Fund provided funding for the development of the Government Resource Efficiency Policy (GREP) in 2013–14. The policy establishes energy savings targets for NSW Government agencies and will act as the driver for increased uptake of energy efficiency initiatives across government. The NSW Government aims to achieve energy bill savings of up to $27.5 million a year from energy efficiency projects initiated over the next four years.

Visit www.environment.nsw.gov.au/government/140567-resource-efficiency.htm for more information on the GREP.

CASE STUDY: Hospital benchmarking tool

NSW Health is the largest public health system in Australia with more than 230 public hospitals, 500 community health centres, 220 ambulance stations and a workforce of over 100,000 serving a population of 7.3 million.

In 2011–12, NSW Health paid more than $120 million for its building energy use, covering electricity, natural gas, LPG, diesel, coal and heating oil, according to the NSW Auditor General's Report *Building energy use in NSW public hospitals*, June 2013.

The report highlighted NSW Health's need for a way to rate and compare the energy productivity across its range of facilities to enable a strategic approach to upgrading its buildings and improving performance. The NSW Office of Environment & Heritage (OEH) partnered with the NSW Ministry of Health to develop a bespoke benchmarking tool which allows NSW Health to identify and establish a rating for the energy performance of its diverse range of facilities.

The primary aim of the tool is to provide NSW Health with a benchmark energy and/or water efficiency rating for every health facility regardless of size and services delivered. This will enable an accurate comparison of the operational performance of each facility and allow NSW Health and OEH to target under-performing sites for upgrade works under the Energy Efficient Government Program.

In 2013–14 OEH provided an energy efficiency specialist from the Energy Efficient Government Team to work closely with NSW Health to co-lead the project. Drawing on its expertise and experience in energy efficiency and NABERS[1] tool development, OEH provided specialist advice and project management support throughout the development of the benchmarking tool. This assistance allowed NSW Health to benefit from past learnings to ensure a well-informed and effective outcome.

The benchmarking tool has now been finalised and will be rolled-out across NSW public hospitals in 2014–15. Once a benchmark rating for each Health site has been established a strategic upgrade program will be initiated within each Local Health District, targeting the lowest performing sites first.

Maitland Hospital in Hunter New England Local Health District (Photo: OEH)

[1] The National Australian Built Environment Rating System (NABERS) is a national rating system, managed by OEH, for measuring the environmental performance of buildings, tenancies and homes.

Statewide delivery

The Fund is supporting the NSW 2021 goal to drive economic growth in regional NSW. Providing access to resources and information online will better inform households, businesses, communities and government across the state about energy efficiency.

Regional NSW

There has been a strong uptake of energy efficiency projects and programs in regional NSW during 2013–14:

- more than 17,000 low income households in regional NSW received a home energy assessment; 59% of all low income households that have participated in the Home Power Savings Program since 2010 are in regional NSW
- 121 stores in regional NSW are participating in the Smarter Choice program for retailers
- 14 energy efficiency training sessions were held in regional NSW locations such as Armidale, Newcastle, Parkes and Tamworth, with more than 170 professionals and tradespeople in attendance
- 42% of targeted energy efficiency investigations for business were conducted in regional NSW; 56% of all sites that have participated in Energy Saver since 2009 are in regional NSW
- small-scale solar or wind systems in regional NSW are responsible for 68% of the total electricity generated by the Solar Bonus Scheme this year; 58% of all systems installed through the scheme are in regional NSW.

The Regional Clean Energy Program has also expanded the role of seven Regional Coordinators to provide local communities with information about energy efficiency programs offered by the NSW Government, as well as support for renewable energy projects (see the Regional Clean Energy Program section on the next page).

Digital portal

Providing easy-to-access and up-to-date information, data and tools online gives households, businesses, communities and government the opportunity to engage in energy efficiency and save money on power bills. The delivery of all 30 EEAP actions is facilitated by engaging and communicating with stakeholders via the web and social media.

Digital content in development during 2013–14 includes:

- an *Ask the Experts* forum to allow businesses to ask energy efficiency experts questions directly and encourage peer to peer communication and networking
- an Accredited Certificate Providers (ACP) Registry to enable consumers to find credible energy efficiency service providers that best meet their requirements, including in regional areas
- a small to medium enterprise (SME) tool to allow NSW businesses and energy efficiency service providers to access information on energy usage and energy savings opportunities for specific industry sectors or geographic regions
- a Smarter Choice Calculator to help consumers make informed choices when purchasing energy efficient appliances; visit www.smarterchoicecalculator.com.au to use the calculator
- data for download, which will provide public access to energy efficiency datasets held by OEH, such as the Home Saver Rebates Program; visit www.environment.nsw.gov.au/energyefficiencyindustry/download-data.htm for more information about OEH energy efficiency data.

