



# NSW Energy Efficiency Programs Review Report

October 2015



Compiled by the Hunter Business Chamber for  
the NSW Energy Innovation Knowledge Hub

# Index

## **PART ONE**

### **Scoping Study: NSW Energy Efficiency Programs**

- Introduction	1
- Executive Summary	2
- NSW Energy Programs – A snapshot	3
EEIG	3
Summary Table	4
- Sample of Programs	8
Sustainability Advantage	8
Australian Meat Industry Council	9
Supply Chain and Logistics Association of Australia	9

## **PART TWO**

### **Detailed Case Study: Energy Hunter**

- Executive Summary	10
- Participant Achievements	12
- Project Objectives	14
- Living Laboratory	16
- Business to Business Mentoring	23
- Mass Learning	24
- Lessons Learnt	26
- Conclusion and Recommendations	27

# Introduction

The Energy Innovation Knowledge Hub is a platform to capture opportunities for growth, development, collaboration and innovation across the energy sector. Facilitated by the Newcastle Institute for Energy and Resources, the Knowledge Hub is focused on closing the gap between research and business.

The Hub aims to address local industry challenges by creating new opportunities and market access for clean and efficient energy technologies, creating a collaborative culture and increasing competitiveness and productivity through knowledge transfer.

The development of this review report was highlighted as a priority by Hub members who considered the review of energy efficiency service providers and programs as a valuable source resource.

The report was undertaken by the Hunter Business Chamber who provide leadership in the sector through their Energy Hunter program. Energy Hunter was a collaborative project between the Hunter Business Chamber, the City of Newcastle and Hunter TAFE to develop energy efficiency information to small and medium sized businesses across the Hunter Region. This program received significant attention and in 2014 was awarded the NSW Government's Green Globe, Climate Change Leader award.

This report outlines who is consulting, manufacturing or developing programs and services of the area of energy efficiency in NSW alongside a review into the take up of government energy related programs and their effectiveness.

**Dr Alan Broadfoot**  
Interim Director  
NSW Energy Innovation Knowledge Hub



# Part One

## Scoping study: NSW Energy Efficiency Programs

### Executive Summary

Over the past decade the availability and diversity of energy efficiency assistance programs for small to medium businesses (SMEs) has grown noticeably. Issues surrounding climate change, energy efficiency/consumption and the importance of SMEs have each received increasing attention from policymakers and the media.

There is an emerging awareness by SMEs of the benefits that reducing energy consumption can provide both at a micro and macro level. However, transitioning this awareness into measurable results can prove challenging in this sector.

It is often difficult to ensure that available energy support programs are tailored and communicated appropriately to the SME sector. Ensuring maximum take up and ongoing review of the effectiveness and efficiency of such programs is an important hurdle that needs to be faced in a more strategic manner.

While it is not disputed that each of the programs outlined in this paper are contributing in a positive sense to the energy efficiency awareness of SMEs, there are concerns about the way in which consistent data is available to the public.

The main recommendation of this paper is that the range of programs should be independently and thoroughly analysed

and benchmarked to determine best practice using the appropriate research methodology.

This will become increasingly important over the coming years as support programs continue to be developed for the SME market. Time poor SMEs need a program that is attractive, relevant and delivers tangible results in order for them to dedicate scant resources to such an initiative.

Those responsible for developing SME energy efficiency programs need a strong awareness that usually the owner/manager of the business will often be the person responsible for overseeing and delivering energy efficiency initiatives. Time is of the essence for the SME and staffing and resources are often stretched to the limit.

This paper will provide a snapshot of the types of programs available to the SME sector in NSW and will also provide a detailed case study of the Energy Hunter Program delivered under the auspices of the Energy Efficiency Information Grant Program funded by the Federal Government in 2012.

Not all available energy efficiency programs will be covered in this initial discussion paper (such as group buying initiatives and similar), yet a more thorough investigation is certainly warranted.

### RECOMMENDATIONS:

- The range of energy efficiency programs should be independently and thoroughly analysed. A comprehensive benchmarking exercise should occur to determine best practice and offer solutions for the next generation of support programs.
- A consistent methodology for review of the achievements/success of energy efficiency programs be developed including; measurable objectives, key performance indicators and return on investment.
- The Energy Hunter Program to be reviewed in detail to gain a stronger understanding of the value and challenges of collaboration to deliver energy efficiency programs to SMEs.

## NSW Energy Programs – a snapshot

In NSW, energy efficiency programs can take a number of forms and can be as simple as a one off workshop or a lengthier term commitment and allocation of significant financial resources by participants. Many programs require businesses to undertake a range of actions within a comprehensive and longer term program.

In recent years, a range of organisations both government and non-government (industry associations and related bodies) have delivered a

broad cross section of useful initiatives for businesses particularly SMEs.

The commitment by these organisations in this area is heartening and indicates a reassuring focus on valuable energy related information to this sector.

Eighteen relevant programs have been summarised in table format in this report. This table does not include all energy efficiency programs available to business in NSW, but focuses on those that are most relevant for the purposes of this report.

The primary programs offered by, or in conjunction with the New South Wales Government are;

- City Switch Green Office (in conjunction with other stakeholders)
- Energy Saver Program
- Environmental Upgrade Agreements;
- Sustainability Advantage

### Energy Efficiency Information Grants program (EEIG)

The majority of programs included in the summary table come under the auspices of the Energy Efficiency Information Grants program (EEIG). The Australian Government funded the EEIG program commencing in 2012, via two funding rounds.

EEIG provided funding to 46 industry associations and non-profit organisations to deliver practical, tailored energy efficiency information.

EEIG projects covered a broad cross section of sectors from agriculture, commercial property, community services, manufacturing, retail, hospitality and tourism.

Many of these projects were intended to produce energy efficiency information and tools that were sector-specific as well as guides, energy monitoring and case studies to help small businesses with their energy management.

The majority of these EEIG projects listed in the following table have now, or will soon, conclude. Final milestone reports and the related data are now being reported to the Australian Government.

Many of the projects have 'unknown' listed in the columns relating to their ongoing status or in relation to benchmarks or results availability. We have been advised by the Department of Industry and Science that milestone reports will be available on their website soon. This information will greatly assist in the process of independent review and analysis of the projects.

Program Name	Program Owner	Offering
City Switch Green Office	Council of Capital Cities Lord Mayors	Highly regarded program offering support, recognition and resources to over 700 commercial office based businesses, primarily larger businesses.
Energy Saver Program	NSW Office of Environment & Heritage	The Energy Saver Program offers subsidised energy audits for small to medium sized NSW businesses. Opportunities identified through the audits may be eligible to generate tradeable certificates under the NSW Energy Savings Scheme. Audits can also be used to generate a NABERS rating in relevant businesses.
Environmental Upgrade Agreements	NSW Office of Environment & Heritage	Owners of non-strata commercial and light industrial buildings can access funds (in the form of a loan) from a finance provider for energy, water and other environmental improvements. The loan is repaid through local council rates and the program is offered in the following local government areas.  City of Sydney, Parramatta City Council, North Sydney Council, Lake Macquarie City Council & the City of Newcastle.
Sustainability Advantage	NSW Office of Environment & Heritage	530 participants saving a combined \$85 million. Participants from sectors, including manufacturing, commercial property, registered clubs, health, aged care, transport and education.  The program provides expertise, training and business tools such as: workshops, guides, case studies and templates. One-on-one specialist support. Facilitated networking and targeted seminars.
<b>EEIG PROGRAMS</b>		
Program Name	Program Owner	Offering
Empowering Food, Beverage and Grocery manufacturers to capitalise on Energy Efficiency	Australian Food and Grocery Council	Project aims to increase energy efficiency awareness amongst the Australian food, beverage and grocery manufacturing industry to improve the competitiveness of sector. Target SME needs through industry-specific information via fact sheets & tools, energy audits, webinars, workshops & online material.
Hotel Energy Efficiency Information Program	Australian Hotels Association	Program aims to assist approximately 5,000 SMEs to understand where and how energy is used in their operations and pursue opportunities for efficiencies.
Interactive online tools and resources and onsite support services	Australian Industry Group	Project aims to deliver a suite of practical energy efficiency products and services to approximately 1,400 SMEs nationally in the manufacturing sector. Information products will include an on-line interactive tool (with short videos and checklists), workshops, online and telephone support and energy audits.
An Engagement, Extension and Education Program for Small- Medium Enterprises delivering to the Red Meat Industry, Supply Chain and related Communities	Australian Meat Industry Council	Project aims to deliver energy efficiency information to the red meat industry reaching approximately 2,400 SMEs Australia-wide. The information will be delivered through an energy efficiency toolkit, guides, case studies, fact sheets, a conference and energy efficiency training.
Tourism's Bright Future	Australian Tourism Export Council	Project, including the Business Ready: Energy Efficiency Workshops, delivered in partnership with EC3. Aims to disseminate relevant energy efficiency information and tools to approximately 2,000 SME tourism businesses nationally through an expert led online webinar program, fact sheets, case studies and workshops across Australia.

