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ECO News

ECOsystems turn 10 !

And celebrates in style with a party at the James Cook Hotel.

We can hardly believe how fast the years have flown by. What started in 1995 in Frans' house with little more than a vision of working in partnership with clients to help save energy and the environment, has grown and developed over the years. 10 years on we have 3 divisions, a number of energy efficient products and systems, and many many projects under our belts, as well as 4 national energy wise awards. We have moved twice as we have grown – just as well as we wouldn't all fit in Frans' house anymore!

However what is important is that we have stayed true to our original vision of saving energy and the environment. Our 10th birthday celebrations were a chance for us to celebrate our successes, pay tribute to our staff, and say thanks to some of our very loyal clients – some of whom have been with us since the very beginning.

About 60 guests joined us for drinks and nibbles at the James Cook Hotel Grand Chancellor. Guest Speaker, Heather Staley, CEO of the Energy Efficiency and Conservation Authority, spoke to us about the national energy efficiency strategy, which aims to reduce energy consumption by 20%. Following this, Scott presented a case study in which we reduced kWh by 25% in a recent energy efficiency upgrade of a new multi-storey commercial building. The formal part of the evening finished with an interesting live demonstration of C-Bus and a chance for our guests to have some hands-on experience. Let's just say everyone got used to the constant dimming and brightening of the lights throughout the evening! We would like to acknowledge the support of Clipsal who sponsored the celebrations.



Our guests enjoy the hospitality at our 10th birthday celebrations



Guest Speaker Heather Staley



Director Scott cuts the cake



Light levels on our displays changed throughout the evening as guests played with the C-Bus installed in the room

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ECOsystems Staff

This month we very sadly bid farewell to Helena Bruce who is off to start a new life across the ditch. Helena had been an integral part of our ECO team for a few years and we will miss her.

However we're extremely delighted to welcome Helena's replacement Alison Goddard to the ECO family. We are very pleased to have attracted such a high calibre staff member as Alison.

Alison Goddard

Alison joined ECOsystems in April in the role of Business Support and her responsibilities include stock control, maintenance and administration. Alison has a strong background in PA, marketing support and administration and has worked for a number of companies including Telecom, Housing New Zealand and Haines Recruitment Advertising.

Alison also has a NZQA Certificate in Catering and cooking, an interest she has retained until today. Welcome Alison!



Check out all our staff profiles on the web site: www.eco.co.nz.

Whiteria Polytechnic

Whiteria Polytechnic is undergoing expansion with a new building undergoing construction on their Porirua site. Our C-Bus installation controls all interior and exterior lighting on the new building. The C-Bus system incorporates daylight harvesting for control of the lights during daylight hours. Smart control of the exterior lighting, which interfaces with interior light levels, leads to greater efficiency.



High Praise for Cam from McDonald's Riccarton

We're always pleased when our clients heap praise on the professionalism and efficiency of our staff. This month we received an email from Murray Traill of McDonald's Riccarton who wanted to thank our staff member Cameron Hawkins for his project management of their energy efficient upgrade. We were so delighted with what Murray had to say about Cam we thought we'd share some of it with you:

"...McDonald's is a very busy and dynamic working environment. Our managers have a difficult and stressful job to do and they can be resistant to change and interruptions to their busy schedule. Throughout the entire ECO project Cameron has been professional and courteous. He has communicated effectively and followed through with his promises. I have appreciated his positive and polite attitude towards my people and myself. I'm sure he had his challenges but he was cool under pressure and put the interests and operations of the restaurant first. Thank you."

Well done Cam, for achieving one of our ECO aims – to always delight our clients by exceeding their expectations.

Note: Energy Consumption has dropped by approximately 12% since installing the EAS.

Project Briefs

HIBS

After the development of a new block at Hutt International Boys' School, the years' energy consumption increased dramatically and ECOsystems has been employed to complete an energy audit. We have had discussions with numerous colleges where this has occurred recently. We urge you to speak to us before you finalise any specifications to ensure you don't have the same experience!

Otara McDonald's

The new Otara McDonald's (replacing the existing restaurant) will be started later this year – equipped with our EAS system.