The Renewable Energy Action Plan

The Renewable Energy Action Plan (REAP) was announced in September 2013 to guide renewable energy development in NSW and to support the target of 20% renewable energy by 2020. The REAP contains 24 actions to increase renewable energy generation in NSW by attracting renewable energy investment, building community support, and growing expertise in renewable energy technology. A key component of the REAP is the Regional Clean Energy Program, which is funded by the Climate Change Fund. The Fund is also contributing funding to the Australian Government's Solar Flagships Program.

Visit www.resourcesandenergy.nsw.gov.au/energy-consumers/sustainable-energy/renewable-energy-action-plan for more information on the REAP.

Regional Clean Energy Program

The Regional Clean Energy Program (RCEP) creates opportunities for communities throughout NSW to fully participate in local renewable energy initiatives. Working closely with industry, local governments and other stakeholders, the program ensures these communities receive the necessary information and resources to understand and evaluate renewable energy options for their long-term social, economic and environmental benefit.

As part of the RCEP, seven Regional Coordinators are now working with local communities across NSW to inform the public about energy efficiency programs and opportunities for involvement in renewable energy projects in their regions.

An important component of the RCEP is its support for community-owned renewable energy (CRE) projects. While community ownership is widespread in parts of Europe, the sector is quite new in Australia with only two projects currently in operation. In 2013 the Fund provided $371,000 to eight community groups to conduct pre-feasibility studies on renewable energy projects in their areas. These groups have shown great capabilities in identifying solutions in the development of their projects. More community renewable energy grants will be provided over the next 12 months to increase community participation in renewable energy projects.

The Fund also supported the production of *Community-owned renewable energy: a how-to guide*, which provides detailed and practical information on how to develop CRE projects, and is now available online at the OEH website. For information and research on renewable energy in NSW visit www.environment.nsw.gov.au/communities/clean-energy-tools.htm.

Summarised examples of some of the outcomes from the projects funded by the Fund are:

- New England Wind is forming a cooperative to develop community support for wind power in the region and to develop a community-owned wind farm. The group created a portable trade exhibit to build the case for community wind projects and took it all over the New England region. New England Wind is now working on fundraising, community education and landholder and commercial partnership negotiations.
- In the Hunter, Clean Energy Association of Newcastle and Surrounds (CLEANaS) has developed the *Lighthouse Toolkit* to share with other communities. This resource makes the process of developing and owning solar installations much easier. Workshops, events and demonstrations have been held across the region and CLEANaS is now working with Hunter surf lifesaving clubs to assess the viability of a number of community-funded installations across their sites.
- In Sydney, Clean Energy for Eternity has created ClearSky Solar Investments, a not-for-profit community organisation linking investors and solar projects. ClearSky is available to manage the administration of community-based solar energy trusts. During the process the group developed a legal framework and template contracts and trust deeds, and operational manuals for trusts, trustee companies and administrative companies. It has also developed a marketing strategy for CRE projects.

Visit www.environment.nsw.gov.au/communities/clean-energy.htm for more about the RCEP.

Solar Flagships

Under the Australian Government's Solar Flagships Program, both the NSW Government and the Australian Renewable Energy Agency (ARENA) are supporting the deployment of two large-scale solar photovoltaic (PV) power stations with a total generation capacity of 155 megawatts (MW) of electricity, at Nyngan (102 MW) and Broken Hill (53 MW) in Western NSW. This is the largest project of its kind in Australia, with the Nyngan solar power station being the largest in the Southern Hemisphere.

The total cost of the project, developed by AGL and First Solar, is estimated at $440 million, with the NSW Government contributing $64.9 million from the Climate Change Fund. In the order of $50 million of this funding was provided in 2013–14.

The construction of the Nyngan plant commenced in January 2014 and is progressing on schedule. It is expected to be completed by June 2015. The construction at Broken Hill will commence in July 2014 and is expected to be completed in November 2015. It is estimated this project will produce approximately 360,000 megawatt hours of electricity, which is enough to power more than 50,000 average NSW homes.

During the construction phase, the power stations will create 450 jobs in regional NSW, boosting knowledge and skills in renewable energy and driving economic benefits for the local community.

Visit www.arena.gov.au/project/agl-solar-project for more information about the Nyngan and Broken Hill solar plants.

Nyngan solar plant module installation (Photo courtesy of AGL)

Solar Bonus Scheme

The Solar Bonus Scheme provides eligible households and small businesses with a premium rate for the electricity they generate from small-scale solar or wind systems.

The scheme is administered by the Department of Trade and Investment, Regional Infrastructure and Services and funded by the Climate Change Fund. Under the scheme, participants receive a feed-in tariff for the electricity they export to the grid between 1 January 2010 and 31 December 2016. The scheme closed to new applicants in April 2011 and no new connections were made after 30 June 2012.

