

THIRTY/TEN

Western Australian Sustainable
Energy Association (WA SEA) Inc
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TARGETING 30% SUSTAINABLE ENERGY BY 2010

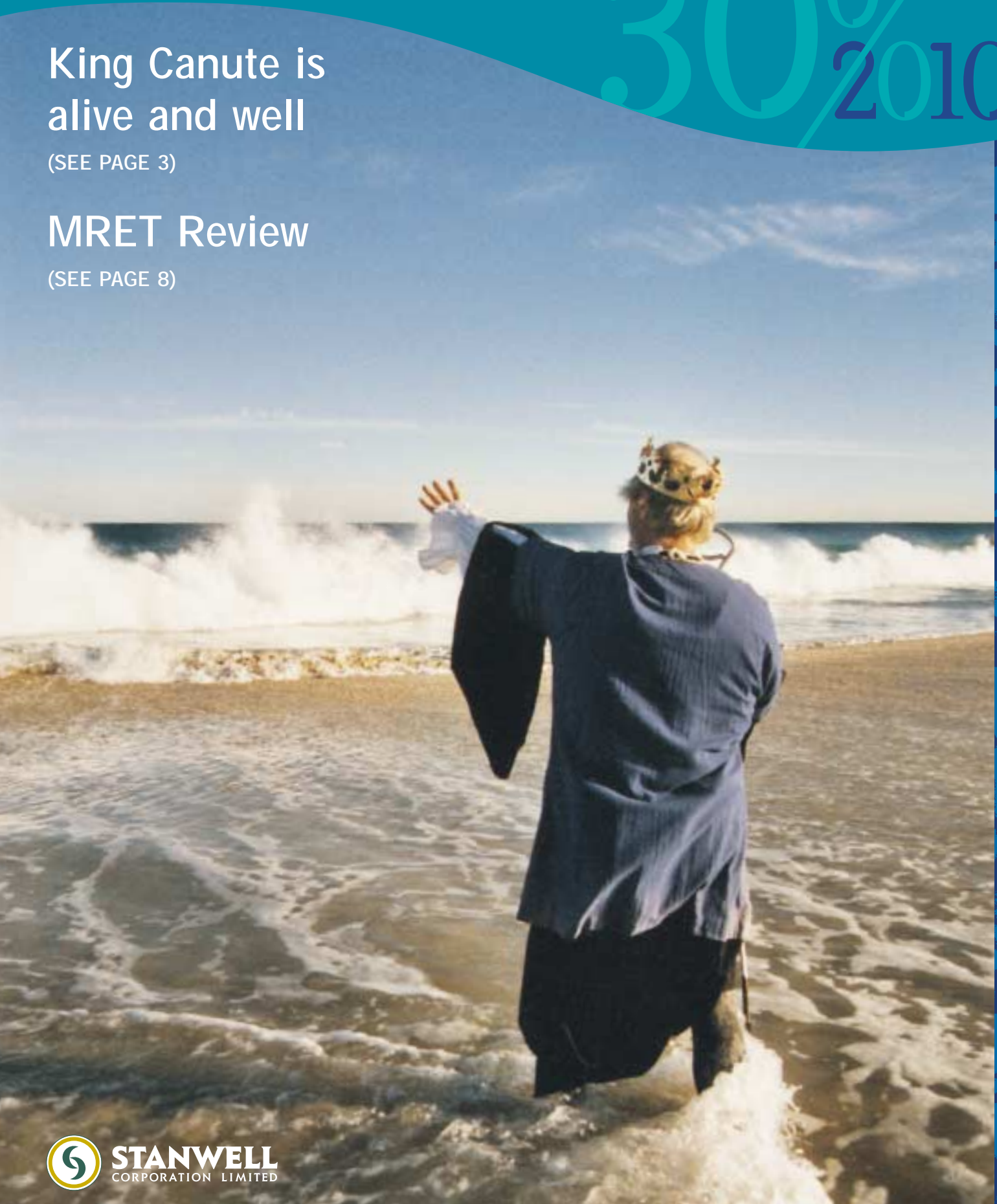
King Canute is alive and well

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MRET Review

(SEE PAGE 8)

30%
2010



'On behalf of the people of Western Australia, the Association will vigorously promote the development and adoption of sustainable energy so that by the end of this decade, 30% of the State's fossil fuel use is displaced by sustainable energy practices.'

Getting Sustainable in Resource Development



In this issue, we look at ways that we as an industry can exercise a responsible stewardship over our resources through sustainable development. In this context, resources are the total means available for economic and political development, and our monthly

Lecture Forums have also picked up this theme - looking at the history to see what lessons can be learnt from past practice, and looking strategically at the current state of play to help us address our current challenges.

In his address to the membership, Jim Kendal - General Manager Strategic Planning Investment Services Division Department of Industry and Resources - focused on the foresight and leadership the State Government used to unlock WA's gas resources during a period of profound uncertainty and potential crisis triggered by the 1973 oil shock which seemed to herald the death of our mineral sector, which was overly reliant on oil for extraction and processing.

Rising to the challenge, the Government of the day underwrote the development of the Northwest Shelf gas project. To do this, WA entered into the world's largest take or pay contract for more gas than it could use; 25% of the gas purchased in the early years had no use. It was fascinating to hear that, before the days of electronic funds transfer; a government employee would walk down St George's Terrace with a \$10 million cheque to the Woodside office - every 10 days for 25 years.

Dr David Harries, Executive Director, Sustainable Energy Development Office gave WA SEA members a few challenges for the present and future with an address that focused on the barriers to developing the State's sustainable energy resources. David's

presentation was refreshingly frank and honest and much appreciated by the audience. He spoke in no uncertain terms about the continuing hard road ahead for our local industry, articulating clearly that the momentum still lies with the fossil fuel industry which won't give ground easily and will act decisively to protect their commercial interests.