Ongoing	Industry sector specific	Benchmarking or results available	Website link or case studies
Was funded from EEIG until May 2015. Uncertain as to further funding but has been established for over 10 years.	Aimed at larger commercial building tenants in metropolitan centres	NABERs and City Switch Progress report used as benchmarking tools used <a href="#">click here for fact sheet</a>	Case studies available on <a href="#">website</a>
yes	Best suited for organisations that spend \$60,000 per year or more on electricity	Power bill savings of \$13 million per year to medium to large size businesses across NSW. <a href="#">click here for fact sheet</a>	Case studies available on <a href="#">website</a>
yes	Non-strata commercial & light industrial building owners, does benefit tenants too.	<a href="#">click here for fact sheet</a>	Case studies available on <a href="#">website</a>
yes	Open to organisations from the not-for-profit, government and medium-to-large business sectors.	Independent survey in 2011 showed that 84% would recommend the program to other organisations. <a href="#">click here for fact sheet</a>	Member organisations available on <a href="#">website</a>
Ongoing	Industry sector specific	Benchmarking or results available	Website link
unknown	Agriculture, small goods, food services, retail	unknown	Case studies available on <a href="#">website</a>
unknown	Tourism, hotel, pubs, accommodation	unknown	No case studies <a href="#">website</a>
Outreach sessions completed Online tools remain available	Manufacturing, engineering, construction, automotive, food; transport, information technology, telecommunications, call centres, labour hire, printing, defence, mining equipment, airlines	unknown	No case studies but comprehensive learning tools <a href="#">click here</a>
unknown	Agriculture, retailers, processors, exporters, smallgoods manufacturers, food services	A summary of results, tools produced and feedback from workshops is available on <a href="#">website</a> <a href="#">click here for further information</a>	Case studies available <a href="#">website</a>
unknown	Tourism, accommodation, tour operator, backpacker accommodation, bed and breakfast, event coordinators, cultural, arts and heritage, Aboriginal	unknown	No case studies <a href="#">website</a>

Program Name	Program Owner	Offering
EnergyCut.com.au - The Energy Efficiency Portal for SMEs & Community Groups	Do Something!	Project aims to disseminate practical advice & money saving energy efficiency information to an estimated 15,000 community organisations & councils as well as around 50,000 SMEs Australia-wide. Includes developing a web portal, best practice guides, case studies and tip sheets, videos, eBooks, PowerPoint presentations, energy efficiency guides and providing access to an energy cost calculator.
Energy Hunter - Our Clean Energy Future	Hunter Business Chamber	Project aims to assist approximately 2,000 SMEs across the Hunter Region of New South Wales to identify, manage and improve their energy efficiency. Information will be provided through the provision of real-time energy displays in up to 500 businesses, a database of useful information, 20 technical real-life case studies, ten different "how to" guides and mobile applications.
Energy Efficiency and Real-time Energy Monitoring for Lake Macquarie Businesses "Save Watts"	Lake Macquarie Business Centre	Project aims to increase energy efficiency awareness among approximately 13,100 SMEs and other businesses in the Lake Macquarie area. Information will be delivered through a telephone helpline, personal contact with targeted businesses, the running of the "Grow me the Money" program, subsidised energy efficiency training and the provision of metering technology to enable businesses to monitor electricity, gas and hot water consumption in real-time to encourage energy efficient practices.
Energy Efficiency Information Program	Master Grocers Australia	Program aims to deliver a number of energy efficiency information products to approximately 3,850 SMEs in the food and grocery sectors. Information will be delivered through a dedicated website, online handbook, fact sheets, information kit, energy audits, blogs, e-alerts, DVDs and smart phone applications.
Retail Buys the Future – Energy Efficiency Information for Retail SME's	National Retail Association	Project will assist SME retailers across Australia to make informed decisions about energy efficiency. The project, through the delivery of information and strategies, will focus on reducing operational energy costs. Delivered through a range of mediums including a web portal, existing information and resources, specifically designed tools for energy usage analysis and benchmarking data, sharing of research findings, face-to-face workshops, engagement with logistics supply chains, retail space design and construction information, and best practice methodologies through case studies.
NSW Farm Energy Innovation Program	NSW Farmers' Association	Program will inform approximately 38,000 NSW agricultural SMEs about energy efficiency. The project will focus on high energy use in-farm operations to achieve a 5% cost reduction over the period of the project. Resources will be made available to all Australian farmers and the delivery model may be extended nationally. Project resources will include field days, seminars, video conferencing and webinars, energy audits, and an online portal containing case studies, fact sheets, a benchmarking tool and resource links.
Energy in Chemicals & Plastics SMEs: Facts & Efficiency - reducing energy consumption & costs	Plastics and Chemicals Industries Association	Project aims to increase energy efficiency awareness within the chemicals and plastics sector. Energy efficiency information will be delivered via seminars, forums, and site visits to over 13,100 SMEs nationally. Energy efficiency information products will include 'five minute' guides, postcards, videos, articles in industry magazines and an on-line portal.
Energy Efficiency Management for SME Commercial Office Tenants	Royal Institute of Chartered Surveyors Australasia	Project involves developing a calculator and mobile and desktop applications to assist SME office tenants to compare and rank lease spaces according to their energy efficiency. The tools will be supported by a Commercial Tenants Guide to Energy Efficiency which will provide content on a wide range of technical and property-related issues to energy efficiency. It is expected around 10,000 SME office tenants and building professionals will benefit from the project.
Energy Efficiency Solutions for Australian transport and logistics SMEs	Supply Chain & Logistics Association of Australia	Project aims to address the time & competitive pressures, a lack of skills and resources, to identify & improve energy use in the supply chain and logistics industry. The project provided targeted energy efficiency tools, resources and training tailored specifically to assist the Supply Chain & Logistics Association of Australia membership.  The project will be delivered face-to-face at 30 locations across Australia & available online. Resources will included a web portal, case studies, fact sheets, workshop packs and how-to resources.

Ongoing	Industry sector specific	Benchmarking or results available	Website link
unknown	Community organisation, small business, clubs, aged care facilities, laundries, food services, accommodation, professional services, hairdressing	unknown	Case studies available on <a href="#">website</a>
Program concluded May 2015	Retail, small business, clubs, aged care facilities, laundries, food services, accommodation, professional services, hairdressing, recreation	Refer to section 2 of this report for comprehensive case study	Case studies available on <a href="#">website</a>
unknown	Retail, small business, clubs, aged care facilities, laundries, food services, accommodation, professional services, hairdressing, recreation	unknown	Click here for <a href="#">website</a> No case studies
unknown	retail, small goods, food services, small Business, restaurant, butcher, baker, grocer, fruit, food services	unknown	Link to energy efficiency website invalid <a href="http://www.mgaeep.com.au">www.mgaeep.com.au</a>
unknown	Retail, small business, small goods, food services, restaurant, butcher, baker, grocer, fruit, food services,	unknown	Online resources, guides and case studies available <a href="#">website</a>
unknown	Agriculture, farm, horticulture, pastoral, dairy, poultry,	unknown	Online resources and guides available. No case studies <a href="#">website</a>
unknown	Manufacturing, transport	unknown	Online resources and guides available. No case studies <a href="#">website</a>
unknown	Building, small business, retail, property services, professional services	unknown	Online resources and guides available. No case studies <a href="#">website</a>
Program finalised February 2015	Manufacturing, transport, warehouse, truck	Comprehensive outcomes and case studies available <a href="#">click here</a>	Comprehensive final milestone report available <a href="#">click here</a>



## Sample of programs

Whilst the summary table provides a good snapshot of the types of programs available to NSW businesses over the past several years, it is worth focussing on a few of those programs in more detail to discuss their respective approaches and achievements. This is particularly important in light of the fact that a large number of programs have now concluded and are still compiling final milestone reports.

Having a deeper understanding of what types of projects are most useful and effective for businesses is important to the development of the next generation of energy efficiency programs.

### **Sustainability Advantage – NSW Office of Environment and Heritage**

This particular program, whilst aimed primarily at medium to large businesses, not for profit and government organisations, is an excellent example of an energy efficiency program that has achieved positive results.

It offers a comprehensive template for those organisations who wish to achieve significant savings and reduce environmental impacts, but it does demand attention to results that can be achieved and expects these results to be reported back to the program each year.

It has worked with around 550 organisations that are saving in the vicinity of \$60 million a year. These organisations are well-known across NSW and have been very proactive in this program ([click here for list](#)).