OEH is responsible for verifying and paying claims for reimbursement from the Fund to the distribution network service providers for payments made to energy customers under the scheme.

At 30 June 2014, there were 146,425 small-scale systems connected to the scheme. In 2013–14, these systems generated in the order of 425,000 megawatt hours of renewable electricity and the Fund provided $205 million in reimbursement payments.

Visit www.resourcesandenergy.nsw.gov.au/energy-consumers/solar/solar-bonus-scheme for more information on the Solar Bonus Scheme.

Table 2: Solar Bonus Scheme (estimated electricity generation)

Year	Number of new systems[1]	Total reimbursement ($)	Estimated electricity generation (MWh)
Jan 2010 – June 2011	121,048	138,253,239	247,825[2]
2011–12	23,405	211,841,253	380,682[3]
2012–13	1,904[4]	197,934,670	415,600
2013–14	68[5]	205,093,881	424,872
Totals	**146,425**	**753,123,043**	**1,468,979**

[1] Improved data quality has led to the detection of systems that are ineligible for connection to the scheme. These systems had been counted in previous years. The ineligible systems have now been removed, which has resulted in a slight reduction in the total number of systems.

[2&3] The 2012–13 Climate Change Fund Annual Report showed an apparent fall in renewable electricity generation compared with the previous year, while the number of connected properties increased. This was due to the method of reporting renewable electricity generation at that time, which was based on when the solar generated electricity was *paid for* rather than when it was *generated*. This meant that more than 60,000 megawatt hours of electricity generated in 2010–11 appeared in the generation figures for 2011–12. There was actually a nine per cent increase in the amount of renewable electricity generated in 2012–13 by the Solar Bonus Scheme compared to 2011–12. This was due to an increase in solar insolation (the amount of sunshine) and an increase in the number of connected properties. The generation figures have been adjusted in this report accordingly.

[4] These are not new connections in 2012–13; systems were connected before 30 June 2012 but the first reimbursement appeared in 2012–13.

[5] These are not new connections in 2013–14; systems were connected before 30 June 2012 but the first reimbursement appeared in 2013–14.

Enhanced Bushfire Management Program

The Enhanced Bushfire Management Program (EBMP) was developed by the NSW National Parks and Wildlife Service (NPWS) to address worsening fire weather conditions, bolster hazard reduction operations, and improve bushfire response capabilities to help minimise the risk to the community from extreme bushfire events.

The Climate Change Fund is providing $62.5 million over the five years from 2011 to 2016 to significantly expand existing fire management programs in NSW parks and reserves.

The Australian Bureau of Meteorology's *State of the Climate 2014* report states: 'Extreme fire weather has increased, and the fire season has lengthened, across large parts of Australia since the 1970s'.

Current climate change modelling for NSW indicates future changes in rainfall patterns across the state. It is also likely that drought conditions will prevail for longer and will occur more often. This means more of the landscape will be in a bushfire-conducive condition more often. Climatic conditions that contribute to large and intense bushfires, such as prolonged drought, low humidity, the number of days with high temperatures and high wind speeds, are expected to increase.

A total of $12.5 million from the Fund was used to enhance NPWS fire operations in 2013–14, including $9.65 million for hazard reduction activities, $1.85 million for rapid bushfire response and $1.03 million in capital expenditure to purchase fire-related equipment and other capital items.

NPWS firefighting crew at the Blue Mountains fires in 2013–14 (Photo: NPWS, OEH)

Season summary

In general, NSW experienced a short spring hazard reduction burning season due to the early onset of high temperatures. Hazard reduction was halted in October with the arrival of a devastating early bushfire season, particularly in the Blue Mountains.

The bushfire season ended with heavy rainfalls across NSW in February. Rain persisted through to late April, making most of the state too wet for hazard reduction burning. A brief window opened in May where conditions changed sufficiently to allow additional limited burning to be undertaken safely and effectively.

Hazard reduction

NPWS took full advantage of weather windows that were available and suited to controlled burning in spring and autumn of 2013–14, treating more than 112,000 hectares in 230 prescribed burning operations and 1200 mechanical hazard reduction activities. NPWS aims to treat 135,000 hectares annually as a five-year rolling average and at year three of the program has achieved 54% of the 675,000 hectare program deliverable.

Rapid Response Program

Six dedicated rapid response firefighting teams and two additional helicopters are deployed on standby at pre-determined heli-bases during high fire weather danger periods. These specialist firefighting crews were activated 45 times during the 2013–14 bushfire season to be ready to respond to new bushfires at short notice. There were 17 responses to ignitions, of which 14 resulted in fires being controlled before reaching 10 hectares in size. Of these ignitions, 82% were responded to in less than 30 minutes.

