

THE PLUS FACTOR GREENHOUSE CHALLENGE PLUS ISSUE 08 WINTER 08



Welcome to the 2008 winter edition of

The Plus Factor.



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The role of Greenhouse Challenge Plus in helping businesses understand their emissions has become more important since the introduction of the National Greenhouse and Energy Reporting System in July.

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In July and August we held information sessions across the country. We spoke with many members and businesses assisting them with their enquiries in relation to mandatory reporting and a future carbon pollution reduction scheme. We also provided information on simple ways to reduce greenhouse gas emissions.

This edition profiles some of the recent achievements of our members such as Ferguson Plarre Bakehouses and NSW Sugar Milling Co-operative.

Ferguson Plarre Bakehouses was recently named as a finalist in the Banksia Environmental Awards for the many ways the company has found to reduce its impacts. These include the use of solar hot water, rain water tanks and the sustainable design of their new bakehouse.

In conjunction with Delta Electricity, NSW Sugar Milling Co-operative operates two cogeneration plants as 'Sunshine Electricity'. These two plants produce enough fuel to operate the sugar mills as well as export around 26 megawatts of electricity back into the state grid each year.

For more information on the work of these companies and others, read the articles in this edition – they may provide you with the extra inspiration you need to achieve further success.

The Greenhouse Challenge Plus team continues to evolve to meet the needs of our members. We wish to welcome Tamara Russell, Lynise Witherden, Tom Barry and Shandelle Appleyard to our team. They have quickly adapted to Greenhouse Challenge Plus and are making a valuable contribution. All industry advisors are available to answer questions about the program and ways to reduce your emissions.

From 1 July 2008 the National Greenhouse and Energy Reporting System began accepting registrations in preparation for the first reporting period. This national system requires eligible businesses to report greenhouse gas emissions, abatement actions and energy consumption and production. For more information on the NGER system, see their article on page 5.

Greenhouse Challenge Plus congratulates all our members on their success over the years. Your level of innovation and commitment provides many opportunities for you to benefit financially as well as reducing your impact on the environment.

We particularly enjoyed meeting many of you at the information sessions. Your energy and imagination are an example to the rest of the business community.

TENHO DE LA CONTRACTION DE LA

Ferguson Plarre Bakehouses finalist in Banksia environmental awards

Ferguson Plarre Bakehouses is one of four national businesses named as finalists in the 2008 Banksia Environmental Awards.

The awards were announced on Friday 18 July at the Melbourne Convention and Exhibition Centre.

Ferguson Plarre Bakehouses, one of Victoria's largest cake makers, is a family company and has been a Melbourne institution for more than a century. The company has been nominated



"Ralph & Steve Plarre at a Gleenfleet planting".

"We've always been proud members of Greenhouse Challenge Plus."

for the environmental sustainability measures it adopted in building its new bakehouse at Keilor Park.

Administration Manager Steven Plarre said, 'Being a member of Greenhouse Challenge Plus was an important catalyst for us in our journey to building a cleaner, greener bakery.

'We've always been proud members of Greenhouse Challenge Plus. Every year we attempted to reduce our emissions but found it difficult in the 40-year-old bakery where there was very little we could do to improve sustainability in a major way due to the structural limitations. After eight years of trying to get our emissions down we had the opportunity to start from scratch when designing our new bakery. The thought processes that we'd engaged while being a Greenhouse Challenge Plus member were instrumental in guiding us towards a sustainable future.'

The new bakehouse has many environmentally friendly features:

 The heat recovered from freshly baked products (using exhaust fans and special cooling tunnels) is used to heat the main production area in winter or when required.

- Hot water for cake production (approx 8,000 litres each day) is generated by heat exchangers using a heat recovery system attached to the refrigeration plant.
- Rainwater is used for toilet flushing.
- Solar heated hot water is used in the office
- A highly efficient climate control system in the production areas uses 'outside air optimisation' to reduce power consumption.
- A fully integrated SCADA energy monitoring system monitors all consumption of electricity, gas and water and all CO2 emissions.
- 100,000 litre capacity rainwater tanks provide water for irrigation and vehicle washing.