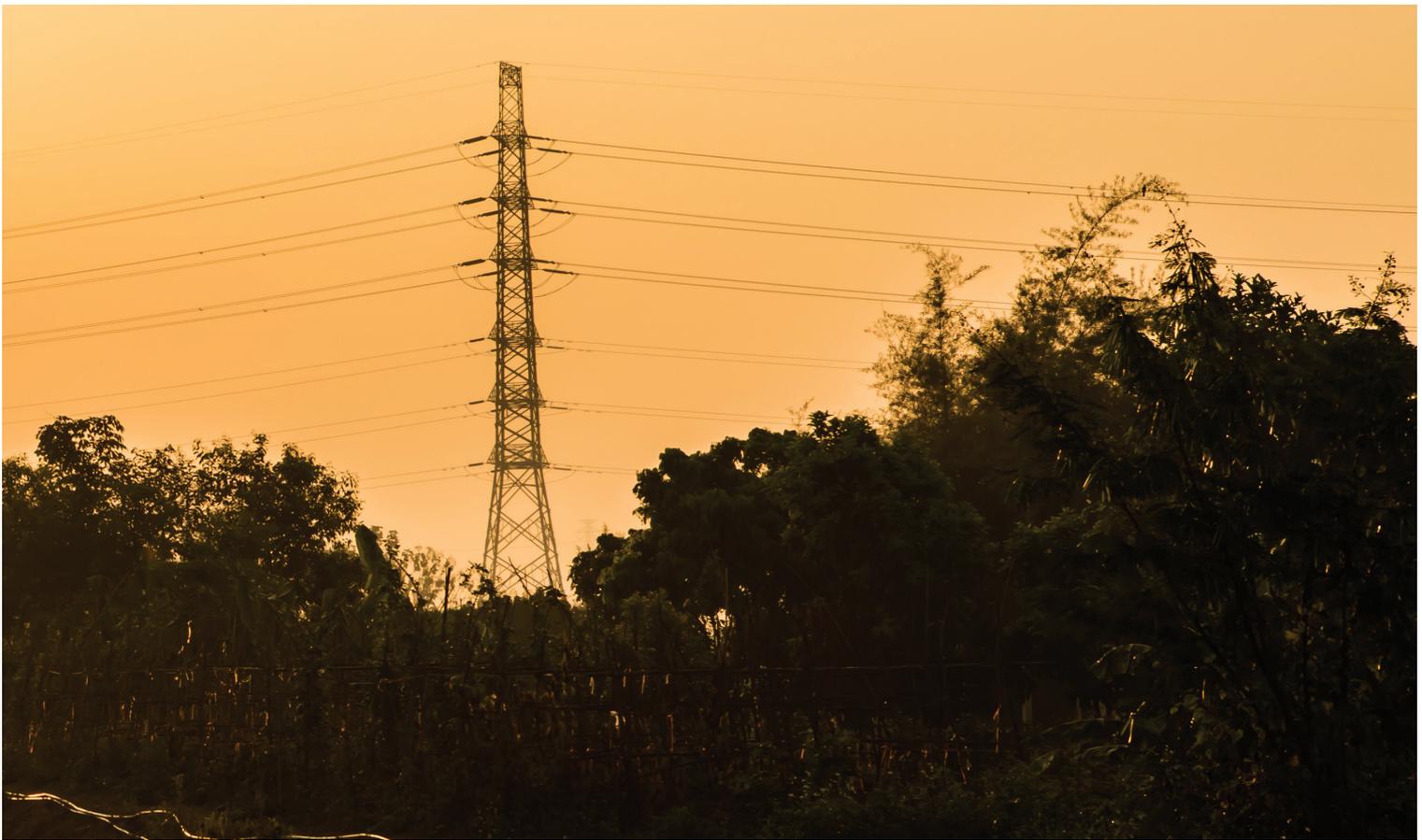
Sustainability Advantage has a practical focus and works to identify and implement savings and energy projects through resource efficiency (energy, water, waste and raw materials); supply chains; carbon management and staff engagement.

There are seven modules available and participants are expected to undertake two or three of them. Participants are also required to complete a sustainability management diagnostic

that is intended to prioritise the most relevant course of action for their business.

This program requires a strong commitment to participate over an eighteen month period and emphasises the importance of organisations working in geographical or business related clusters. Participants are also expected to network with others, via the geographic or industry clusters developed around three or four times a year.

This program offers a comprehensive recognition program. Businesses are classed according to their level of sustained achievement over time. The reward offered to those businesses that not only achieve, but sustain improvements is a tiered reward system, which has rigorous criteria that must be met [click here](#) for further information on the rewards/recognition pathway process.



### **Australian Meat Industry Council – SME program**

This project had, as its primary aim, the delivery of energy efficiency information to the red meat industry reaching (around 2,400 SMEs across Australia). Information was delivered through an energy efficiency toolkit, guides, case studies, fact sheets, a conference and energy efficiency training.

This program was mainly targeted at middle management who had a direct responsibility for reducing energy costs, yet it focussed on how to develop a business case for senior management in order to inform investment decisions on energy efficiency on processing plants or in retail businesses.

The Energy Efficiency Toolkit [click here](#) included an Industry Energy Calculator; Industry Energy Consumption Guide (ECG); Industry Energy Management Plan; twenty three Industry fact sheets; six case studies on refrigeration, heat recovery solutions, steam generation, methane capture and reuse at abattoirs and trigeneration technology .

This program also undertook a benchmarking study on energy efficiency opportunities in NSW and Queensland domestic processors and a number of literature reviews on the energy efficiency utilisation benchmarks and technologies for this industry sector.

A series of five webinars covering key topics; total plant energy; steam generation and boiler; refrigeration savings; compressed air management and lighting efficiencies were developed. A range of seminars and workshops were delivered and feedback was positive.

### **Supply Chain & Logistics Association of Australia – SME program**

This program provided energy efficiency information to SMEs in the transport and warehousing sectors. Thirty workshops were conducted in capital cities and twenty two in regional areas across Australia. The Association engaged an experienced not for profit consultant (ClimateWorks) to produce all content. The resources and fact sheets were complemented by a useful online tool which allowed SMEs to enter energy costs (both at facilities and on road).

This project was highly visible to businesses in this sector and the online resources were actively taken up, so much so, that they experienced an increase in traffic to the relevant website by 138% on the previous year. The SCLAA did note that improvement could be made in regard to the communications plan in place from government in order to reach a wider audience.

The SCLAA provided a final report [click here](#) which further outlines the objectives and activities as part of the program. Notably, a case study is provided that demonstrates the significant savings from one organisation in the vicinity of \$95,000.

# Part Two

## Detailed Case Study - Energy Hunter

### Energy Hunter Scheme



Energy efficiency information for small and medium sized businesses

## Executive Summary

The Energy Hunter project was a positive example of the achievements that can be delivered through collaboration. This program delivered real energy savings and enduring changes in behaviour for small to medium enterprises (SMEs).

Energy Hunter was funded through the Energy Efficiency Information Grants (EEIG) Program in round one in 2012. Its main aim was to empower small and medium enterprises (SMEs) and community organisations to make informed decisions about energy efficiency.

The combined efforts of the Hunter Business Chamber, City of Newcastle, and Hunter TAFE have led to real and lasting positive changes to many businesses in the Hunter Region.

### Participant numbers

- To date, a total of 333 businesses have had electricity monitoring set up through the Energy Hunter program – either through the installation of a real time energy display and/or the registration of one or more WebGraphs accounts.

- This encompasses the monitoring of 437 individual meters. Feedback from participant businesses gives a strong indication that the monitoring systems are highly valued and are assisting with energy management and efficiency.

### General success

Businesses participating in the project continue to record impressive reductions in electricity use, with many great individual success stories across a range of business sizes and industry sectors. The program has been responsible for instigating and encouraging a range of energy efficiency success stories ranging from businesses saving significant amounts on their electricity bills through to implementing highly successful behavioural change programs that have reduced energy consumption.



L-R Peter Thrift The City of Newcastle, Jessica Capper The City of Newcastle, Adam Clarke The City of Newcastle, Desiree Sheehan The City of Newcastle, Kyle Furner Hunter Business Chamber, Belinda Smith Hunter TAFE.

Energy Hunter has helped businesses in areas such as compiling tender documents for lighting upgrades, calculating project returns, assessing product options, analysing solar system requirements and assisting businesses to access other support through State government initiatives such as subsidised audits.

Examples of individual business successes have been drawn upon to produce a series of educational tools to assist other businesses and have included case studies and videos, which are hosted on the Energy Hunter website.

The program itself has received excellent recognition through;

- Climate Change Leadership Award category in the NSW Government's 2014 Green Globe Awards;
- Finalist for the 2014 United Nations Association of Australia (UNAA) Sustainability Leadership Award; and

- Highly Commended for Community Education and Empowerment at the Local Government NSW (LGNSW) 2014 Excellence in the Environment Awards.

The Green Globe Awards, which are now in their 15th year, are the leading environmental awards in NSW. They recognise businesses, government, community organisations and individuals who have integrated environmental practices and resource saving initiatives into their day-to-day operations. The Climate Change Leadership Award recognises outstanding initiatives and/or leadership in the field of climate change mitigation and adaptation.

### Pathways

In addition, the program has provided businesses with a pathway to engage in other energy efficiency and sustainability programs including the NSW Office of Environment and Heritage Energy Saver and Sustainability Advantage programs.



L-R Omar Khan, Hunter Badminton Association, Tony Morgan, Hunter Badminton Association, Tony Blanch, Mayfield Ex Services Club, Kristen Keegan, Hunter Business Chamber, Bruce Woods, Bushrangers Bar and Brasserie, Bill Saddington, Caves Beachside Hotel, Mark Davis and Claire Reynolds Federal Department of Industry and Science.

## Participant achievements

During its two years of implementation, the Energy Hunter project has delivered outstanding results in terms of the number of businesses participating in the Energy Hunter program, and the collective and individual energy and cost savings achieved.

The Energy Hunter program has successfully recruited 333 businesses representing 437 sites into the program. These businesses represent a broad range of industries and sectors across the Hunter region, including hospitality, manufacturing, retail, health and community services.