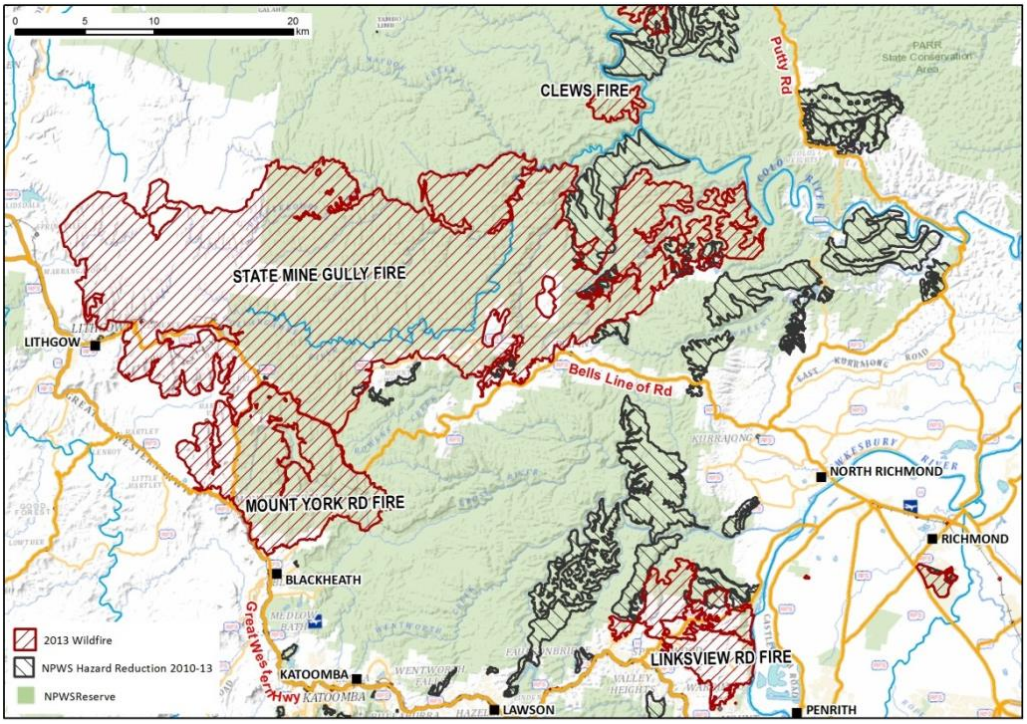
CASE STUDY: Enhanced Bushfire Management Program prepares Blue Mountains for multiple major fires

The State Mine fire started on 16 October 2013 at Marangaroo Army Base, near Lithgow. Bad weather on 17 October, with wind gusts of over 100 kilometres per hour, saw another fire ignite at Mount York just after midday, and the Linksview fire in Springwood began at approximately 1.30 pm. Multiple major fire events in this region were unusual so early in the season. This led to an overextended region combatting fires across three local government areas, and communications, command and fire strategy were consequently under extreme pressure.

Recent hazard reduction (HR) burns carried out as part of the Enhanced Bushfire Management Program (EBMP), however, acted to stop, slow and redirect the fires. The Lynchs Creek HR, for example, was carried out only six weeks prior to the major October ignitions, and directly affected the run of the Linksview fire, which ultimately claimed 193 houses. The HR pulled up the fire from running along Shaws Ridge and ultimately north east into populated areas like Hawkesbury Heights, Yarramundi and Richmond. The fire map below shows that the EBMP HR at Lynchs Creek halted the fire's run.

The massive State Mine fire (which joined Mount York) was recorded travelling 40 kilometres in one day. Critical EBMP HR work carried out around the township of Mountain Lagoon prevented the full force of the fire from impacting properties. Four HR burns (shown in black below) pushed the State Mine fire north of Mountain Lagoon, which helped to slow the progress of the fire and allowed suppression opportunities. Another EBMP HR burn situated east of Mountain Lagoon Road provided additional protection to the township. Losses from this fire without the HR could have been dire given its intensity.

Fuel management in Asset Protection Zones by the Blue Mountains EBMP crews was also complete prior to the major October fires. Specifically and of major importance, the Northern Strategic Line was completed, which is used to protect the townships along the 60 kilometres of the Great Western Highway. In the lead-up to the fire season, a long-standing RFS Group Captain was reported as saying 'don't worry about Parks, they're right', referring to the organisation being fire prepared for the season due to the works of the EBMP team.



Fire map showing 2013–14 wildfires (red) and EBMP hazard reduction burns (black) in the Blue Mountains (Photo: NPWS)

Administration and budget

Administration and the Australian Energy Market Commission

Governance arrangements

Under the *Energy and Utilities Administration Act 1987* (the Act), the Minister approves payments from the Climate Change Fund if satisfied that projects promote a purpose outlined in the Act.