Naenae College

A good example of adding to an existing installation. Naenae College are looking at using C-Bus to control the lighting and heating in upgraded classrooms, interfaced to our existing EAS.

McDonalds Training Centre

Our EAS system now controls all lighting in the facility which encompasses a lecture theatre, dining room and board room.

Peak Oil

About a year ago we had an article about Peak Oil and this is becoming more and more talked about today. There are even regular questions in the house now relating to it, which means the news has got down to the lowest level!!

We define Peak Oil as the point where output cannot keep up with the demand for oil. This does not mean that oil will not be available, but that the price will start rising. When the US invaded Iraq, it was suggested that one of the reasons was to keep the price of oil down. Since the invasion, the price has risen around NZD30.00 per barrel.

Oil companies have not been able to find enough oil to replenish their reserves and world demand, especially in the US, China, Europe, Japan and India is growing enormously. On top of this of course is the political instability in oil producing countries like Venezuela, Nigeria, Angola, Saudi Arabia and Iraq. It all suggests there will be a structural change to pricing oil at a higher level. It seems that OPEC is basically producing as much as it can and there is little potential to lift production.

In addition to all of this, the carbon emissions produced from burning oil is also a major source of global warming. This means regulations to reduce production and burning of oils are also likely in the future. If this scenario turns out to be correct, a major focus will become, 'how do we reduce our dependency on oil'.

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Johnson Controls



ECOsysteMS is excited with the recent announcement that we have been selected as Advanced Building Control Specialists for Johnson Controls. Johnson Controls is one of the oldest names in the building controls industry, having been established in 1885! This year ECOSystems is celebrating 10 years and JCI 120 years!

JCI is a \$27 billion company with an annual turnover of more than \$818 million. The controls group products and services are represented in over 45 countries with 10 manufacturing plants and over 35,900 employees. The organisation as a whole has approximately 118,000 employees.

What attracted us to Johnson Controls, over and above its proven history, is their core values of; Integrity, Customer Satisfaction, Our Employees, Improvement and Innovation and Safety and the Environment. We feel these fit in well with our own.

JCI have also won many awards including, more recently:

- Their headquarters in Milwaukee is the first building in the US to become re-certified to Gold status under the LEED rating scheme (an international rating scheme for the energy efficiency and sustainability of buildings).
- In March 2004, became one of 14 companies recognized by the Department of Energy for excellence in promoting energy efficiency technologies.
- 2004 World Environment Centre Gold Medal for International Corporate Achievement in Sustainable Development.
- For five consecutive years, named to *Information Week's* list of the 500 most innovative information technology organizations.
- Named 'Best Managed Company' for five consecutive years by *Industry Week* magazine.
- 2002 and 2003 "Most Admired Companies" – FORTUNE magazine.

ECOsysteMS can learn a lot from this organization and looks forward to a long and successful relationship.

Spot Prices

Spot Price	\$/MWh		
	March-05	February-05	Change
BEN	\$54.42	\$64.97	-\$10.54
HLY	\$67.87	\$78.42	-\$10.54
HAY	\$62.57	\$73.14	-\$10.57
OTA	\$69.60	\$80.16	-\$10.55
SFD	\$64.10	\$74.71	-\$10.60
WKM	\$67.26	\$76.86	-\$9.60
National Average	\$64.30	\$74.71	-\$10.40

The national average monthly spot price was \$64.30/MWh (6.43c/kWh) in March, a decrease of \$10.40 from last month (\$74.71/MWh).

Intriguing New Energy Source

In the U.K., the Guardian newspaper recently had an interesting article about methane hydrates as a new energy source. More than a mile below the surface of the Gulf of Mexico, locked in mysterious crystals, the sediment beneath the seabed holds enough natural gas to fuel America's energy guzzling society for decades according to the article by their science correspondent.

Methane hydrates are evidently a weird combination of gas and water produced in the crushing pressures deep within the earth. 'Literally, ice that burns'. The head of the US Department of Energy's hydrate program, believes commercially viable production is definitely viable within a decade.