- Businesses participating in the program have collectively achieved an impressive electricity reduction from a baseline year of 2012 of 5.6 million kWh against 'business as usual'
- Using an average of \$0.20/kWh this represents a cumulative saving of over \$1.1m for Hunter businesses

This reduction also represents:

- 3861 tonnes of CO2 not produced
- The equivalent annual electricity consumption of 531 homes

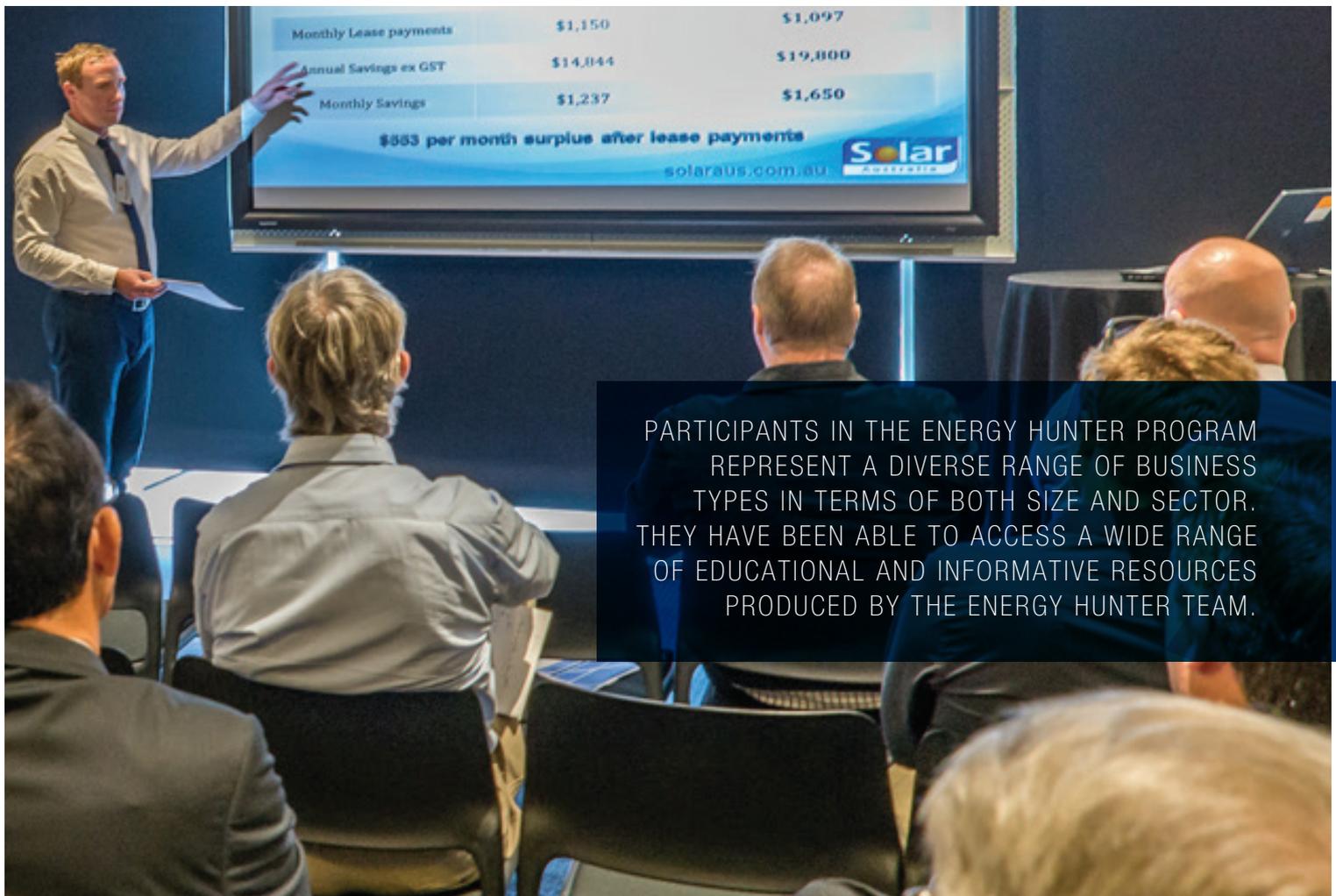
Participants in the Energy Hunter program represent a diverse range of business types in terms of both size and sector. They have been able to access a wide range of educational and informative resources produced by the Energy Hunter team.

To-date, the project has created a combined 34 How-To Guides, Case Studies and additional Video Guides and resources, covering a wide variety of subjects and industry sectors.

Through delivery of the Living Laboratory component, with assistance of a Hunter TAFE Electrotechnology specialist, 350 face-to-face business visits have been conducted.

The Energy Hunter team has worked closely with the target audience to assist them to identify and implement opportunities for their businesses to become more energy efficient.

Electrical contractors have been equipped with knowledge to facilitate their advice, installation and servicing of energy efficient lighting, metering and other products for their client base, including an understanding of the concept of return on investment and how to convey that to customers.



PARTICIPANTS IN THE ENERGY HUNTER PROGRAM REPRESENT A DIVERSE RANGE OF BUSINESS TYPES IN TERMS OF BOTH SIZE AND SECTOR. THEY HAVE BEEN ABLE TO ACCESS A WIDE RANGE OF EDUCATIONAL AND INFORMATIVE RESOURCES PRODUCED BY THE ENERGY HUNTER TEAM.

- Improved maintenance regimes at business sites have been put in place, with many participants also undertaking upgrades such as energy efficient lighting
- Some participants altered their hours of operation in order to maximize the benefits of “time of use” metering
- Some participants ceased use of inefficient equipment (such as continuous boiling water units in lunch rooms) in favour of lower cost options (such as an on demand jug)
- Electrotechnologist installed switchboard monitors to provide business owners with a visual representation of their energy use and advised decision makers on options for behavioural changes to reduce their costs and energy usage

## FEEDBACK

- 78% of respondents rated site visits as either very useful or extremely useful. Further feedback from participant businesses suggest a preference for more than one site visit per business.
- 89% of participants found the electricity monitoring to be helpful or invaluable to their business.
- 74% of participants rated the quality of presentations by efficiency experts as being Very Good or Excellent
- Feedback on the usefulness of the bi-monthly participant e-newsletter recorded 79% of respondents rating it useful or very useful.
- 76% of participants rated the support from the Energy Hunter team as either Very Useful or Extremely Useful
- 92% of attendees left workshops with ideas that they felt could be implemented in their own workplace
- 89% of participants rated Business Mentoring sessions as 4-5 out of 5 for usefulness
- 75% of participants rated their confidence to undertake efficiency projects as either increased significantly or greatly after attending mentoring workshops
- 87% of participants rated the delivery of Mentoring workshops as either Very Good or Excellent

# Project Objectives

## Target Audience

Target audience cluster 1: businesses with electricity bills below \$25,000 per annum (classified as “Small Business”)

Target audience cluster 2: businesses with electricity bills above \$25,000 per annum but below \$500,000 per annum (classified as “Medium Businesses”)

## Objectives of Energy Hunter

- To engage with the target audience to complete the 14 steps of the ‘ClimateCam’ framework (as developed by Newcastle City Council)
- To facilitate the business-to business learning of Hunter SMEs both as participants and non-participants to the project
- To develop information and training materials to both SMEs, electricians, and electrical apprentices
- Provide expert advice in a range of energy areas through workshops, educational materials, and site visits

## Project deliverables: Living Laboratory

- Engage with the target audience to complete the ClimateCam framework
- To host a minimum of one workshop per month during the period of ClimateCam delivery
- Providing practical examples for identifying energy efficiency opportunities for businesses
- Conduct a minimum of 300 face-to-face meetings with the Target Audience
- Undertaking regular electronic communication with the Target Audience and providing timely responses to specific enquiries
- Provide and install real time energy displays and register businesses for Web Graphs for at least 300 business sites

- Develop a database containing information gained from participating SMEs including information on historic energy use (from energy utility companies), real-time energy use (from real-time displays and Web Graphs), business types, ‘ClimateCam’ assessment scores, consumption reduction patterns and the introduction of new, more energy efficient technologies.
- Produce mid-Term and final technical reports presenting energy consumption data of participating businesses, successes, learnings and recommendations.
- Develop and distribute 20 technical real-life case studies outlining best-practice examples and lessons learned
- Work with Local/Regional print and electronic media to achieve regular media coverage promoting the Activity including a ‘top of the charts’ list.

## Project deliverables: Business-to-Business Mentoring

- Conduct themed workshops where participating SMEs from the ‘Living Laboratory’ component can share their experiences and champion solutions and opportunities to other SMEs in the Hunter region.
- Designate mentors and experts with appropriate business knowledge, attitude and outcomes to connect with targeted SMEs who participate in these workshops.
- Monitor these sessions to try and reach a cross-section of businesses in terms of sectors and size.
- These workshops will cover a range of energy efficiency technologies, as well as the aspects of developing a business case and action plan to implement efficiency projects and how to capture the potential and real savings achieved
- These workshops will be targeted towards the Recipients own members, SMEs in the Hunter Region with less than 50 employees total, and clusters of SMEs based on business sector types such as trades, retail or manufacturing groups.
- Conduct a minimum of 10 of these workshops during the term.