The Fund is administered by OEH. An evaluation panel with an independent chair and members with relevant industry and technical expertise assesses grant applications. OEH conducts technical assessments of all applications to assist the evaluation panel. Applications are assessed according to selection criteria given in the publicly available *Guide for Applicants*.

The evaluation panel makes recommendations on funding to the Minister.

Principles for administering the Fund

OEH applies the following key principles in administering the Fund:

- funding allocations and expenditure will ensure responsible financial management
- a strategic approach will be used in setting priorities for expenditure
- the detailed priority setting process and fund allocations will closely follow strategic Government policy (including the election commitment of the NSW Climate Change Fund, NSW 2021 and the Energy Efficiency Action Plan).

OEH will:

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

Evaluation and reporting

Funding recipients must report on the progress of projects and their success in achieving anticipated outcomes (e.g. energy and/or water and greenhouse gas savings).

The Fund is committed to keeping the NSW community fully informed about its progress in achieving its climate change goals, and its expenditure and achievements under the Fund. OEH reports regularly on its progress in meeting its NSW 2021 goals. Information on the range of programs available and evaluation reports are also published on the OEH website.

National energy regulation initiatives

The Fund provides the NSW Government contribution to national energy regulation initiatives, as provided for under section 34H of the Act. During the year, NSW paid $7.1 million as its share of the Australian Energy Market Commission's (AEMC's) annual operating budget. Under established funding arrangements agreed between relevant jurisdictions, NSW is responsible for 37.2 per cent of the AEMC's budget.

Budget and spending status

Revenue

Electricity distribution and network service providers were required to make contributions to the Fund through the gazettal of annual Contributions Orders. A breakdown of the Fund's 2013–14 revenue is shown in Table 3.

Table 3: NSW Climate Change Fund revenue 2013–14

Source	Amount ($)
Ausgrid	149,802,468
Endeavour Energy	94,431,526
Essential Energy	64,366,006
Interest	4,637,566
Miscellaneous revenue[1]	2,814,336
Total	316,051,902

[1] Includes return of grant funds paid in previous financial years.

Expenditure

The Fund's expenditure in 2013–14 was $295.4 million. Of this, 0.5 per cent was for program administration. Expenditure for each of the Fund's components is presented in Table 4.

Table 4: NSW Climate Change Fund expenditure 2013–14

Program/component	Recipient	Amount ($, GST excluded)
Australian Energy Market Commission	Australian Energy Market Commission	7,100,645
Bushfire funding – capital	National Parks and Wildlife Service	1,034,771
Bushfire funding – recurrent	National Parks and Wildlife Service	11,501,851
Central Coast Water Savings Fund	Gosford City and Wyong Shire councils[1]	2,000,000
Energy Efficiency Action Plan programs[2]	Various	8,402,735
Energy efficient homes[3]		1,362,237
Energy efficient business		4,312,718
Energy efficient government		833,638
Policy and statewide delivery		1,397,029
Program evaluation		497,113
Home Power Savings Program	Households	7,071,497
Regional Clean Energy Program	Communities	1,764,305
Solar Bonus Scheme	Distribution network service providers	205,093,881
Solar Flagships	Australian Government	49,987,704
Fund program administration	Office of Environment and Heritage	1,408,820
Total		**295,366,209**

[1] Refund paid to Gosford City and Wyong Shire councils upon discontinuation of the Central Coast Water Savings Fund on 10 December 2013. Both councils will be using these funds to support OEH approved water savings projects on the Central Coast.

[2] Includes capital expenditure.

[3] Expenditure on Home Power Savings Program reported separately.

The difference between total revenue and total expenditure largely relates to the repayment of the Treasurer's advance for the Solar Bonus Scheme in 2011–12 and 2012–13.

Appendix A: Legislative requirements

The Climate Change Fund was established in 2007 under the *Energy and Utilities Administration Act 1987*. The Act describes the purposes of the Fund and a number of other requirements.

Relevant provisions in the legislation are provided below.

Division 2 – Climate Change Fund

34F Purposes of Climate Change Fund

The purposes of the Fund are as follows:

(a) to provide funding to reduce greenhouse gas emissions and the impacts of climate change associated with water and energy activities

(b) to provide funding to encourage water and energy savings and the recycling of water

(c) to provide funding to reduce the demand for water and energy, including addressing peak demand for energy

(d) to provide funding to stimulate investment in innovative water and energy savings measures

(e) to provide funding to increase public awareness and acceptance of the importance of climate change and water and energy savings measures

(f) to provide funding for contributions made by the State for the purposes of national energy regulation.