What can we learn from these history lessons and future-gazing? The mineral resources sector was kept alive by the State moving to natural gas as a new fuel. That happened because Government heard the message of possibility in a time of uncertainty. Our challenge as an industry is to collectively deliver a similar message of possibility - that our sector can deliver the development projects that are needed to drive us forward. That means we need to deliver economic and social, as well as environmental, outcomes through the sustainable development of resources.

Just released is a report prepared by the Sustainable Energy Development Authority in NSW, to which WA contributed.¹ It shows that WA's sustainable energy industry is currently worth about \$1.4 billion and generates around 9,900 jobs. Even more impressive is that exports from our sector in WA are scheduled to grow by 25% in 2003 to reach \$97 million. We are clearly operating in a healthy sector, which promises much for the future of our State.

Assisting our progress is the current MRET target, which is potentially worth an additional \$600M to the local sustainable energy industry. MRET is currently under review and if the review results in an increased target the value will rise to over a billion dollars, possibly up to two billion if the target is as high as some pundits predict.

Clearly, there are challenges ahead if WA is to harness the possibilities that MRET provides:

- The challenge for SEDO is to develop a clear strategy to integrate the State's Renewable Energy requirement into the grid.
- The challenge for us is to convince the State Government that our sustainable energy resources can give us a leading edge against states that are overly dependent on fossil fuel resources. In demonstrating leadership and developing resources sustainably, the Government will yield significant long and short-term benefits to our State. I encourage you all to read the SEDA report and tell everyone you know about the enormous contribution our industry makes to this State's prosperity.

WA SEA works tirelessly to promote your projects and our industry achievements to government. Government decision-makers attend our Lecture Forums and other events organised by WA SEA. Your attendance at these functions and the support you give to WA SEA through your membership subscriptions enable us to show by a sea of faces and our involvement in policy that our sector is strong, committed, innovative and energetic in our endeavours to ensure that our State leads the way in the development of its sustainable energy resources.

Thank you for your continued support of WA SEA. I look forward to meeting you at our next series of Lecture Forums - our "Winter Warmers".

Matthew Rosser CHAIRMAN

1. The report is *Economic Performance and Contribution of the Sustainable Energy Industry 2002* - compiled for the Sustainable Energy Development Office, the Australian Greenhouse Office and sustainable energy authorities in the other States and Territories. For a copy of the full report, log on to: <http://www.energysmartallies.com>

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 ABN 16 549 616 697
 PO Box 8078 PERTH BC WA 6849

Advertising Enquiries
 Johanna Gastevich
 Tel: (08) 9328 8411
 Fax: (08) 9328 8933
 Email: johanna@wasea.com.au

Editor
 Dr Bill Parker
 Tel: (08) 9371 6373
 Mob: 0403 583 676
 Email: renew@iinet.net.au



EXECUTIVE OFFICER
 Johanna Gastevich
 Suite 5, 18 Stirling Street
 PO BOX 8078
 PERTH BC 6849
 Tel: (08) 9328 8411
 Fax: (08) 9328 8933
 Email: johanna@wasea.com.au

OFFICE BEARERS
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 E: castle@iinet.net.au

King Canute is Alive and Well

We Can't Afford To Save The Environment But We Can Afford To Destroy It?

We attended a very surprising conference recently. Seats were limited so you may have missed it. The presentation was teasingly titled *"The Costs and Benefits of Ratifying the Kyoto Agreement"*. The reality, we were soon to learn, was that there are no benefits and only costs.

When the first speaker rose to inform us that the cost of ratifying Kyoto would be much higher than reported by those "pinkie greenie" groups, wise heads nodded knowingly. These naive greenies, we were told, had used inappropriate economic models that reported the cost to be less than 0.3% of GDP. In fact the superior models proved that it was going to be a lot more, at somewhere between 1 and 3% of GDP. Clearly Kyoto was not affordable.

This news excited a member of the audience who jumped to his feet and announced that Australians should not have to give up dishwashers to reduce greenhouse emissions (GHG) and that GHG reduction was obviously not possible or acceptable.

An engineering identity in the audience announced that you could not trust certain European countries and that Australia and the US should not sign Kyoto because Australia and the US were law abiding and would follow the Kyoto agreement to the letter while others in the world would cheat the system.

We were then presented with the startling news that even if all developed countries in the world reduced their CO₂ emissions to zero it would not make a blind

bit of difference. This was because the third world would soon be emitting more than all of the developed world combined. At this stage, critical members of the audience were starting to look aghast.

The next distinguished speaker - an environmental scientist - startled us by acknowledging that the first speaker had "clearly" demonstrated the dollar cost of ratifying Kyoto was far too onerous. His solution would make King Canute look tame. His recipe was to carry on as normal but identify those areas of the world that would be most impacted by sea level rises and then all chip in to build sea walls for them.

What a great idea! The engineering contractors and concrete suppliers in the room began doing the numbers at the potential new business that this fine strategy offered. A sea wall around London was given as our first example. (Maybe somebody should tell them, they already have one) The calculator minds were in overdrive. Yes carbon is good; Kyoto is bad; it is definitely more profitable to allow business as usual.

With the cost of the recent drought at around \$5 billion reducing economic growth by some 0.5% and perhaps taking the country into recession, the potential cost of long term climate change to Australia is becoming obvious.



This conference did nothing to add to the debate. Some in corporate Australia still find it easier to embrace the arguments of the tired, the old and the irrational. They can often be found masquerading under a "free trade" banner, exploiting the cultural icons of our early battlers. We have to say the world is changed and changed forever. We have some serious problems to contend with and unless this end

of the corporate sector starts taking note of our evidence-based scientists, things will not get better, and acting like King Canute will be as useful as the King's own actions in the waves of the North Sea. Too much money, too much power, too many long lunches where people never challenge your views.