BILL SADDINGTON FROM  
CAVES BEACH HOTEL  
DISCUSSES THE 'POWER  
FACTOR' WITH HUNTER TAFE

### Project deliverables: Mass Learning

- Expand on the 'Living Laboratory' and 'Business-to-Business Mentoring' components to develop, publish and deliver information and training materials to an additional 265 SMEs and electricians.
- Deliver up to 12 hours of expert support and advice per week to participants. This support is to come from designated trainer experts in electrical trades in face-to-face interactions with SMEs in the electrotechnology industry.
- Subject matter for support includes basic instruction in the use of electrotechnology apparatus, fixing and securing electrotechnology equipment, identifying and selecting components, accessories and materials for energy sector work activities.
- Develop, publish and deliver a virtual learning environment to be based on [www.theenergyhunterscheme.com.au](http://www.theenergyhunterscheme.com.au) and/or a mobile platform including:
  - At least 10 different how-to-guides
  - Visual documentation of activities undertaken in delivering 'Living Laboratory' and 'Business-to-Business Mentoring' components, including motivational videos to participate in energy efficiency activities, expectations and results achieved by participants, energy efficiency improvement strategies, and educational videos covering areas of energy efficiency tech. Videos and materials explaining the use of and installation of energy monitoring equipment shall also form a part of this 'suite' of resources. Materials will be available on the Recipient's website.
  - Provide electro-competency training online through one accredited electro-competency unit, aligned to National Training Packages where relevant). This material will be aimed at electricians to cover the installation of electrical energy monitoring devices and at SMEs to raise awareness of possible energy reduction strategies.
  - A toolkit created to amalgamate the various guides and other resources into one 'booklet' which can be utilised in soft or hard copy format.

# Living Laboratory

## Workshops

The Living Laboratory workshops have been focused on three topics:

1. Lighting upgrades.
2. 'How to build the business case for energy efficiency projects'.
3. Building Upgrade and Finance Opportunities targeting the aged care, education, office, retail and clubs sectors.

'How to build the business case for energy efficiency projects' was conducted in collaboration with the NSW Office of Environment and Heritage.

These events were extremely successful in engaging businesses on how to progress with energy efficiency and renewable projects and have resulted in numerous businesses progressing with a range of energy efficiency projects ranging from solar, and lighting through to behavioural change initiatives.

To complement the work of the Living Laboratory team, the Hunter TAFE Mass Learning suite (ten How-to Guides and an online energy efficiency module) continues to be promoted to businesses along with a set of recently developed educational and motivational videos.

Energy Hunter businesses have continued to enjoy many promotional opportunities in the form of case studies, information booklets, radio interviews, news stories and energy efficiency promotional videos. This has been found to work as a very positive engagement tool with the businesses, in addition to promoting the benefits of the program to other businesses for continued recruitment and education.

There were 31 workshops delivered under the Living Laboratory component of the Energy Hunter program. The workshop schedule commenced in November 2012 and workshops concluded on 27 May 2015. The final event included four separate workshops on lighting, solar, understanding electricity bills and building a business case for efficiency projects.

The workshops required as part of the Business-to-Business Mentoring component were delivered in conjunction with the Living Laboratory team to assist time-poor businesses make greater use of resources and encourage further recruitment of businesses currently outside the Living Laboratory component.

To date, workshops have covered an extensive range of energy efficiency topics including:

- The 14-step ClimateCam framework
- Use of WebGraphs and the Envir monitors to understand daily load profiles and consumption patterns
- Case studies of businesses and their energy efficiency actions
- Monitoring and reporting on consumption
- Easy wins, no cost and low cost options for reducing electricity use
- Energy efficient lighting (six specific sessions have been held on this topic)
- Electricity bills - understanding time-of-use tariffs and times for peak, shoulder and off peak periods
- Peak demand, capacity charges, power factor and power factor correction
- Heating, cooling and refrigeration
- Energy efficiency in the wine industry
- Motivation for current participants from success stories in the program
- Behaviour change techniques for energy efficiency projects
- Air compressors and hot water systems
- Developing the business case for energy efficiency projects
- Building upgrade and finance opportunities for Aged care, health and private education
- Building upgrade and finance opportunities for Office and retail facilities
- Building upgrade and finance opportunities for Clubs, RSLs and hotels.

In regard to workshops generally, data from the November 2014 online feedback survey showed that 93% of respondents provided positive feedback for the workshop.

## ClimateCam framework delivery

Assistance for businesses in implementing the ClimateCam delivery framework was provided in a number of ways by the Energy Hunter team.

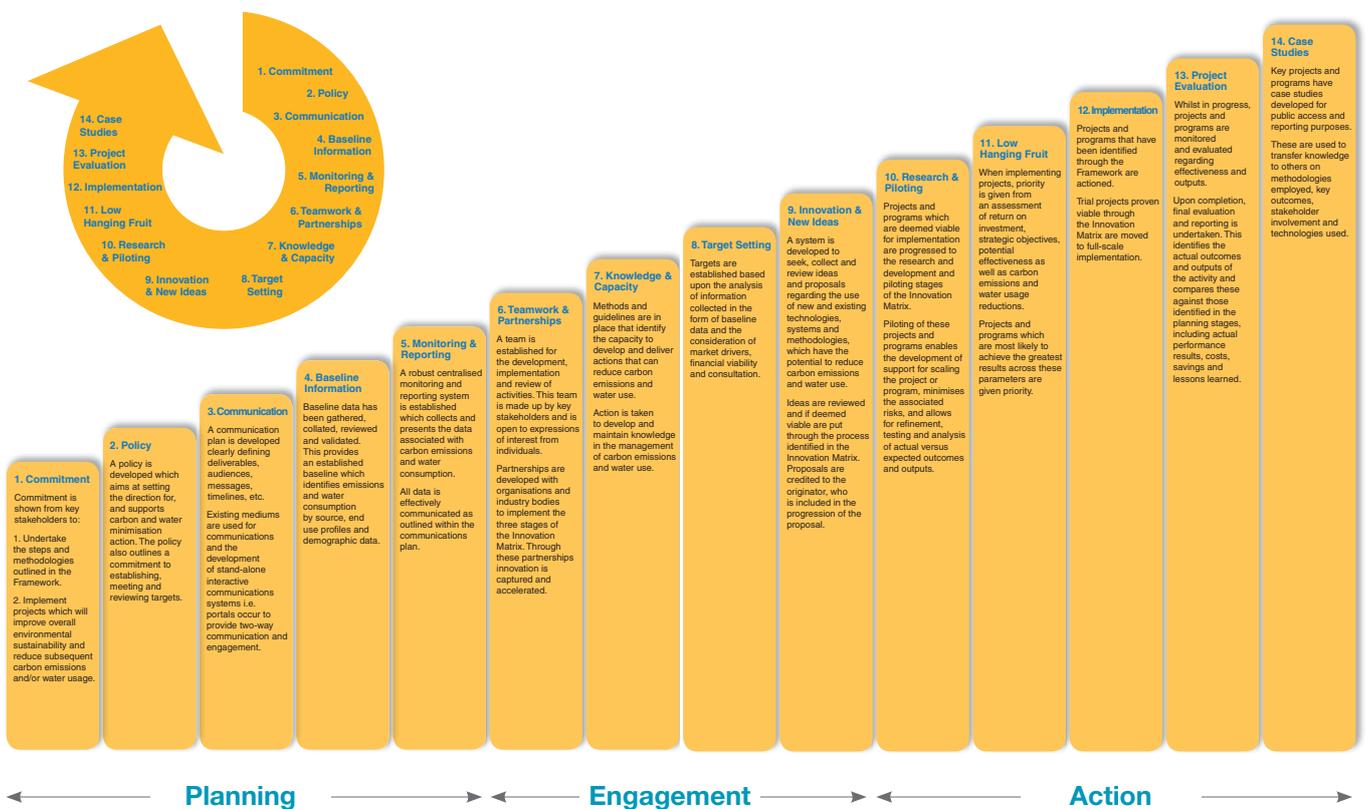
The ClimateCam framework is a 14-step sustainability framework that assists businesses to take a more strategic approach to developing energy efficiency practices and researching and implementing projects.

Feedback received in 2013 indicated that some smaller

businesses found completing the initial ClimateCam survey quite challenging and a review was undertaken to assess how the framework could be delivered in a more targeted way to different business types.

Using the original 14-step process, three categories were developed to group the steps into Planning, Engagement and Action. This simplified the process for some businesses and gave them a greater focus on what stage in the energy efficiency improvement cycle they are at.

## ClimateCam Delivery Framework



## Identifying energy efficiency opportunities in businesses

There were a number of ways the Energy Hunter team assisted businesses to identify energy efficiency opportunities. This was through a combination of providing information, advice and action plans delivered during and after business site visit, as well as workshop support and newsletters.

Through The City of Newcastle's Living Laboratory, businesses received free electricity monitoring (real time electricity monitor for small businesses or an online subscription to WebGraphs for larger businesses) as well as a customised energy assessment, bill analysis and access to the monthly workshops and energy efficiency case studies highlighting a range of program participants.

During 2014, the team provided new businesses with a checklist based on the Australian Government's: Energy use transformation tips for small business fact sheet.

The guide contains information on areas such as heating and cooling, lighting, office equipment, compressed air, refrigeration and hot water systems. The checklist contains a number of effective no cost and low cost options for businesses to consider including easy maintenance of common equipment and appliances.

This checklist is also provided alongside an inventory template that the team has developed, where businesses can complete a basic assessment of the equipment located at their premises.

## Resources produced

In addition to the wealth of energy efficiency resources that have been created by the Living Laboratory team, twenty case studies have been published, which includes a range of examples about how some participating businesses have improved their energy efficiency.