34G Payments into Climate Change Fund

(1) There is payable into the Fund:

(a) all money received from contributions required to be made to the Fund under Division 3, and

(b) all money advanced by the Treasurer for the Fund, and

(c) all money appropriated by Parliament for the purposes of the Fund, and

(d) the proceeds of the investment of money in the Fund, and

(e) all money directed or authorised to be paid into the Fund by or under this or any other Act or law, and

(f) all money received from voluntary contributions to the Fund made by any other person or body.

(2) Without limiting subsection (1) (f), state agencies are authorised by this section to make voluntary contributions to the Fund.

(3) Subsection (2) does not authorise a state water agency or a distribution network service provider to refuse to pay a contribution to the Fund that is payable under Division 3.

34H Payments out of Climate Change Fund

(1) There is payable from the Fund:

(a) any money approved by the Minister to fund all or any part of the cost of any measure that the Minister is satisfied promotes a purpose referred to in section 34F, and

(b) any money approved by the Minister to fund all or any part of the contributions that the State is required to make for the purposes of national energy regulation, and

(c) any money required to meet administrative expenses related to the Fund, and

(d) any money required to meet administrative expenses of the Minister in connection with the Minister's functions under this Act in relation to savings action plans, and

(e) any money directed or authorised to be paid from the Fund by or under this or any other Act or law.

(2) In exercising the Minister's functions under subsection (1) (a) (but without limiting the generality of that paragraph), the Minister may:

(a) approve selection criteria from time to time to be applied to determine the kinds of water or energy savings measures that will be eligible for funding, and

(b) approve the funding of community grants from the Fund, being grants awarded on the basis of their merit in advancing one or more of the purposes referred to in section 34F, established through a competitive selection process, and

(c) require a person or body seeking funding for a water or energy savings measure to do either or both of the following as a precondition to applying for or obtaining funding:

(i) to submit a water savings action plan or energy savings action plan (as the case requires) that includes details about the measure, and

(ii) to provide any other information requested by the Minister about the measure, and

(d) obtain and have regard to any advice, recommendations or other information provided to the Minister by a committee established by the Minister under Division 5, or by any other person or body, that the Minister considers relevant.

(3) The Minister is to produce an annual report detailing Fund allocations and programs and anticipated benefits, by reference to key performance indicators, to be achieved in advancing any one or more of the purposes referred to in section 34F.

(4) The annual report is to include an evaluation of the effectiveness of each program as it is completed under the Fund.

(5) The annual report is to be tabled in each House of Parliament within six months after the end of the financial year to which it relates.

(6) The Minister is to publish each annual report so as to promote, to the NSW public, schemes, technologies and processes that address climate change, and to inform the NSW public about consumer choices and procurement decisions.

Appendix B: Tariffs and data sources

Tariffs

This annual report uses standard tariffs to calculate this year's cost savings for Climate Change Fund programs and projects by sector. These tariffs and their sources are listed below.

Table 5: Energy and water tariffs 2014–15

Utility	Year	Sector	Tariffs[1]	Units	Source notes
Electricity	2014–15	Residential Business[2] Government[3] Community[4]	29.7 17.6–29.6 16.8–24.2 17.6–29.6	c/kWh	Residential tariffs include GST. Business, community and government tariffs are ex-GST. All electricity and natural gas tariffs exclude fixed charges. Data sources include price guides from suppliers/retailers (Energy Australia, Integral Energy, Country Energy, AGL, ActewAGL, Origin), government electricity and gas contracts, and reports and consumption data from various government agencies, including the Independent Pricing and Regulatory Tribunal (IPART).
Natural gas	2014–15	Residential Business[2] Government[3] Community[4]	28.30 21.72 20.33 28.30	$/GJ	
Water[5]	2014–15	Residential Non-residential	2.00–2.23 1.82–2.57	$/kL	Residential standard rates (Sydney, Hunter, Central Coast and Rous Water utilities) Non-residential standard rates + 0.5 wastewater charges (Sydney, Hunter, Central Coast and Rous Water utilities) All water tariffs exclude fixed charges. Residential tariffs include GST. Non-residential tariffs are ex-GST.

[1] Calculated tariffs do not take into account the removal of the carbon price. Federal Parliament passed legislation to repeal the Carbon Tax from 1 July 2014, which will impact on electricity, natural gas and water savings tariffs. This information was not available in time for publication of this report.

[2] Calculated tariffs for small, medium, large and very large businesses based on threshold baseline consumption.

[3] Calculated tariffs for education (DET, schools, TAFEs), non-education (health) and other government organisations.

[4] Calculated tariffs for non-government schools and non-government (small, medium and large) not-for-profit organisations.

[5] Calculated tariffs for projects/programs covered by the major water utility areas: Sydney, Hunter and Central Coast. Rous Water tariffs apply to the remainder of the state.