The problem is, these people will cling to their elysian world until it's a complete sewer. We need to nurture and develop that new breed of corporate player - the green corporate, who want a healthy world in which to ply their trade, and make a profit.

Until such time as the people from the thoughtful generation form a critical mass in industry we have to develop strong, significant and influential regulations that actively control greenhouse gas emissions from industry.

Federal Budget Provides \$30 Million For Australian Greenhouse Office in 2003-04

The \$124 million climate change budget, up from an estimated \$93 million expenditure in 2002-03, reaffirms the Government's commitment to combating climate change, Minister for the Environment and Heritage, Dr David Kemp, and Minister for Industry, Tourism and Resources, Ian Macfarlane, announced in Canberra recently as they cut the cake at the AGO's 5th birthday celebration.

Claims that the AGO's budget has been cut by \$24 million are simply false. The \$24 million cut refers to funding provided under the Annual Appropriation Act, which does decrease to \$4.6 million, but it ignores funding of over \$119 million provided under the Special Appropriation, which is increased by \$34 million.

"Key programs such as the Greenhouse Gas Abatement Program, the Renewable Energy Commercialisation Program and Cities for Climate Protection have actually increased," Dr Kemp said.

Mr Macfarlane said the 2003-04 Budget reflects the Government's commitment to greenhouse abatement and the achievement of the 108% Kyoto target, particularly through the Prime Minister's Safeguarding the Future package, which is instrumental in moving Australia to within "striking distance" of the target agreed to at Kyoto.

"The scope and focus of the Safeguarding the Future package of programs will be considered over the next year in the context of the development of the Climate Change Forward Strategy," Mr Macfarlane said.

"The Federal Government is now working in partnership with industry, state and local governments, and the wider community to frame the next generation of greenhouse policies under the Climate Change Forward Strategy."

WA SEA comments:

The Photovoltaic Rebate Program (PVRP), part of these budget measures (*see separate story page 4*) was re-instated only after considerable pressure from the industry it was designed to support. The level of support has diminished from \$5/watt to \$4/watt.

The increase in funding to the Cities for Climate Protection is only a token gesture at \$200,000.

Electricity Reform Head Appointed

Steve Edwell, a former senior Queensland public servant and market economist has been appointed to lead Western Australia's electricity industry reforms.

The Minister, Eric Ripper, said Mr Edwell, who was Executive Director of the Queensland Office of Energy, was a highly regarded senior executive with the skills and experience to drive the Government's reforms.

Mr Ripper said the Electricity Reform Implementation Unit, which reported to a Government-appointed steering committee, provided strategic direction to ensure delivery of the reforms including:

- disaggregation of Western Power;
- establishment of a wholesale trading market;
- development and implementation of a State Electricity Access Code;
- implementation of regulatory and customer protection arrangements;

- transitional arrangements including an effective energy balancing service; and
- all necessary legislation.

The Minister said Mr Edwell had experience in the implementation of large economic reform projects, particularly in the energy and water sectors. He was a former Chief Executive Officer of the Queensland Electricity Reform Unit and Queensland Water Reform Co-ordinator.

Labor Acts to Ratify Kyoto Protocol

Shadow Minister for Sustainability and Environment, Kelvin Thomson, introduced on May 26th to Federal Parliament a Bill to ratify the Kyoto Protocol on Climate Change.

The passage of the bill would give legal effect to Australia's Kyoto target and ensure Australian industry can take advantage of emerging new markets when the treaty comes into international force.

Over 100 countries have now ratified the treaty and ratification by the Russian Federation expected later this year will ensure that the Protocol will come into international force.

By refusing to ratify, the Federal government risks being left behind in global efforts to combat climate change and losing influence in future climate change negotiations.

Early action will allow Australian industry to take advantage of growing global markets for environmental goods and services and prepare for the reality of a carbon constrained future. But Thomson says that the Coalition still refuses to ratify the Protocol and is therefore locking Australian industry out of global trading mechanisms.

The Greens (WA) welcomed the legislation to ratify the Kyoto Protocol on Climate Change. Kelvin Thomson's legislation is a private members bill and will most probably be voted down in the House of Representatives. It is however the first clear indication of a Labor commitment to the Kyoto Protocol.

Greens MLC Robin Chapple said he hoped that such a clear commitment would be forthcoming from the Premier, Dr Geoff Gallop, who to date has been less than supportive.

Dr Gallop has said "We don't want to sign up on something and then find we're losing industry from WA but we're not reducing greenhouse gas emissions globally."

Mr Chapple said he urged the State Government to fast-track the State Greenhouse Strategy, which thus far has been a disappointing and barely visible response to the challenges we face.

"Now federal Labor is committed, we call on the Premier to immediately review the states' emissions to bring them in line with the wishes of their federal colleagues" said Mr Chapple.

Edwards Hot Water gets GreenSmart Award

Edwards Hot Water has won the 'Product of the Year' category in the 2003 GreenSmart Awards for its solar-compatible 'Comfort' series of continuous supply gas water heaters.

The series, which has been designed to be used in conjunction with the company's solar hot water system range, provides hot water when the sun's rays are not enough.

Managing director Rhys Edwards said all solar hot water systems required some degree of supplementary water heating and gas was the ideal way to do it.

"Gas is preferable to electric because it is cheaper and kinder to the environment," Mr Edwards said.

Judges said the product "... gives the community the potential to further reduce the energy used in Perth homes and reduce the associated greenhouse gas emissions."

The GreenSmart awards recognise the efforts of companies and individuals in the building, development and renovation industries to develop products and practices that best embody the GreenSmart approach.