The case studies cover the following topics:

- Power factor correction
- Café- Upgrading refrigeration equipment
- Identifying efficiency strategies through monitoring
- Ensuring you're on the correct tariff
- Developing an energy resource management policy to demonstrate to staff and clients that the business is serious about energy efficiency
- Running staff awareness campaigns
- Behaviour Change
- Hairdresser- Installation of Energy Efficient Equipment
- Monitoring of Individual Appliances
- Behaviour Change and Meter Amalgamation
- Identification of Efficiency Opportunities
- Lighting Upgrade and Behaviour Change
- Large Scale Lighting Upgrade
- Function and Events Centre –Lighting Upgrade
- Monitoring energy use and adjusting business practices into less cost intensive periods

## Project implementation tools

A number of tools are also used to assist businesses to implement projects. These include business case templates, Lighting and Solar request for quote templates, lighting and solar payback calculators and output models.

## Face-to-face meetings

350 face-to-face meetings were completed with the target audience with visits conducted by The City of Newcastle Program Coordinator, and two Energy Efficiency Officers, supported by the electro-technology specialist from Hunter TAFE. An overview that highlights key energy efficiency opportunities for each business was provided to the business after this visit.

## Communication with the audience

The Energy Hunter team continued to undertake regular electronic communication with the target audience. With 333 businesses signed up, thousands of emails have been sent to participants throughout the course of the program.

## Installation of real time energy displays and registration of WebGraphs

333 businesses have had electricity monitoring set up through the Energy Hunter program – either through the installation of a real time energy display and/or the registration of one or more WebGraphs accounts. This encompasses the monitoring of 437 individual meters. Feedback from participant businesses gives a strong indication that the monitoring systems are highly valued and that they are assisting the businesses with their energy management and to become more energy efficient.

## Installation, instructions and support

148 real time energy displays have been provided to, and installed at, small business sites within the project area.

Prior to the installation of an energy display, a business is provided with a 'Pre-Install Checklist and Troubleshooting Guide' that has been developed by the Energy Hunter team to explain what is needed for effective set up and operation of the unit.

When a real time display is installed by Ausgrid, a business representative is shown the basic functions of the device and is given a detailed instruction manual. Following this, the Energy Hunter team also provides a more simplified 'How-to' guide which illustrates how to read and understand the display.

A face-to-face visit is then planned with a member of the Energy Hunter team to discuss various components of the program, including the operation and use of the real time display. Participating businesses are encouraged to contact the Energy Hunter team, at any time, if they have any questions or issues with their display.

Interested businesses are also loaned an Individual Appliance Monitor (IAM) which wirelessly connects to the real time energy display and allows for the monitoring of different plug-in appliances. These IAM's have given participants a greater level of detail about how much electricity appliances and equipment consume in their workplace.

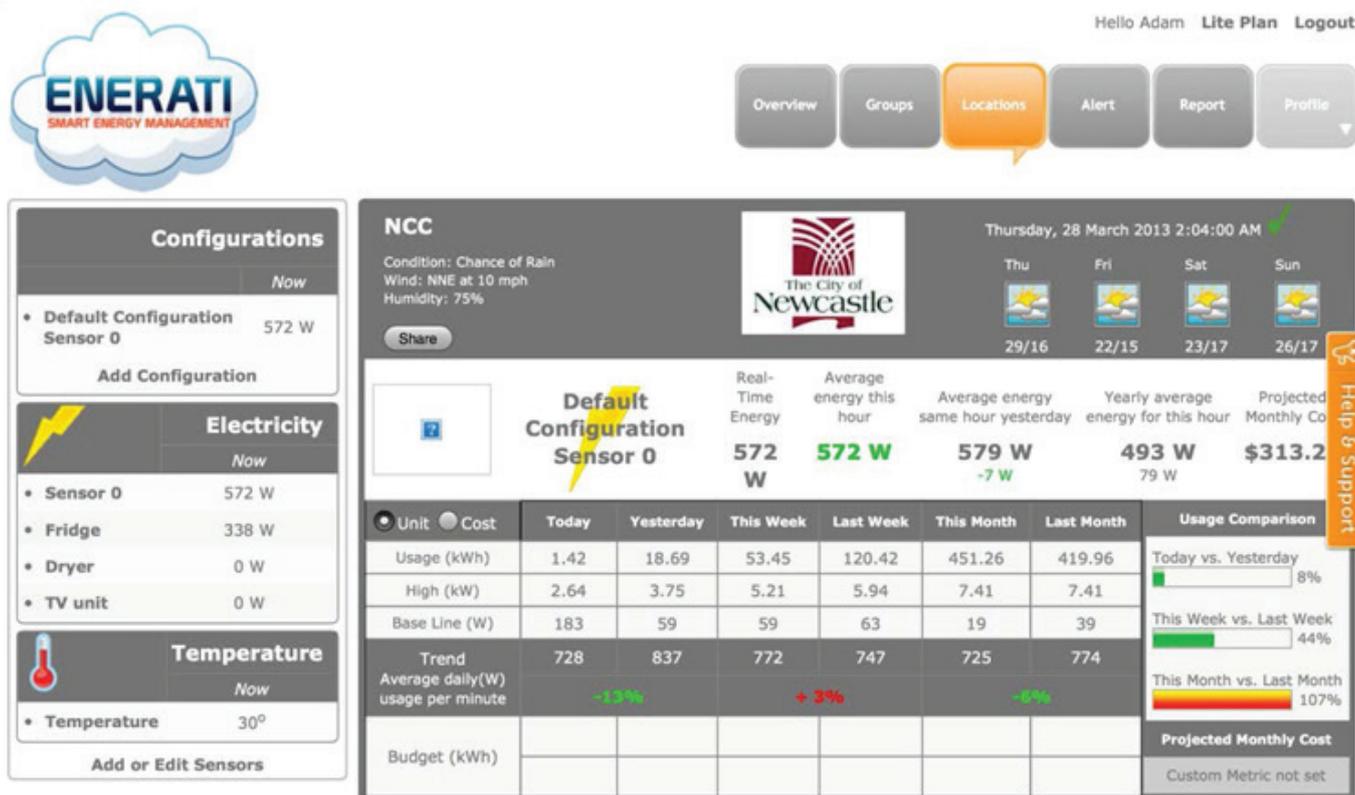
In some circumstances it will not always be possible to monitor total site consumption with a real time display site due to the distance of the meter point, thickness of the meter box preventing signal output, or lack of room to attach the CT clamps. In these instances, opportunities are investigated to install the monitoring at a sub-metering level or register the business for WebGraphs.

Businesses with a spare, active internet port are also set up with a 'bridge' at the time of installation and then an Enerati

subscription account is registered to allow electricity data to be collected and easily viewed in a graphical format online. The Enerati interface enables the user to access consumption data at various intervals, including yearly, monthly, weekly, daily, hourly and by the minute. It provides a range of comparisons

such as consumption for today vs. yesterday, this week vs. last week and this month vs. last month (in % use).

An example of the data comparisons provided by Enerati.



Since the launch of the Energy Hunter program, 268 businesses have been set up with one or more subscriptions to WebGraphs. Some businesses with multiple electricity meters on site have had more than one WebGraphs profile set up.

While it was not originally considered that SME businesses would have multiple meters and what the resultant budgetary impacts of this would be, these setups have proceeded to allow a complete picture of overall site consumption to be developed. The remaining 97 sites not on WebGraphs are Type 6 Basic meters that are analogue instead of digital so that interval data is not available.

The Energy Hunter team assisted many businesses to set up regular WebGraphs subscription reports that are automatically emailed to a business at predetermined intervals (e.g. weekly or monthly). A simple consumption

report was set up to provide a reminder for the business to login to WebGraphs and look at other data on a periodic basis.

Businesses have gained significant benefit from being able to access so much historical data in a range of time-periods. From yearly consumption data to 30 minute intervals, businesses can easily track progress over time and correlate business activities and production levels with an increase or decrease in electricity consumption.

For some businesses, being able to see a reduction in consumption via their WebGraphs profile has been a great motivating factor. Many businesses have also been able to identify problems with their power factor through the Maximum Demand profile on WebGraphs

## Overview of Living Laboratory Program components

Respondents to the survey were asked to rate how useful they have found each of the activities delivered by the Energy Hunter Team. Analysis of individual components is provided in further detail below.