In July last year Ferguson Plarre Bakehouses also became the first business in Victoria to purchase a Hino Hybrid Electric Diesel delivery van.

For more information phone Ralph Plarre on (03) 9336 3200



Biogas plant way of the future for meat processors

Burrangong Meat Processors'(BMP) new biogas capture and cogeneration plant reuses meat processing waste to reduce coal-fired electricity and natural gas consumption.

BMP is based at Young in rural NSW. It supplies quality mutton and beef products to export markets and the Australian domestic market. BMP's new biogas cogeneration plant uses renewable methane from its own waste water treatment ponds in a first for the meat industry in Australia. BMP aims to be carbon neutral, and this project is a significant step towards that goal.

Meat processing operations generate waste water with a relatively high organic content, which is treated through a series of ponds. As the organic content breaks down under anaerobic, or oxygenfree, conditions it is converted into methane, which is then lost from the ponds as a gas. This can have a significant greenhouse impact, as methane has 21 times the global warming potential of carbon dioxide. It also represents a loss of useful recyclable energy.

BMP has installed covers on its anaerobic ponds to capture the gases generated from



"Burragong Power Plant".



"Burragong Meat Processor's power plant".

"Once the methane has been treated, it can then be used to power a gas engine."

its waste water treatment ponds. Although the gases are mainly methane, they also contain trace amounts of other gases such as sulphur which can be very corrosive if oxidised. The gas captured from the anaerobic ponds is therefore treated to remove these contaminants.

Once the methane has been treated, it can then be used to power a gas engine. BMP has installed two 0.8 megawatt Perkins reciprocating gas engines. The electricity generated by these engines is consumed within the meat processing plant, and waste heat from the engines is recovered to produce hot water. Meat processing plants use a lot of hot water for cleaning and sterilising, so recovering the waste heat helps reduce the amount of natural gas consumed in the processing plant's boilers.

BMP secured a \$700,000 grant from the NSW Government through the Energy Saving Fund to make this project economically viable, and the biogas plant is expected to be fully operational in August 2008. BMP expects the plant to substantially reduce its greenhouse gas emissions.



Greenhouse and energy reporting legislation began on 1 July 2008

The first reporting year for the Australian Government's National Greenhouse and Energy Reporting Act 2007 began on 1 July 2008.

The Act requires corporations which meet emissions and energy thresholds to report their greenhouse gas emissions and their energy use and production to the Australian Government.

Corporations will need to report for the 2008–09 financial year if they:

- emit 125 kilotonnes or more of greenhouse gases (measured in CO2 equivalent) or produce or use 500 terajoules or more of energy each year;
- or control facilities that emit 25
 kilotonnes or more of greenhouse
 gases (measured in CO2 equivalent) or
 produce or use 100 terajoules or more of
 energy each year.

Corporations will need to register for reporting under the Act by 31 August 2009, with their first reports to be provided by 31 October 2009.

An online calculator is available to help corporations determine whether they meet reporting thresholds. This is one of a number of tools that will be available to assist corporations to meet their reporting obligations.

Lower thresholds will be phased in by the 2010–11 reporting year to include corporations that produce less energy and emit less greenhouse gas.

The legislation has been developed following extensive consultation with the business community and other interested parties.

For more information on the reporting system or to access the calculator and other tools go to www.climatechange.gov.au/reporting or contact the Department of Climate Change on 1800 018 831.







Practising what you preach – Energetics now carbon neutral

Energetics is a leading provider of climate change solutions to some of Australia's highest profile companies.

The company aims to lead by example, ensuring that as an organisation it embraces environmentally responsible practices.

With some of Australia's leading thinkers on energy and water efficiency, carbon management and sustainability on its staff, Energetics put together the 'E-Team', a group of employees charged to ensure that Energetics achieved new standards in energy many of whom are passionate environmentalists

– that the company can be in the business of
consulting on environmental outcomes for business
and also do the right thing itself.