Savings estimates

All program savings are conservatively estimated from the available information.

Any apparent discrepancy in the totals shown is due to rounding.

The tCO_2-e/MWh conversion factor is 0.99, from the National Greenhouse Accounts July 2014. The tCO_2-e/GJ conversion factor for natural gas is 0.06413.

Power bill savings may include savings attributed from natural gas and operating and maintenance costs.

The cost effectiveness of funding for all programs is calculated by dividing the funding allocated or expended by 10 years of savings (five years for the Home Power Savings Program). Cost effectiveness does not take into account the water savings from power projects or power savings from water projects.

The return on investment for all sectors is calculated by dividing the funding allocated or expended by 10 years of bill savings (five years for the Home Power Savings Program).

Regions

Sydney Metropolitan is defined as those local government areas within the following regional council organisations:

- Northern Sydney Organisation of Councils
- Macarthur Regional Organisation of Councils
- Shore Regional Organisation of Councils
- Southern Sydney Regional Organisation of Councils
- Sydney Coastal Councils Group
- Western Sydney Regional Organisation of Councils.

All other local government areas are designated as regional NSW.

Visit www.2021.nsw.gov.au/regions for more information on designated regions.

Appendix C: Summary of previous Climate Change Fund power and water programs

Program	Program end date	No. projects or participants	Funding allocated ($)	Estimated electricity savings (MWh/yr)	Estimated greenhouse gas savings (tCO_2-e/yr)	Estimated peak demand savings (kW)	Estimated water savings (ML/yr)	Estimated bill savings ($/yr)	Cost effectiveness ($/kL or $/MWh)[1]
Power									
CCF grant projects[2]	30 Jun 2013	458	53,836,296	164,052	140,223	42,282	178	29,960,313	32.82
Energy Saver		18,140	44,549,163	115,204	122,202			31,041,759	38.67
Fridge Buyback Program[3]	30 Jun 2012	33,710	5,045,815	26,631	26,365			8,042,532	18.95
Government Building Retrofit Program – Large Sites	30 Jun 2012	59	1,213,720	41,584	41,815		22	7,705,445	2.92
Government Building Retrofit Program – Small Sites	30 Jun 2012	104	5,650,546	3,602	3,658		9	627,831	156.86
Home Power Savings Program	April 2014	225,214	53,825,506	120,100	118,899		31	35,669,705	89.63
Home Saver Rebates Program	30 Jun 2011	181,310	105,610,971	378,384	401,087			41,159,200	27.91
Public housing retrofits	30 Jun 2012	13,182	19,202,407	18,126	19,214			2,432,370	105.94
Sustainability Advantage Program – Resource Efficiency module	30 Jun 2012[4]	165	1,035,000	8,209	10,818		399	3,536,020	12.61
Water									
CCF grant projects[2]	30 Jun 2013	596	62,751,227	1,058	1,867	5,334	8,362	21,595,187	0.75
Home Saver Rebates Program	30 Jun 2011	150,933	49,394,183				4,753	10,076,621	1.04
Government Building Retrofit Program – Small Sites	30 Jun 2012	48	178,523	27	116		18	79,178	1.01
Public housing retrofits	30 Jun 2012	18,855	4,455,393	2,602	2,576		394	1,621,228	1.13
Clean Energy									
CCF grant projects[2]	30 Jun 2013	8	15,646,408	17,706	17,529	2,094		3,117,269	88.37

[1] The cost effectiveness for all programs is calculated by dividing the funding allocated or expended by 10 years of savings (five years for the Home Power Savings Program). Cost effectiveness does not take into account the water savings from power projects or power savings from water projects.

[2] Funding for all grant projects (milestone payments) was acquitted by 30 June 2013, however no new funding rounds have been offered since 2011. CCF grant projects are from the former Water and Energy Savings Funds, Central Coast Water Savings Fund, Green Business Program, Public Facilities Program (Demonstration and Community Savers streams), Rainwater Tanks in Schools Program, Renewable Energy Development Program, Schools Energy Efficiency Program and non-contestable funding.

[3] Fridge Buyback Program figures do not include the number of fridge collections or savings from the pilot phases, which were funded under Energy Savings Fund rounds 1 and 2.

[4] Co-funding for the Sustainability Advantage – Resource Efficiency module was provided until June 2012. The Sustainability Advantage Program is still available to assist organisations to use resources more efficiently with support from the NSW Environmental Trust. Visit www.environment.nsw.gov.au/sustainabilityadvantage for more information.