## Energy Consumption Database

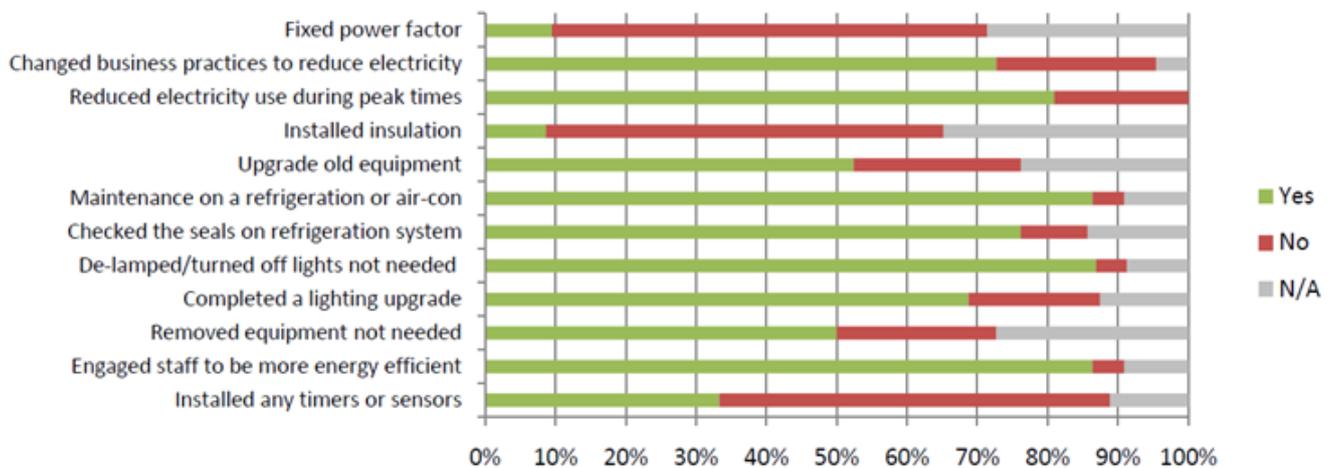
The Energy Hunter team at The City of Newcastle maintains a comprehensive database tracking business details, electricity use, electricity contract data and consumption reduction patterns, allowing for easy access to information, monitoring

the business's progress and providing benchmarks for future sectoral analysis.

Time-of-use break downs have also been included where available (% of peak, shoulder and off-peak) as well as recording what Network tariff each meter point is on. This additional information has allowed for easy identification of sites that might be on the incorrect tariff, providing businesses the opportunity to correct this for significant savings on their electricity bills.

The database also records what technological improvements have been made, what behavioural changes have been implemented in the organisation and a list of specific project opportunities available to individual businesses and the likely timeframe for implementation.

## Responses from Businesses in Energy Hunter over 12 months



The Living Laboratory component of the Energy Hunter program has exceeded expectations with its uptake and reach, and has met all important grant milestones and targets. The creation of demand side efficiencies by making small and medium-sized businesses more energy efficient has:

- created significant reductions in overall electricity use of the program participants;
- provided significant reductions in carbon emissions; and
- delivered all this whilst creating ongoing financial benefits to the businesses.

In particular, the financial benefits have been extremely important in order for businesses to cope with the impact of rising electricity prices and stay 'ahead of the curve'.

Rather than simply providing information, resources and electricity monitoring for a business to decipher, Energy Hunter has been built on the foundation that each business receives one-on-one support, tailored advice and ongoing assistance from the team.

This customised approach, coupled with access to a range of energy efficiency specialists and online resources, has created a community of Energy Smart businesses in the Hunter region.



The uptake of sustainability activities, behaviour change at an organisational level, as well as energy efficient practices by participating businesses is evident through the long list of outcomes and achievements made through the program.

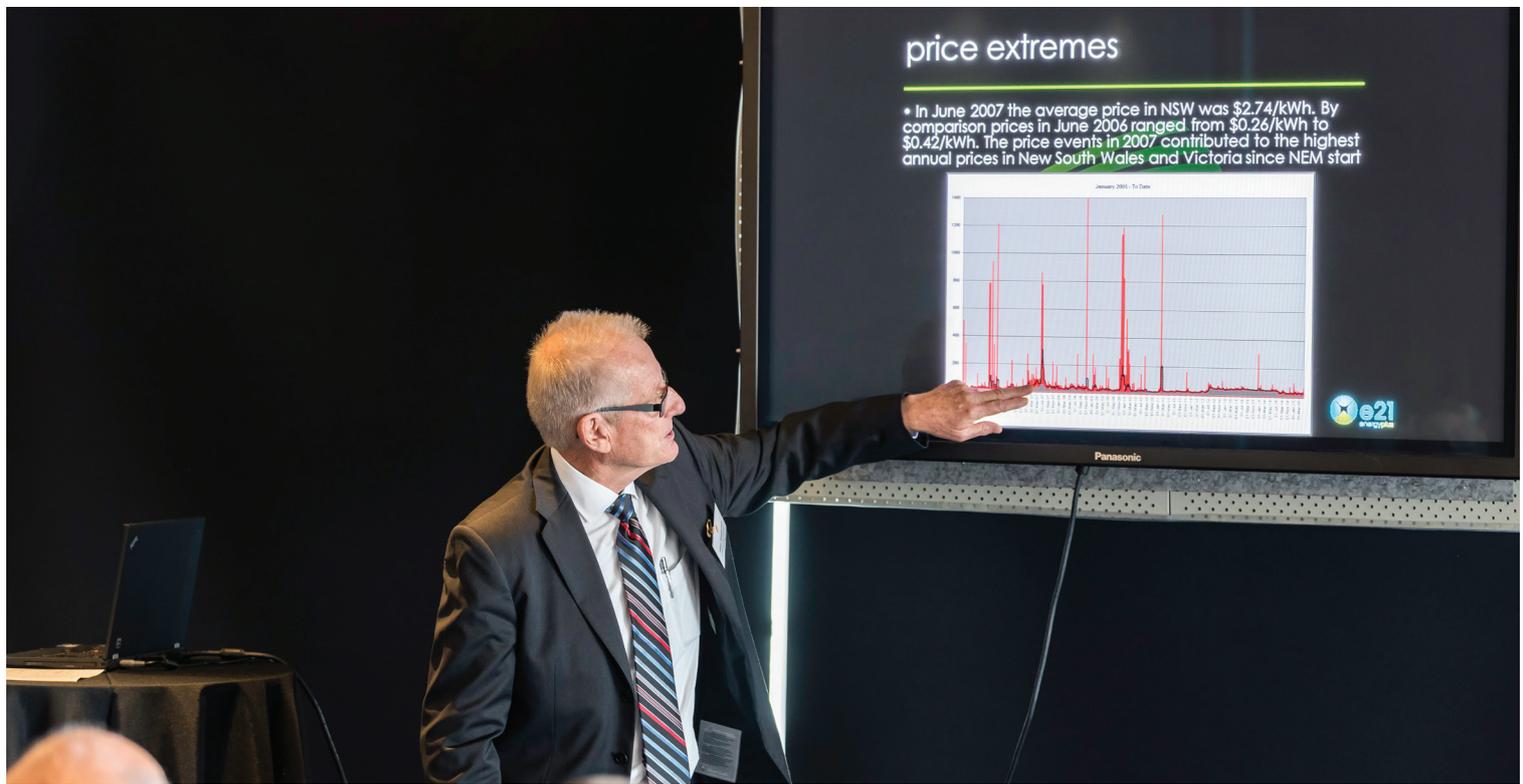
In addition to the individual business achievements, we have also seen a series of clusters develop in different sectors of the Hunter region in response to positive feedback about the program, and 'paying it forward' to fellow industry colleagues.

This development of sector-specific clusters has allowed for the tailoring of energy efficiency information and advice, promotion of successful outcomes and targeted case studies that can be shared amongst the participants. This was highlighted through a wine industry specific workshop, where a business participant shared a case study of their sustainability achievements with industry peers, encouraging them to follow suit and reap the

benefits they have realised through their projects. In addition to sector-specific clusters, there has also been an uptake of the program across a large geographical area, which includes all the local government areas of the Hunter region.

In every business that has participated in Energy Hunter, there is now a champion from each part of the Hunter's diverse and widespread region, sharing what they have learned and supporting their industry peers to undertake their own energy efficiency initiatives.

The Living Laboratory team is extremely pleased to acknowledge that through this network of champions it is anticipated the Energy Hunter program, its resources and initiatives will ultimately reach and influence at least 1,500 businesses to be more energy efficient over the duration of the program.



## Business-to-Business Mentoring

Through the past two years the Business Mentoring Program worked with project participants, as well as businesses outside of the Energy Hunter project, to provide further expertise and support to individuals in the community looking to make their business more efficient.

A variety of workshop formats were utilised with the goals of both educating businesses as well as assisting participants in taking the next step in implementing efficiency projects within their business.

There have been 10 workshops delivered under the Business-to-Business component of the Energy Hunter program. The workshop schedule commenced in April 2013 and workshops were delivered up until the final workshop session on 27 May 2015.

This final event included four separate workshops on lighting, solar, understanding electricity bills and building a business case for efficiency projects.

### Mentoring Workshops

#### Attendance

The Business Mentoring program held 7 formal workshops, with 3 sessions being dedicated to days of advanced one-on-one sessions between individual participants and lighting expert Julien Freed. The goal of these one-on-one sessions was to create project plans for lighting upgrades which could then be used to promote the benefits of efficiency further to participants. For the 7 formal workshop sessions, attendance was 175 individuals, representing an average attendance of 25.

### Changing Formats in 2014

During 2014 a different format was used for some workshops, due to the changing requirements of participants. The traditional format workshops included expert presentations on lighting, behaviour change, and accessing the energy smart resources produced in the Mass Learning component. The team felt that it would be beneficial to offer further in-depth sessions on Lighting with a view to assisting participants to complete a lighting upgrade at their premises.

With this in mind, the participants who had attended previous lighting workshops or had expressed interest in undertaking a lighting upgrade were invited to express their interest in receiving further assistance from the team with external consultation from lighting expert Julien Freed.