With over 100 employees in the company's offices in Sydney, Melbourne, Brisbane, Canberra and Perth, the work of the Energetics E-team has had multiple benefits. For example, Energetics offers life cycle assessment expertise to assist clients to develop carbon neutrality. Seeing the process first-hand means that Energetics staff bring practical experience to advising their office-based clients.

"The benefits of minimising Energetics' carbon footprint ahead of the introduction of an emissions trading scheme continue to drive the Energetics E-team to further innovation."



Led by the E-Team, Energetics achieved carbon neutral status in June 2008.

Verified through the Greenhouse Friendly™ initiative, the company calculated 100 per cent of the greenhouse gas emissions associated with the life cycle of its services.

Energetics will purchase Greenhouse Friendly™ offsets, generated from energy efficiency projects, to compensate for its total carbon footprint. It will also continue to implement internal carbon mitigation projects and to purchase accredited GreenPower to further decrease its carbon footprint.

Chief Executive Officer Tony Cooper said, 'Energetics set out to achieve carbon neutrality 12 months ago as we believe firmly in practising what we preach. There is also the immeasurable value of demonstrating to our own employees –

The benefits of minimising Energetics' carbon footprint ahead of the introduction of an emissions trading scheme continue to drive the Energetics E-Team to further innovation. In the year ahead, the company will be investigating commuting alternatives for employees, rolling out a new procurement policy based on sourcing environmentally responsible products and services, incorporating sustainability objectives into employees' individual key performance indicators, introducing eco-induction procedures and refreshing Energetics' sustainability policy.





More to Greenfleet than

planting trees

Did you know that by making a few changes to the way that we plan and prepare for car journeys and the way we behave behind the wheel we can each achieve fuel emissions and cost savings of around 20 per cent?

This is one of the messages that Sara Gipton, Chief Executive Officer of the Greenfleet not-for-profit organisation, wants to get across to her clients. Ms Gipton says, 'Greenfleet is best known for its native reforestation program which sequesters carbon from the atmosphere, but for us planting trees is the final stage in a process that begins with avoiding and reducing emissions wherever possible.

'We want to make a big splash about how simple it can be to make a difference to your

Greenfleet's market assessment also highlighted that value of official accreditation. Individuals and organisations are increasingly seeking environmental partners who can demonstrate that their products meet standards such as those defined under Greenhouse Friendly $^{\text{TM}}$.

Early in 2008 Greenfleet became the first not-for-profit forestry organisation to gain approved Abatement Provider status under Greenhouse Friendly™. Ms Gipton adds, 'While there is great work undertaken outside the various government standards it is understandable that consumers of environmental services want the security that comes from dealing with an accredited operator. I would encourage others in the field to seriously consider making the investment in accreditation.'

"We want to make a big splash about how simple it can be to make a difference to your own or your business"

own or your business' carbon footprint. It's surprising how much can be achieved simply through changes in behaviour. If every motorist in Australia followed some simple guidelines the difference made would be enormous.'

Over the last 18 months Greenfleet has been closely monitoring the requirements of both individuals and organisations seeking to take action against climate change. Greenfleet has found that the level of understanding of environmental issues, at both individual and corporate level, has grown considerably. This has brought about a change in the services clients are requiring from organisations such as Greenfleet that offer climate change solutions.

Greenfleet has therefore broadened its services while remaining true to its not-for-profit ethics. Greenfleet now defines its role as 'working with organisations and individuals to avoid, reduce and offset greenhouse gas emissions', in that order of priority.

To find out more go to www.greenfleet.com.au.

Greenfleet 03 9642 0570 10.03, 365 Little Collins Street, Melbourne 3000 www.greenfleet.com.au



Photograph by Mark Mohell ©DEWHA





Lighting the way to energy savings

Over the past financial year, Australian energyefficient lighting company llum-a-lite saved 5,860 tonnes of CO2 and \$700,000 for new customers including hospitals, councils, universities and businesses across the country.

The savings were made by installing Ilum-a-lite's lighting circuit controller, Light Eco and its T5 adaptor kit, Save-it-Easy.

Ilum-a-lite also contributed to worldwide energy efficiency, with export sales to Asia and Europe making up 40 per cent of the company's Light Eco business.