Appendix D: Discontinued Climate Change Fund grant projects[1]

Applicant name – project title	Funding approved	Funding paid to applicant based on milestone met
AquaNet Sydney Pty Ltd – The Rosehill-Camellia Recycled Water Scheme Project	$225,384	–
Caltex Refineries (NSW) Pty Ltd – Kurnell Industrial Water Recycling Plant	$4,224,742	$744,252
Communities NSW – Greening the Wharf	$1,177,000	$891,160
Department of the Arts, Sport and Recreation – Energy Savings at Narrabeen and Jindabyne Sports Centres	$1,117,500	$360,000
Department of the Arts, Sport and Recreation – Water Savings at Narrabeen and Jindabyne Sports Centres	$330,000	$140,000
The Australian Gas Light Company – Metropolitan Sydney Recycled Water Projects	$1,487,004	$1,430,000
The Australian Gas Light Company – Metropolitan Sydney Recycled Water Projects	$954,602	–
X-ray Theatre – The Blue Person Project: A School and Family Water Education Program	$42,600	$33,000

[1] Funding for grant projects ceased on 30 June 2013; however, the Office of Environment and Heritage was not advised of the discontinuation of these projects until 2013–14.

Glossary

the Act	*Energy and Utilities Administration Act 1987*, under which the NSW Climate Change Fund is established.
CO_2	The chemical formula for carbon dioxide.
tCO_2-e	An abbreviation of 'tonnes of carbon dioxide equivalent', the internationally recognised measure of greenhouse gas emissions.
cogeneration	The simultaneous generation of electrical and thermal energy, where both forms of energy are put to productive use. Cogeneration is typically possible when facilities produce large amounts of waste heat (usually in the form of steam or hot water) that can be used efficiently for space or water heating or cooling, industrial use, agriculture or conversion into electricity.
cost effectiveness	A cost per megawatt hour or cost per kilolitre metric that is calculated by dividing the funding allocated by 10 years of electricity or water savings; five years for the Home Power Savings Program.
efficiency (energy and water)	Reducing the amount of energy or water required to provide a given level of service (e.g. for lighting, air conditioning or toilet flushing).
feed-in tariff	A premium rate paid for electricity fed back into the electricity grid from a designated renewable electricity generation source.
the Fund (or CCF)	The NSW Climate Change Fund.
gigajoule (GJ)	A joule is a unit of energy, equivalent to a power of one watt for one second. A gigajoule is 1000 million joules.
gigawatt hour (GWh)	A gigawatt hour is equivalent to 1000 megawatt hours or one million kilowatt hours. Gigawatt hours are often used as a measure of the output of large electricity power stations (see definition under kilowatt hour).
heat pump	A device that pumps heat energy used in both heating and cooling systems. As heating units, heat pumps are able to extract heat from extremely cold outdoor air to heat the inside of a structure. When used as cooling units they can extract heat from indoor air, even if the outdoor air is much hotter.
HVAC	A heating, ventilation and air conditioning (HVAC) system is commonly used to provide fresh air, indoor climate and comfort control services for interior building spaces.
IPART	The Independent Pricing and Regulatory Tribunal; the independent economic regulator for NSW.
kilolitre (kL)	A volumetric measurement equivalent to 1000 litres, or one cubic metre.
kilowatt (kW)	A unit of energy equal to 1000 watts (see definition under watt).
kilowatt hour (kWh)	A quantitative measure of electric current flow equivalent to 1000 watts being used continuously for a period of one hour; the unit most commonly used to measure domestic electrical energy (see definition under watt).

megalitres (ML)	A volumetric measurement equivalent to 1 million litres.
megawatt (MW)	A unit of energy equal to one million watts (see definition under watt).
megawatt hour (MWh)	A megawatt hour is equal to 1000 kilowatt hours (see definition under kilowatt hour).
milestone	A milestone is a planned and measurable event that indicates the completion of a major deliverable of a project.
OEH	The Office of Environment and Heritage.
payback period	The time taken for savings or profit from an investment to pay for the initial capital expenditure. Payback period = capital cost divided by total annual savings. For example, a new lighting system costing $400 with $200 bill savings per year has a payback period of $400/$200 = two years.
peak demand	The maximum power demand on a system at a given time, or the maximum power required to supply customers at any time. This may be at a particular time of the day or a specific hour of the day.
photovoltaic (PV)	A form of solar energy that directly converts light into energy.
renewable energy	Energy generated from renewable sources, including the sun, waves, waste, water (hydroelectricity) and wind, as opposed to fossil fuels that emit greenhouse gases.
retrofitting	Upgrading an existing system or building, typically to make it more energy or water efficient.
solar energy	Solar power refers to the sun's potential to produce energy. Solar energy can be generated using a wide variety of methods, ranging from simple water recirculating systems used to heat homes and commercial offices, to sophisticated networks of solar cells that produce enough energy to supply small cities.
watt (W)	The unit for measuring electrical power. The rate of energy consumption by an electrical device when it is in use is measured in watts.