A drilling vessel will spend a month in the Gulf of Mexico and bore down to two of the largest expected methane hydrate deposits in the region. Scientists will collect samples and work out how the Methane might be transported to the surface.

This is a very difficult operation as in some deposits the crystals occur in thick layers while in others they are in small nuggets. If one hydrate reservoir is punctured, the giant release of gas can disrupt drilling or pierce another reservoir. Getting the Methane out is evidently like 'sucking porridge through a straw'.

The other potential stumbling blocks include; potential widespread destabilisation of the seabed and damage to the ecosystem and Methane is a far more potent greenhouse gas than CO₂ so it would increase global warming.

MoED Building

In our last newsletter we profiled our project on the MoED building, which is progressing floor by floor. The lighting control system in the 12 storey building incorporates daylight harvesting and zone switching controlled via schedules and motion detection. The end result is a fully integrated control system that makes it virtually impossible for any unused lighting to be left on. The client has a real commitment to energy efficiency and ECOsystems has appreciated working with MoED and their consultants URS on this project.

New Zealand's Latest Energy Data

The April report by the Ministry of Economic Development shows:

- Total primary energy supply in the year to September 2004 was relatively unchanged at around 736 petajoules (including imports of oil and oil products).
- New Zealand's total oil consumption increased by 2.7% and diesel increased by 3.3%.
- Total premium and regular petrol consumption increased by 4.4%.
- Coal production decreased by 4% to around 5.0 million tonnes.
- Total electricity generation was estimated at 41,500 GWh, which is 4.2% higher than the year before. Significantly lower gas based generation was offset by higher hydro and coal generation.
- New Zealand gas production declined by 22% to around 150PJ. Of this 64% came from Maui. About 31% was used for petrochemical production, 41% for electricity generation and 28% for industrial, commercial and domestic purposes.
- Gas used for electricity generation was 60PJ (about 33%) lower than for the previous year following reduced availability from the Maui field.

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As with electricity, one of the best ways to reduce our dependency is energy efficiency; to drive fewer miles, use more energy efficient vehicles like the Toyota and Honda hybrids or use the new fuel efficient diesels which now come with improved filters to filter out harmful particles. Increased use of public transport is another positive step we can

March 2005 Water Storage and Inflows

National inflows averaged 66.3GWh/day or **114%** of the historical average. National storage increased by 198GWh over the month to 3,374GWh (**76%** full and **113%** of the historical average for this time of year). Currently New Zealand has a good supply of storage in the lakes going into the winter which should keep spot prices down.

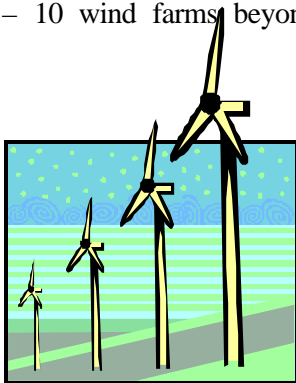


Wind Energy in New Zealand

New Zealand's electricity is predominantly produced by hydro, which allows energy to be easily stored (as long as there is plenty of water). This means Wind can be integrated quite well. Wind can provide electricity while the wind is blowing, allowing the hydro to be stored in the lakes for use when the wind electricity is not available.

New Zealand currently has around 170MW of wind generation or nearly 2% of New Zealand's installed generation capacity. Planned projects are expected to double this to 400MW or 4% of New Zealand's generation by the end of 2006.

In countries such as Denmark, Germany and Spain wind already makes up between 13 and 33% of total generation capacity. It is realistic for New Zealand to handle 10 – 15% of generation from wind. This would allow for another 600MW or 5 – 10 wind farms beyond 2006.



Home Ideas Centre – New C-Bus Stand

ECOsystems now have a fabulous new stand at the Home Ideas Centre in Petone, Wellington. Located opposite the Clipsal stand, the new ECOsystems display showcases home automation using the Clipsal range of products. With the market interest in home automation increasing all the time, we are pleased to be able to showcase our systems as both innovative and efficient.

ECOsystems are the only approved Clipsal system integrators in New Zealand.