Business is booming in China, where Ilum-a-lite's joint venture company recently installed more than 100 sets of the Light Eco product in Beijing Airport, resulting in an energy saving of 25.7 per cent, with another 120 sets to be installed by the end of 2008.

Ilum-a-lite's Chief Executive Officer, Mark Rutherford, was recently invited to present at the Energy Efficiency Opportunities expos in Brisbane, Sydney and Adelaide, to explain the savings opportunities available to many of Australia's largest energy consumers.

'We find that organisations from all sectors are interested in our products for different reasons, from general business drivers like saving money, to environmental initiatives to reduce CO2 emissions and more specific concerns,' Mr Rutherford said.

According to Shellharbour Mayor David Hamilton, a lighting efficiency upgrade was an important part of the council's vision, which is firmly focused on sustainability, and was part of council's commitment to preserving the natural beauty of the region.

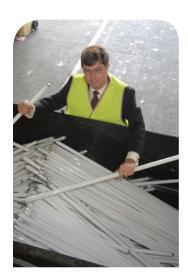
Shellharbour Council will save ratepayers more than \$7,500 per year and reduce greenhouse gas emissions by 57 tonnes per year after installing Save-it-Easy adaptors.

Victoria University prides itself on being on the cutting edge of innovative technology and has installed 10,000 Save-it-Easy adaptor systems.

The university's Environment Project Officer, Rachael Keefe, said the university was concerned to minimise disruption to students and staff caused by the installation, but actually the easy installation process meant there was no impact at all.

Recently, property company Stocklands fitted out their own corporate office with Save-it-Easy, after years of successful use of Ilum-a-lite's Light Eco product.

The compact lighting circuit controller, Light Eco, saved new customers 3,900 tonnes of CO2 and \$500,000 over the last financial year and is poised to exceed these savings in coming years with the new Light Eco Plus being released in August. This smart controller will have all the features of earlier models plus an LCD display to instantly show power savings with the ability to store and download energy performance statistics.



"Mark Rutherford stands behind a skip filled with old T8 lamps."



TIENHOUS S

Just a spoonful of sugar helps the emissions go down

In June this year Sunshine Electricity began operations at two new cogeneration plants at Broadwater and Condong.

Cogeneration is a high-efficiency energy system that produces both electricity and heat for industrial purposes from a single fuel source.

The new plants, the first of their kind in the world, are fuelled primarily by sugar cane waste. They operate as power stations within mills owned by NSW Sugar Milling Cooperative. The plants are a joint venture by the NSW Sugar Milling Cooperative and Delta Electricity to form Sunshine Electricity.

The plants were made viable by NSW Sugar's adoption of whole-crop harvesting and milling of sugar cane – a method that doubles renewable energy output while minimising sugar cane waste.

The NSW Sugar Milling Co-operative, established in 1978, is wholly owned by over 600 sugar cane growers in the Northern Rivers region of NSW. Sugar forms a vital part of the economy and livelihoods in the region, and the sugar industry is keenly aware of the need to take positive action towards environmental sustainability.

NSW Sugar joined Greenhouse Challenge Plus in 2001, as one of the first agriculture-based members. Over the past eight years it has steadily reduced its greenhouse gas emissions, with environmental and productivity benefits. This new venture does more than reduce emissions from sugar production – it makes a substantial contribution to the region's electricity needs.

Bagasse is the residual biomass left after juice is extracted from the harvested sugar cane. Bagasse is used to fuel the boilers at each of NSW Sugar's mills, making the co-operative self-sufficient in energy production.

The two new plants are unique in that extra bagasse will be produced by whole-crop harvesting and milling of sugar cane. As the name implies, the entire unburnt sugar cane crop is harvested and processed, including all leaf matter that previously was burnt before harvest. This doubles the amount of bagasse available as fuel. NSW Sugar estimates that in 2008 over 650,000 tonnes of bagasse will be produced by the two plants, equivalent to over 140,000 tonnes of fuel oil.