Photovoltaic Rebate Program Extended

The Government announced in May that the Photovoltaic Rebate Program (PVRP) will be extended for a further two years through to 2004-2005.

PVRP offers rebates to householders and community organisations that install rooftop and building-integrated photovoltaic (solar electric) systems.

The Minister for the Environment and Heritage, Dr David Kemp, said \$5.7 million would be available for the next financial year, continuing the program's allocation at current levels.

"The Government has renewed its commitment to climate change in the 2003-04 Budget which provides \$124m for greenhouse measures such as the PVRP - a \$30 million increase on 2002-03 expenditure of about \$93m," Dr Kemp said.

Changes to the PVRP have been made to the scheme following discussions with the solar industry.

Features of the revamped scheme are:

- A reduced rebate level at \$4 per watt (previously \$5 per watt);
- A reduced maximum rebate for individual householders of \$4000 (previously \$7500);
- No monthly cap on rebate totals for States and Territories;
- Up to \$1 million available through an auction system over 2003/04 and 2004/05 for residential developers; and
- All applications submitted prior to close of business 13 May 2003 will be rebated at the previous level.

Dr Kemp said funding for 2003/04 and 2004/05 will be offered under conditions that allow for a greater number of applicants to access the rebates, greater penetration of photovoltaics into the marketplace, and assist in building the solar energy industry.

Industry Minister, Ian Macfarlane, said PVRP has been successful since it began in January 2000.

"To the end of March 2003, this program had supported the installation of solar systems on 4108 homes, with a combined generating capacity of 4474 kilowatts. That means environmental savings equivalent to some 10,000 tonnes of carbon dioxide a year," Mr Macfarlane said.

"The program has also supported the installation of PV systems on dozens of community buildings."

Primary objectives of the PVRP are to reduce greenhouse emissions, assist in the development of the Australian PV industry, and raise public awareness of renewable energy. Before the PVRP was introduced, the market for grid connected PV systems in Australia was extremely limited.

If you are interested in installing a PV system call SEDO on 9420 5600 or visit www.seia.com.au/Accreditation/index.htm

Making Solar Hot Water Systems More Affordable

Rhys Edwards, Managing Director of Edwards Hot Water, and model Kelly Holmes at the launch of the SEDO subsidy scheme earlier in the year.

In one of the nation's sunniest states, you'd think we would own more solar hot water systems. In WA that's all the more pointed because we are home to some significant players in the global industry and that industry has been there since the early 1950s.

So why is the market penetration low and only growing at a marginal rate? The answer, until earlier this year was cost. A new subsidy scheme has been introduced and the cost barrier been removed. According to one manufacturer, the price of solar hot water has been reduced by up to 40% by the subsidy schemes now in place from Federal and State governments.

Benefits also accrue from the systems themselves. Instead of continuing to be a cost to the consumer, solar hot water systems save money and provide a return on their capital investment, and with great improvements in manufacturing techniques and long warranties, we are at last seeing a situation where solar is a real alternative to plain gas or electricity.

At the launch of the WA scheme, Energy Minister Eric Ripper said the Government hoped the move would arrest a worrying decline in the take up of solar hot water systems and help the environment.



How do the subsidy schemes work?

The amount of subsidy depends on whether you are building a new home, replacing a worn-out gas or electric system with solar or replacing solar with solar. Because the RECS scheme considers the reduction in Greenhouse gas emissions, the degree of subsidy reaches its maximum when fossil fuelled systems are replaced with solar systems.

Mr. Ripper said by going solar, households could cut greenhouse gases by up to four tonnes a year and slash their energy bills by up to \$550.

There are other benefits that should not be ignored. If you replace 70 to 80% of your need for purchased energy with solar you also reduce Greenhouse gas emissions. It varies upwards to the north of the state and slightly downwards to the south. Put another way, it means that for 70 to 80% of the year in Perth (as the example) heating water is free of charge. During the winter, you can also be smart about how you use your system with a simple time clock in the control circuit.

There are five manufacturers in WA, all based in Perth and WA SEA invites you to contact them whether you are an industrial scale user or a householder.

For further information, contact SEDO on 1300 658 158



Minister for Energy, Eric Ripper with Nikky Carter of Edwards Hot Water.

Mr. Ripper said Australian Bureau of Statistics figures showed 15.7 per cent of WA households had solar systems, compared with 19.6 per cent three years ago.

"Western Australia has an advantage over many parts of the world with abundant sunlight and a leading edge solar hot water industry," he said.

"But despite this, electricity and gas-based hot water systems are increasingly being used."



All the local manufacturers had displays at the launch.

Government Solar Scheme Cost-effective: Why the AGA Report is Wrong

The Australian Gas Association [AGA] recently published Research Paper 16, claiming that government solar rebate schemes are not a cost-effective way to reduce greenhouse gas emissions. The report contains serious errors in its analysis, so its conclusions are not valid.

Notably, Rheem Australia Pty Ltd, which is a member of AGA as well as having the largest market share for gas water heaters in Australia, has distanced itself from the AGA conclusions. As well, Rheem has called for the MRET target to be increased to 5 per cent and to be supported by a long term commitment from government for renewable energy.

The AGA report has the following major flaws:

- It is selective in its argument, considering "free riders" when calculating the cost of rebates for solar hot water but not when making the same calculation for gas water heaters;
- It assumes a large market opportunity for gas water heating when the market is near saturation;
- It systematically under-estimates the solar contribution to water heating for the average user;
- It estimates the cost of hot water using standard electric tariffs, rather than off-peak tariffs;
- It incorrectly assumes all purchasers receive the maximum government rebate;
- It implicitly assumes all gas water heaters are efficient, when some are poorly insulated and many waste energy on continuous pilot lights;

- It ignores the local environmental consequences of gas water heating;
- It neglects the employment and other economic benefits of solar hot water;

The flaws in the AGA study are so numerous and so serious that its conclusions cannot be given any credibility. The MRET program has clearly stimulated the use of solar energy for water heating, a change which provides economic benefits to the consumer and to the nation as well as reducing greenhouse gas emissions. It should be reinforced and given a clear long-term commitment by the government.