Check out the benefits of a smart home and pop across to the Clipsal stand to see the range of switches available.



Carbon Tax

As part of the governments Kyoto response it has proposed a carbon tax capped at \$25 per tonne of CO₂. This should create an incentive to reduce emissions and will affect the price of goods and services that produce emissions. Infratil recently also showed a table of the price impact of a carbon tax of \$15.00 per tonne as follows.

- 3.5 cents increase per litre of petrol
- 0.9 cents per unit of electricity from coal
- 0.5 cents per unit of electricity from gas
- \$31 per tonne of coal
- \$7 per tonne of cement
- \$30 per tonne of steel (New Zealand manufactured)
- \$24 per tonne of aluminium made in New Zealand.

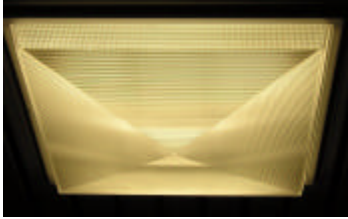
ECOsystems is proud to be associated with the following companies, working together to save energy and the environment.



ECO Light Fittings

ECO 2F2E 300 & 600 Range

The surface mounted, recessed or semi recessed, 2F2E fitting offers a high tech appearance and excellent light output. This energy efficient under veranda fitting uses fluorescent PL-L lamp technology.



ECO Power LED

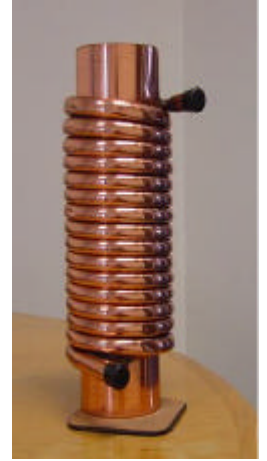
The ECO Power LED has been developed to provide an energy efficient alternative to the dichroic halogens often used to provide sparkle effect or light up displays and artwork. The fitting comes complete with special optics.

The ECO Power LED is **energy efficient** - uses only 3W compared to a traditional halogen using 50W. It has an increased lamp life of up to 100,000 hours compared to 3,000 hours for a traditional halogen. It's simple to install, not sensitive to vibration and has low heat emission.



The ECO GFX

- Saves 50-60% of shower costs
- No moving parts - double walled safety
- Self cleaning
- Use on gas or electricity boilers or cylinders
- Contributes positively to the environment by recovering waste heat and reducing the temperature of waste entering the ecosystem
- Get more hot water from a smaller cylinder or boiler



The ECO GFX is installed in a shower waste (or similar) and transfers the waste heat into the incoming cold water to halve the cost of showers.



New Model
Even Better
Performance!

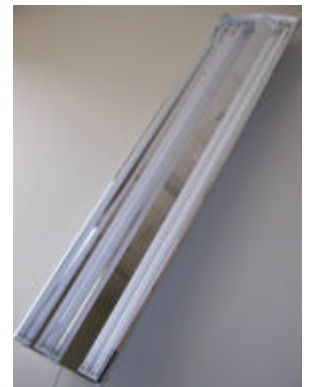
The Quantum Hot Water System

The most efficient way of heating hot water. Technically, the Quantum is a heat pump. The Quantum is ideal for residential homes, hotels / motels, boarding homes and schools, multi-tenanted properties, rest homes, hair salons and many industrial applications.

- The most energy efficient hot water heater.
- Save up to 75 % of the energy used to make hot water.
- A standard 340 litre unit will make up to 1600 litres of hot water a day and 100 litres per hour. A heat pump based system that works in any weather.
- Heats up to 60 degrees C. in all weather.

454-4E Suspended / Surface Mount Light Fitting

The suspended or surface mounted 45E-4E offers excellent light output and a wide distribution for large spaces. The use of 54W T5 fluorescent lamps produces a sleek, efficient luminare with a long lamp life. Suitable for gyms and warehouses with high ceilings.



4E and 5E Range – Energy Savings in Education

This energy efficient range offers a sleek high tech appearance and excellent light output. The fitting is suited for both suspension and surface mount in offices, classrooms and corridors.