In total, eleven businesses took part in the sessions, which included an hour long meeting with the team and Julien to review photos and floor plans of each business, followed by individual site visits and finally a design brief and tender request document to be used when liaising with suppliers.

The goal of this process was to provide a template which participants could circulate to a number of suppliers requesting all the relevant data for their upgrade. The template provided participants with the ability to make an informed decision by comparing the same data and cost points across quotes rather than having multiple quotes providing differing information.

The feedback from this process was incredibly positive, with many participants indicating that they otherwise would have been unlikely to commit to an upgrade.

# Mass Learning

## Electro-Competency training overview

The Mass Learning Component provided educational resources to participants within the Energy Hunter Project, as well as one-on-one assistance from an electrotechnology specialist through site visits and workshop access.

Successful achievement of the Mass Learning component is demonstrated in the range of businesses that have accessed electrotechnology expertise to date on the Energy Hunter project, including participants from the following business sectors:

- Manufacturing
- Engineering
- Refrigeration
- Electrical
- Mechanical
- Information technology
- Building and construction
- Building and construction
- Wine making
- Retail
- Financial services
- Property and asset maintenance
- Hospitality.

A number of participating businesses directly and/or indirectly employ electrical trades such as electrical contractors, engineering firms and telecommunications companies.

In addition, electrotechnologists have provided information and briefings as follows:

- In partnership with Master Electricians Australia (MEA), promoted Energy Hunter, the mass learning resources and workshops to MEA members online, at local industry events and in MEA newsletters
- Provided on-hand support at the largest electrical trades expo in Newcastle, Electrical Traders, in July 2014.
- To Hunter TAFE electrical apprentice classes, throughout 2013 and 2014

## Reduced energy consumption

- Approx. 80% of businesses report they are using less electricity since joining the program
- More than \$1.1 Million in energy costs to date have been saved across participating businesses
- Electrotechnologist advice on practical, low cost maintenance, upgrades and/or behavioural changes was able to be acted on quickly and often at low (or no) cost to the business

## Adoption of energy efficient practices in business

- All businesses surveyed rated the free electricity monitoring system as useful for their business
- Improved maintenance regimes at business sites have been put in place, with many participants also undertaking upgrades such as energy efficient lighting
- Some participants altered their hours of operation in order to maximize the benefits of “time of use” metering
- Some participants ceased use of inefficient equipment (such as continuous boiling water units in lunch rooms) in favour of lower cost options (such as an on demand jug)
- Electrotechnologist installed switchboard monitors to provide business owners with a visual representation of their energy use and advised decision makers on options for behavioural changes to reduce their costs and energy usage

## Improved knowledge of energy efficiency benefits in electrical trades

- 98% of surveyed businesses said the one-on-one support from the Energy Hunter team was useful for their business
- Improved understanding by key business stakeholders of the equipment, technology and benefits of energy efficient equipment and practices
- Electrical contractors were equipped with knowledge to facilitate their advice, installation and servicing of energy efficient lighting, metering and other products for their client base, including an understanding of the concept of return on investment and how to convey that to customers.

# ENERGY HUNTER RESULTS AT A GLANCE



**350**  
BUSINESSES  
NUMBER OF  
PARTICIPANTS  
IN PROGRAM

EQUIVALENT  
OF TAKING  
**813 CARS**  
OFF THE ROAD



**3400t**  
ANNUAL  
REDUCTION



**4.0M**  
KILOWATT  
HOURS  
REDUCTION  
IN ANNUAL  
ELECTRICITY  
CONSUMPTION

EQUIVALENT  
ANNUAL  
ELECTRICITY  
CONSUMPTION OF



**\$1.1M**  
SAVINGS  
**SAVINGS  
MADE ACROSS  
PROGRAM**

## Resources Produced

### How-To Guides

As part of the project deliverables, the Mass Learning team produced a range of How-To Guides designed to help businesses educate themselves further on energy efficiency.

Topics Included:

- Variable Speed Drives
- Unbundled Bills
- Bundled Bills
- Refrigeration
- Power Factor
- Lighting
- Hot Water Systems
- Heating and Cooling
- Electricity Monitoring
- Commercial Photovoltaic

### Video Resources

The team also produced a number of videos throughout the project, ranging from success stories and video journeys to additional 'guide' style videos explaining different technologies.

These videos included:

- Installing Smart Meters
- Living Laboratory Workshops
- Being an Energy Smart Business
- Refrigeration and Air Conditioning
- Understanding Your Bill
- Testimonials
- Participant Case Study - Ultrafloor
- Participant Case Study - Newcastle University Sport
- Participant Case Study - Compass Housing

# Lessons Learnt

## Improvement to Delivery

To improve the Energy Hunter program facilitation and delivery, the program participant and monitoring database has been significantly improved. This comprehensive database now tracks business details, electricity use, electricity contract data, tariff information and consumption reduction patterns.

The database provides easy access to participant information which is essential for monitoring the progress of businesses and providing benchmarks for future analysis of sectoral energy usage reduction across different sectors.

As the program grew, a key challenge experienced was the difficulty contacting businesses that were less engaged than other participants and how to secure information from them in order to provide ongoing support. This information has ranged from receiving electricity bills through to arranging site visits and providing energy efficiency advice and education.

## Scope Reduction

The large number of participants in the program was achieved through a strong focus on recruitment. This required more resourcing than originally anticipated and it was found that although businesses may initially be interested in joining the program, time constraints and other business priorities prevent some businesses from following through.

Due to the time constraint of project officers in providing an adequate level of support to each business it was felt that more valuable program outcomes would be achieved by focusing more time and attention on energy efficiency education for the current business participants.

It was also noted from the current outcomes for participants, a minimum of 12 months engagement is often required for businesses to make lasting and observable reductions in their electricity consumption.

With the Energy Hunter program scheduled to finish by May 2015, there was a definite risk of experiencing diminishing returns for businesses signed up with less than 12 months available in the program.

In September 2014, the program scope was broadened to include providing support to businesses to plan, implement and complete their energy efficiency projects and to deliver education to businesses about the range of upgrade finance options available to undertake these projects.

This was executed through a series of workshops that incorporated a post workshop support component that provided businesses with up to 15 hours support to plan and execute energy efficiency projects.

As the number of businesses involved in the program increased, it was essential to offer more workshops in a variety of locations and at different times of the day.

The challenge experienced in 2014 was focused on how to provide workshops that accommodate both 'new starters' and people who have been involved in the Energy Hunter program for a period of time. This was achieved by delivering workshops with a range of topics to meet each group's level of knowledge, at a range of venues across the Hunter region.

## Technical difficulties for installations

The majority of Living Laboratory installations of monitoring equipment occurred trouble-free, but from time to time issues have arisen. Some of the issues to date have included:

- The meter box was located too far away from a power point and the signal from the transmitter was too weak to send data to the display unit
- The transmitter device that is installed inside the meter box can become dislodged, causing the signal to be lost
- Clamps not being fully 'pinched' around the correct phase within the meter box which can lead to inaccurate data being collected by the display
- Only one clamp being connected to a monitor when the power is three phase, and requires three separate clamps.

The Energy Hunter team at The City of Newcastle worked closely with Ausgrid and the installing technicians to limit or completely remove these occurrences. This was achieved by:

- Implementing further training and instruction to technicians to ensure a signal was transmitting before leaving the install site
- Fastening the transmitter with screws to prevent it falling off
- Ensuring careful attention is paid to the attachment of CT clamps around the meter cables.

## Conclusion

Programs that assist businesses with energy efficiency information and support have grown greatly in the past few years. Much of the development in this area has been government led, at both federal and state level. Complementing this is a broad cross section of industry associations and related organisations that have been highly proactive. They have seized the opportunity to leverage government grants and deliver worthwhile programs to many different industry sectors.

Many of the EEIG programs that were offered over the past two years have now come to an end due to the completion of grant funding and broader policy direction changes by the Australian Government. However, there will still be an ongoing need for this type of program as energy efficiency awareness continues to increase in the community and in businesses.

## Technical Difficulties with Online Systems

Since the last program report, there have been several issues encountered with the Enerati system that has resulted in a shift away from providing this service. The system was down and inaccessible for an extended period of time with an indication that the American based service was no longer in operation. The site has since come back online but there have been a number of issues encountered when connecting new sites. While it is still a very valuable tool when working correctly and existing businesses can still access information, a clear preference is now the reliability and ease of set up of the WebGraphs system.

The Energy Hunter program is one example of a successful program that offered tangible results to businesses and it has certainly had a successful multiplier effect. Yet, as this paper demonstrates, this particular program understandably made a number of changes as it evolved over time in order to ensure a successful result.

There are real and exciting energy savings to be made if the right type of information and assistance is delivered to the right audience.

Benchmarking the successes and learnings from the current round of programs will be critical to ensure value and relevance for participants. Equally, this information will provide important information and an appropriate framework for the delivery of these programs.

## RECOMMENDATIONS

- The range of energy efficiency programs should be independently and thoroughly analysed. A comprehensive benchmarking exercise should occur to determine best practice and offer solutions for the next generation of support programs.
- A consistent methodology for review of the achievements/success of energy efficiency programs be developed including; measurable objectives, key performance indicators and return on investment.
- The Energy Hunter Program to be reviewed in detail to gain a stronger understanding of the value and challenges of collaboration to deliver energy efficiency programs to SMEs.



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