This summary was kindly provided by the Australian and New Solar Energy Society (ANZSES) more information from www.anzsos.org

Home Construction Moves Towards Sustainability

On July 1st any home construction application presented to the local Shire in WA will have to meet new minimum energy conservation measures. After an extensive period of consultation, the Australian Building Code Board has incorporated new elements in the Building Code of Australia that require the applicant for a building licence to satisfy a set of requirements that are all designed to reduce greenhouse gas emissions.

The new energy code is mandatory and if a new building fails to meet the requirements, the building licence will not be issued.

The measures are to be implemented as amendments to Volume Two of the Building Code of Australia (BCA), which is referenced by State and Territory building regulations. Depending on climate zone, the measures include:

- insulation of the building fabric (roof, walls and floor);
- measures to reduce unwanted heat gain or loss through glazing, depending on the ratio of glazed area to floor area;
- measures to reduce infiltration around the edges of windows and doors and through other penetrations of the building fabric;
- provisions to facilitate air movement for cooling; and
- insulation of hot water supply pipework and the ducts and pipes of central heating and cooling systems.

A house designer/builder can comply with the "deemed to satisfy" (DTS) requirements or choose to have their design computer rated by the First Rate program (see separate story). Since this a state wide requirement, not all conditions are equally applied - energy conservation measures differ between Broome and Esperance as should home designs. However, there are some words of caution from within the insulation industry.

It seems that some of the larger builders are signing exclusivity deals with big insulation companies, and this could be seen as anti-competitive. It may also be that in some situations, the BCA requirements are actually overkill. But perhaps the biggest challenge facing local government is the need to ensure compliance.

Some commentators in the Eastern states have said that analysis of some DTS designs by natHERS or First Rate achieve star ratings which are considerably less than the 3 1/2 to 4 star threshold required when complying via thermal simulation. Other experts say that any change of this sort is welcome because it gets builders to think about the effect of their constructions on the environment for the first time. No doubt there will be teething problems, but the need to understand what insulation is and what it does is critical. Several seminars and training programs continue to be run to aid the building industry and local government.

And more initiatives are on the way. The Minister for Housing, Tom Stephens at a recent architectural award ceremony said that "Under our sustainable buildings initiatives, all new public housing will also need to be designed to achieve a four to five-star energy rating." WA SEA is keen to how that will be put into practise.



The energy provisions for BCA changes include a map (shown here) which contains 8 climate zones. The measures proposed for each zone vary depending upon the severity of the climate. The zones are based on climatic data, alignment with local government boundaries where practical, and other adjustment where considered appropriate. To get an on-line version of the map and more information about the changes, visit www.abcb.gov.au

More Information About Building Energy Rating Tools



As part of the process of encouraging energy efficiency in housing, designers and builder also have the voluntary option of providing a Star rating for their designs. Here is some background on how the rating programs work and how they evolved. Overall, home energy rating software is managed by the House Energy Rating Board at Solarch in NSW. Visit www.hmb.net.au for further information

NatHERS

NatHERS - Nationwide House Energy Rating software - is based on decades of CSIRO building simulation research, and it has been specifically upgraded and adapted to permit widespread use as a design/assessment tool on typical personal computers. The software runs under Microsoft Windows 3.x,95, 98, Millennium, 2000 and NT on a suitable IBM compatible PC.

The software performs hourly calculations for heating and cooling over a year, based on specific information including dwelling design, dimensions, construction materials, orientation and postcode-climate zone for a standardised occupant pattern. The results allow the ranking of dwelling designs in terms of performance, but the standard occupant pattern is not designed to predict actual or typical household energy use.

NatHERS provides a rating of between 0 and 5 stars, which shows the potential of the house to have low energy requirements for heating and cooling. The house is assumed to operate under a standard occupancy schedule appropriate for the given location. The resulting rating is based on a detailed computer simulation of the house using hourly weather data.

First Rate

First Rate is a correlation version of NatHERS. It refers to millions of NatHERS simulations to derive its rating.

BERS

BERS (Building Energy Rating Software) is similar to NatHERS with a simple graphic entry system. Its author is Holger Willrath of Solar Logic in Brisbane.

There are other programs which rate windows and buildings.

Further information

In WA, The Sustainable Energy Development Office has information about training courses and accreditation for First Rate and NatHERS users.

- www.nathers.com
- www.seav.vic.gov.au/building/
- www.solarlogic.com.au
- www1.sedo.energy.wa.gov.au/
- www.abcb.com.au
- www.hmb.net.au

Energy Efficiency Quiz - How Do You Rate?

Simply answer the following questions with a 'yes' or 'no' response to test how energy efficient your home is. The pie chart shows where the energy goes.

HOT WATER

1. Is your hot water system less than 6metres from the main usage area? (e.g. bathroom)
2. If you have a dishwasher do you only use it when it is full?
3. Do you have a solar hot water system?
4. Do you wash clothes in cold water?

HOME HEATING & COOLING

5. Are thermostats and time switches used to control cooling and heating (including solar hot water system booster)?
6. Do you have insulation?
7. If you have air conditioning, is the unit cleaned and are the filters checked regularly?
8. Do you have draught seals around doors and windows?