The extra fuel will enable the power stations to operate all year round rather than just at harvest time. Of the 30 megawatts of electricity produced at each plant, only four megawatts are used in the sugar mills – 26 megawatts are exported to the state grid, sold as an accredited renewable energy resource through the GreenPower scheme. This is the equivalent of taking 80,000 cars off the road each year.



Condong co-generation plant

Just a spoonful of sugar helps the emissions go down

In the next five years, the co-operative hopes to upgrade Harwood Mill near Grafton to whole-crop milling and cogeneration.

Whole-crop milling has provided some challenges for harvesting and processing, requiring modifications to harvesting, transport and milling machinery. However, NSW Sugar believes these are challenges well worth overcoming with benefits for both the environment and the bottom line.

For more information on the NSW Sugar Milling Co-operative and Sunshine Electricity's new cogeneration plants go to www.nswsugar.com.au or www.sunshineelectricity.com.au.



Sugarcane crop, NSW



Postcard from the

Observatory Hotel, Sydney

Situated in the heart of Sydney's historic Rocks district is the timelessly elegant Observatory Hotel.

This luxurious Orient-Express property has a well-deserved international reputation for comfort, fine cuisine and impeccable service.

While the hotel's ambience is reminiscent of a grand 19th century Australian home, the hotel has an energy management program in place that is totally 21st century.

The hotel joined Greenhouse Challenge Plus in 2000 and is fully committed to environmentally sustainable practices. Chief Engineer Mr Janusz Zaklikowski says, 'With the world community focused on protecting the environment, the greenhouse issue is generally acknowledged as having major ramifications for future generations. Energy efficiency can no longer be thought of as just a highly desirable practice, it is an absolute necessity. And operating a hotel in an environmentally sound way is more than just socially responsible – it is good business practice.'

Two years ago hotel management decided to assess the property and select projects that could improve the building's thermal or electrical efficiency. Staff at all levels were involved, recognising that the fundamental principle of any energy efficiency program is an appreciation by all levels of management, in all departments, that energy conservation is an integral part of everyone's daily responsibilities.

Management identified the large energy consumption areas in the hotel:

- the heating, cooling and ventilation plant
- water cooling
- natural gas boilers
- space heating
- hot water

- kitchen and bakery
- laundry
- lighting.

The priority was to inspect the physical state of the mechanical plant and bring it up to date where necessary. The hotel fine-tuned automatic systems including upgrading the building management system to improve its efficiency and reliability, upgraded equipment where necessary including installing two new oil-free centrifugal Turbocor compressors and retrofitted new lighting technology which complements the hotel's ambience and at the same time is energy efficient.

Mr Zaklikowski reports that electricity usage dropped 2.6 per cent from June 2000 to June 2007 (a reduction of 97 tonnes of CO2.) By June 2008 there had been a further 7 per cent reduction (approximately 271 tonnes of CO2).

This has been achieved without compromising the hotel's five star service.



"Observatory Hotel Pool"



STENHOUSE STENES

Ad agency says

'Watch this space'

One year after joining Greenhouse Challenge Plus, Melbourne advertising agency O'Keefe Murphy Gaff says that signing up for the challenge was a great decision.

> Just over 12 months ago O'Keefe Murphy Gaff decided to reposition the agency around sustainability. At a staff meeting it was agreed that if the agency were to adopt such a position it would need to change its behaviour regarding environmental, social and economic criteria.

Managing Director Mr Michael O'Keefe said, 'The first step was to get staff on board; the second was to gain an accreditation which guided us and gave us a process to measure our performance.'

What has the agency achieved in 12 months? Mr O'Keefe summarises its achievements:

We were the first and so far the only advertising agency to join Greenhouse Challenge Plus.

We have processes in place to reduce energy consumption.

We have created new products around sustainability.

FACT: GLUE is a new product we have designed to assist large businesses to identify their employees' values and attitudes around sustainability and to see if they are aligned with the corporate vision.



"O'Keefe Murphy Gaff booklet – Green is good, SustainAbility is better"

"Greenhouse Challenge Plus has helped us to innovate, change our behaviour towards energy consumption and to grow our business."