REFRIGERATORS

9. Is your refrigerator out of direct sunlight and away from appliances that generate heat?
10. If you place a \$5 note between the refrigerator door and the unit itself, does it stick? (You get the same test with a \$100 note!)
11. If you purchase whitegoods do you select them based on their energy efficiency star rating?

HOW DID YOUR HOUSEHOLD SCORE?

Mostly Yes: Congratulations! You are energy aware.

Mostly No: Here are some ideas to help your household become more energy efficient.

1. Any hot water that remains in a supply pipe after a tap or valve is closed, eventually cools off. The longer the supply pipe, the more heat is lost. Is re-routing possible?
2. The average person uses half as much hot water in a shower as in a bath. If you use an AAA rated low flow showerhead you can save up to 5% off your energy bill each year.
3. You can save energy by turning the dishwasher off before the drying cycle and letting the dishes dry with the door open. Or choose a setting that omits the drying cycle. It may be possible to hook up your machine to the hot water supply.
4. Gas boosted solar water heaters can save you up to 70% on your water heating costs each year (higher in the north). Don't forget the generous rebates if you are replacing electric/gas with solar.
5. Washing clothes in cold water can substantially reduce your energy bill.
6. Don't overheat your home. Set heater thermostats at the lowest possible setting and increase the temperature gradually. A one degree increase in temperature adds about 10% to your energy bill. If you are renovating, think about ways to get more winter sun to penetrate the home. Find the direction of cooling summer breezes and see if there are ways of trapping the flow to cool your house.
7. Installing wall and ceiling insulation is one of the most effective ways to save on energy costs.
8. To ensure your air conditioning unit is running efficiently, it is recommended that you clean your filter every 3 months.
9. Draught seals prevent heat loss in winter and help to trap cool air in summer. You can still vent your home by opening windows.
10. Locate your refrigerator in a cool spot and ensure there is good air circulation around the coils.
11. If the \$5 note does not stick, it's time to replace the seal on your refrigerator. If you used a \$100 note, you'll get change when you have the seal fixed!
12. Buying energy efficient whitegoods can make a significant difference to the amount of energy your home uses. A fridge freezer using more than 750kWh/year is not as efficient as it could be.

You want advice? Ring the Home Energy Line 1300 658 158

Eastern Metropolitan Regional Council wins award for Dr Cool-It

The Eastern Metropolitan Regional Council (EMRC) has won the May Initiative of the Month CCP Award for the Dr Cool-It Project.

The Dr Cool-It service is a key action identified in the Regional Community Greenhouse Action Plan

developed by the EMRC. The Town of Bassendean, Shires of Mundaring and Kalamunda, and Cities of Bayswater, Belmont and Swan form the EMRC.

The Dr Cool-It Program is an energy advisory service that undertakes free assessments of energy use in households and advises residents of ways that they can save energy (and money) in their home.

The service also offers simple energy efficient appliances such as compact fluorescent bulbs at a significantly reduced cost.



A range of educational and promotional activities have been undertaken with the Dr Cool It service including advertisements in local papers, distribution of fliers and newsletters, media releases and promotion through partnership organisations such as ICLEI.

Central to the EMRC's Dr Cool-It and Cool Communities initiatives is the conversion of a shopfront, office and meeting place located at the Maylands Environment Centre. This has the involvement of the Conservation Council of Western Australia (CCWA) and the Australian Conservation Foundation (ACF) and WASEA members have also donated equipment and services.

Greenhouse abatement data will be available on the EMRC Dr Cool It website shortly at: www.emrc.org.au/environ/enviro_ccp.html or call 9424 2222

MRET Under Review

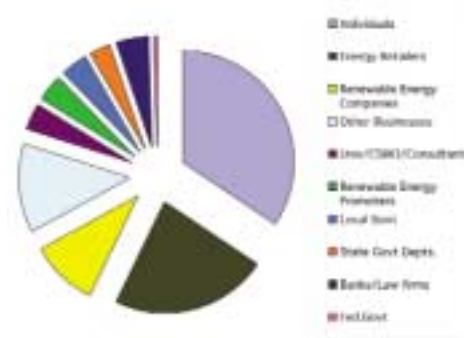
This brief review of the submissions to the MRET review process is published in here as a sampling of thoughts and arguments. All 239 non-confidential submissions, are at www.mretreview.gov.au

The Mandated Renewable Energy Target (MRET) was established as a Federal Government initiative aimed at promoting the development of the Australian renewable energy industry as much as reducing Australia's greenhouse gas emissions. MRET is rightly seen by both the Australian public and international community as a watershed in Federal energy policy; being the most significant Australian commitment in support of the Australian renewable energy industry sector ever enacted. For over 100 years, coal has been heavily fostered and subsidised by State and Federal Governments. More recently, gas has been given similar incentives to secure its place as major energy source.

MRET has the ability to create an environment where new electricity generation capacity using renewable sources is included and maintained as a meaningful component of the Australian energy mix. WA SEA Inc has been fully supportive of the Federal Government for being the first Government internationally to take such an initiative.

The call for public submissions elicited a large response. Over 3000 submissions were received and although the majority were as form letters, some 240 plus detailed responses were received. Most came from individuals with energy retailers also well represented.

The Australian Consumers Association made the points that "the end-user perspective in the energy industry should not be neglected and hope this omission will not characterize the approach of the review in general". However, ACA does not support interventions in markets that might impose increase charges to consumers, a point often raised by retailers and others who argue against MRET increases. The aluminum and minerals industry is against MRET because it says the cost of any price increase in the cost of electricity cannot be passed to its customers and that it will be less competitive internationally. "Without competitive energy, growth in Australian aluminum production and the associated energy demand will not materialize - and existing operations may be prematurely phased out." It says also that it is already making significant contributions to Greenhouse emissions reductions. The fact is that in most cases electricity prices in this context are set by deals done between these large users and the retailers, or in the case of WA, the State government through Western Power.



Sources of MRET Submissions

A recent report on 'Subsidies that Encourage Fossil Fuel Use in Australia' by the Institute for Sustainable Futures makes the following points:

- In 2000 a Senate Committee report found direct and indirect subsidies of \$6 billion to fossil fuel industries per annum
- The paper by the Institute for Sustainable Futures identified subsidies of \$9 billion per annum that flow to the fossil fuel industry
- Aluminum subsidies of \$210-\$250 million per annum

Not all submissions were positive about the renewable energy industry. Some coastal community groups are opposed to wind farms. One - The Prom Coast Guardians - was strident in its tone. "(the) Victoria coastal landscape is highly valued by residents and visitors alike and must be protected from the industrialization that is occurring as a result of large-scale (wind) power station developments. We believe that MRET is 'propping up' an otherwise unviable wind industry at the expense of social, economic and environmental impacts on rural communities." They also said that "there is no evidence that the MRET scheme has resulted in a reduction of GHG emissions." And further: "The general public seem to view alternative power (wind power in particular). As the panacea for all, the 'easy answer' to the problems associated with GHG emissions, when... only a reduction in demand for base load power will effect a change." It is difficult to see how the MRET review can address that latter point. Agreed we have an urgent need for demand side management, but this is not the forum to discuss it. The Prom Coast Guardians also made negative comments about a wind industry that they said appeared to have scant regard for local social and environmental conditions. Hiking Plus, also in Victoria, was writing in the same vein: "MRET has caused a gold rush mentality within the wind energy industry, which is staking claims on areas all around the coast, in anticipation of the retention of MRET, to build a chain of wind power stations along Victoria's Great Southern Coastline like a giant picket fence".

The anti-wind lobby was also suggesting that nowhere on the planet could the wind industry stand on its own feet without government intervention.

Locally, one alliance of local governments and industry, the Bunbury-Wellington Economic Alliance was not in favour of MRET saying that any increase in the cost of electricity will lead to cost increases for industry. They claim that "Under the existing MRET legislation no new existing technologies have been developed to date... it is apparent that generating power under biomass will never be economically viable and will consistently depend on government subsidies... It is futile to protect 'infant industries' in order to deliver a competitive, export-focused renewables industry." The BWA also made negative comments about the renewable energy industry "...creating a cargo cult mentality among renewable generator 'rent seekers".

The WA Chamber of Commerce was balanced in its approach, arguing for market reform. "the MRET obligation in the context of the WA electricity system, a number of factors need to be taken into account. These include the deficiencies of the current electricity sector which are producing barriers to new renewable electricity generation, the high price structure, the reform that is underway and the technical issues that would need to be resolved if MRET were to be increased." WA's state electricity monopoly had a similarly balanced and well-reasoned approach.

One leading member of the PV industry, Pacific Solar, argued that the existing MRET had "provided little support for the growth of the PV industry. ... as at 30 April 2003 only 667 deemed RECs had been registered for PV systems, less than 5% of that possible... since the Act commenced". The value of the RECs created was too small, and they argue that extending the deeming period to 20 years will give the household PV systems appropriate value and thus make them more attractive to consumers. At the bigger end of town, Enviromission, the company that is proposing to build a 200MW (about 7% of the present 9500GWh target) solar tower power station near Mildura argues that without absolute certainty about the future of the MRET legislation, the solar tower will never be constructed in Australia. Like all firms involved in renewable energy, investor confidence in Enviromission is as important as it is for a small PV installer.

Banking, legal and capital market interests were highlighted among the submissions and echoed the needs as reflected in WASEA's own submission that long-term certainties are essential. Some submissions reflected the need for refinements in such areas as solar hot water systems. Sola Kleen Smalls in WA argues that customers changing from gas to solar ought to be given credit (in RECs) as are those changing from electricity to solar to heat water. They also raised issues relating to system warranty length that require modifying. The Queensland government (like WA having significant climate zone changes) argued for correct zones to be used in calculating RECs (at present the standard in Adelaide). WA Greenpower, a biomass company in

WA wants the Federal government to ratify the Kyoto treaty in order to make RECs tradable offshore and it also supports a longer term for the legislation and a 5% target.

The consumer perspective, quoted from an energy industry professional (Trevor Gleeson) in Queensland: "Market surveys show 50% or more of consumers support renewable energy and would be prepared to pay more for renewable energy, but less than 1% are proactive enough to subscribe to "Green Power Schemes" on their own, even though the cost is not a limiting factor to them. Turning this around to make renewable energy the norm, say via a 10%

MRET target, is unlikely to meet with any significant consumer opposition with most consumers not even noticing it on their electricity bill".

And in this context, even if industrial consumers were to face increases in electricity costs, WASEA maintains the position that so little has been done in terms of correcting the wastage of energy that any such increases are insignificant compared to the savings made from well carried out energy audits. Most auditors can discover cost neutral savings of 10%.

The MRET Review panel holds hearings in Perth in July.