FACT: We have reduced our energy consumption by 46 per cent while maintaining staff levels

FACT: Staff have made changes to their personal behaviour.

FACT: We produced Green is good SustainAbility is better, a booklet to help our clients.

FACT: We promote Greenhouse Challenge Plus in all of our presentations.

FACT: Two businesses are in the process of joining Greenhouse Challenge Plus as a result of our presentations.

Ad agency says

'Watch this space'

In conjunction with environmental and engineering consultancy URS we developed a training and communications strategy to align values, attitudes and behaviour with the corporate view. Our first client for this product was packaging and recycling firm VISY and we are about to commence work with stationery manufacturer Paperlinx Office.

We have attracted new clients and partners who share our philosophy.

FACT: Greenhouse Challenge Plus has given us focus and a marketing tool to gain new clients and partners. New clients are credit union MECU, VISY and URS and we have gained additional business from Australian Paper and Epworth Healthcare.

FACT: We are about to commence a project with Monash University, URS and meat processor Midfield Group that requires engineering, finance and marketing expertise to turn an environmental problem into a high value consumer product with mass appeal.

Mr O'Keefe sums up, 'Greenhouse Challenge Plus has helped us to innovate, change our behaviour towards energy consumption and to grow our business.

'Watch this space for more.'



SEEN HOUSE

Western Water pumps up effort to reduce emissions

Providing water generally uses large quantities of electricity. Pumps are the major contributors to high electricity use, making water businesses one of the biggest consumers of electricity in Victoria.

In 2004–05 Western Water, servicing Sunbury, Melton, Bacchus Marsh and the Macedon Ranges, produced more than 30,000 tonnes of carbon emissions, equivalent to pollution from 6,925 cars. This is a statistic Western Water plans to change by becoming carbon neutral by 2017.

The strategy involves achievable projects that will have a real impact on reducing emissions.

The principles of the strategy are:

Avoid emissions

Western Water gives priority to avoiding emissions in the first place.

For example, by adapting the route of pipelines, two pump stations will be decommissioned in favour of gravity sewer systems.

Western Water has put in place a greenhouse reduction strategy that has enabled the business to reduce its emissions by 15 per cent in the first year.

Managing Director John Wilkinson says, 'By purchasing carbon offsets and GreenPower at \$1 million per annum, we could be carbon neutral now. But apart from the unsustainable cost, this wouldn't address the ongoing emissions produced by the business.'

Western Water has begun examining all aspects of its business to determine where greenhouse gas reductions can be made.

'Climate change challenges our business with prolonged drought conditions, forcing us to pump water from other sources, sometimes over long distances,' Mr Wilkinson said.

'This has made us recognise the impact our business has on global warming and how we need practices that will not only reduce our carbon footprint but lead our community in sustainable practices.'

Western Water has put in place a greenhouse reduction strategy that has enabled the business to reduce its emissions by 15 per cent in the first year.



"Western Water staff develop their Greenhouse Reduction Strategy" Photo courtesy of Now for Future Pty Ltd.

Use renewable energy

Where possible Western Water uses renewable energy, for example solar powered aerators for lagoon basins and solar panels for gates and flow meters.

Western Water pumps up effort

to reduce emissions

Reduce emissions

Water businesses are traditionally high water users. By adopting new practices and using recycled water, Western Water has reduced the use of drinking water in its operations by 51 per cent in one year. It has also reduced emissions by increasing pump station efficiencies and making changes in the office such as installing skylights, more efficient office heating and sensor lights. Western Water will shortly be adding a hybrid car to its fleet.

Recover waste energy

Western Water uses sewage biogas to create heat for anaerobic digestion, killing germs. The process produces 'biosolids' that are used in soil conditioner and compost.

Use sequestration and abatement schemes

Head office and 66 smaller pump sites now use GreenPower. Western Water also keeps a tree planting database to capture the carbon offset benefits of its tree planting.

Western Water has made a good start towards achieving carbon neutrality by 2017, but as Mr Wilkinson says, the challenge now remains to keep on target in the face of continuing drought and a growing population.





SLENHOUS CHILLINGE T

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