The Albany Wind Farm. Picture courtesy of Western Power

Recommendation	Reasoning
Increase MRET Target to 10%	<ul style="list-style-type: none"> 9,500 GWh is not an effective target. Research shows that the 9500GWh figure will not maintain a 2% level as gross demand grows; Market inertia - target must be high enough to overcome market dominance of fossil fuel. The low target is particularly evident in WA where no large-scale private sector renewable energy projects have come on line. Renewable electricity is 0.4% of all electricity sales and set to fall with the State seeking generating capacity to meet growth and plant replacement through a state-underwritten power procurement process that explicitly excludes renewable energy generators from bidding; The cost of a 10% MRET is low compared to historic fossil fuel industry incentive measures. For example, the world's largest ever "take or pay" contract (\$8 billion) for gas to underwrite the development of the North West Shelf, leaving WA taxpayers purchasing more gas than could be used. The same approach was taken with coal. 10% MRET is key to a strong and growing renewable energy industry. The majority of Australians strongly favour this. The key is a guaranteed minimum market share that delivers the critical mass and momentum that is needed to overcome the present inertia. The industry will provide benefit to rural areas; A 10% MRET complements current State Government schemes.
Increase length of MRET program	The MRET program needs to be extended to take account of project financing realities - renewable energy projects finance over 12 to 15 years. An assured revenue stream beyond 2020 is required.
Maintain an effective penalty	The value of money changes over time however the current penalty is fixed over the life of the program. The penalties must be enforced, and publicly applied in a clear, transparent process.
Support for solar hot water systems	Continued inclusion and support of SHWH in the MRET
MRET scheme reviews	It is necessary to ensure that legislation is open for modification over its life to maintain its effectiveness in a changing environment. A three yearly review is suggested, along with annual progress reporting.
Base line setting	The baseline methodology needs to be clear and transparent in its application That the baselines that have already been set should be reviewed through an open and consultative process, the setting process should be reviewed to make sure that it will deliver additional new renewable energy
Reject portfolio approach	MRET has been designed to work in a free market environment. A technology portfolio approach may act to increase the cost of deliver of renewable energy solutions. It could also be restrictive, applying premature constraints on emerging technologies.

WA SEAs own submission in brief

The MRET Review Panel

In March, The Minister for Environment and Heritage, Dr David Kemp, and the Minister for Industry, Tourism and Resources, Ian Macfarlane named the Panel to review the Commonwealth's Mandatory Renewable Energy Target (MRET) legislation.

The Panel, which comprises a mix of industry, academic and government policy skills and experience, will report later in 2003.

Members of the Review Panel are:

HON GRANT TAMBLING, former Parliamentary Secretary and Senator for the Northern Territory (chair);

MS MONICA OLIPHANT, an experienced research scientist with expertise in renewable energy, improving energy efficiency and reducing greenhouse emissions;

DR PETER LAVER, former Vice President of BHP and current Chair of the Australian Building Codes Board; and

MR NEVILLE STEVENS, former Secretary of the Commonwealth Communications and Industry portfolios

SEDO Grants Committee



At a recent WA SEA Seminar, Peter Versluis, the Chairman of the SEDO Grants Committee (SGC) presented an overview of the newly constituted committee and his analysis on the recent applications.

Mr Versluis said that the purpose of the funding had changed slightly from the Alternative Energy Development Board. The emphasis on Greenhouse gas emissions reduction has diminished. This reflected the views that in the definition of 'sustainable' the committee needed to look beyond the issue of Greenhouse gases to consider other factors that determine sustainability, and secondly the possibility in some cases, encouraging a local sustainable energy projects may in fact increase local Greenhouse gas emissions.

The SGC receives a total of \$500,000 in funds from the State Government via two sources, 50% as a direct allocation with the other half coming via the Minerals and Energy Research Institute of Western Australia.

The SGC broadly categorises funding areas into three streams:

- Energy efficiency (energy efficient technologies and energy management strategies);
- Renewable energy (product R&D and demonstration projects) and
- Market research and intervention (projects designed to overcome market barriers or identify market opportunities).

The purpose of categories was not to suggest a segregation of funds although this was possible. Overlap was also recognised.

The SGC received a total of 49 submissions in the first round for 2003. The total sum requested was in excess of \$2.6 million, averaging \$54,000 per application. This large response presented a number of problems. The amount of work involved in assessing the applicants was substantial, and the amount of funds requested was ten times greater than the amount of money available.

While the SGC had a detailed set of guidelines by which it had earlier agreed to evaluate the projects, each member adopted their own system of categorising applications. Mr Versluis said he divided the projects according to the sub-categories of:

- (1) Equipment for schools and training facilities;
- (2) Commercially-proven equipment;
- (3) Information dissemination/promotion/education;
- (4) Research/product development;
- (5) Resource evaluation/proving; and
- (6) Testing infrastructure.

The SGC declined to support research or product development projects that replicated work being done elsewhere or which showed limited marketability or applicability with local industry capabilities.

Recipients of awards from AEDB funding during the past two years.

Grantee	Project Description	Funding (\$)	Activity 01/02
Central Metropolitan College of TAFE	Training facility for RAPS cabling	10 500	Completed
City of Melville	Installation of a wind and solar powered RAPS demonstration facility at Piney Lake	50 000	Completed
Curtin University	Evaluation of energy savings by running three phase motors from a single phase supply	20 000	Completed
Curtin University	Demonstration of energy efficiency in industry	20 000	Completed
Murdoch University	Assessment of computer programs for calculating daylighting in buildings	10 000	Completed
Murdoch University	Examination of opportunities for applying WA renewable energy technologies in the Republic of Maldives	15 032	Completed
Perth Zoo	Installation of grid-connected photovoltaic installation at the Perth Zoo	30 000	Completed
Rockingham Regional Environment Centre	Installation of a wind powered RAPS demonstration facility	40 325	Completed
Solahart	Demonstration of a 20kW concentrating photovoltaic trough installation	20 000	Completed
Western Power Corporation	Documentation of the history of alternative energy in Western Australia since 1975	10 000	Completed
Available Energy Consultants	Field testing of selective surface roof paint used to keep buildings cool	30 500	Continuing
Curtin University	Project to improve the life of lead acid batteries -Stage 3	25 000	Continuing
Earth House	Demonstration of phase change material used to heat office space	20 000	Continuing
Murdoch University	Upgrade of existing RAPS display and extension of WebRAPS interface with the Internet	29 611	Continuing
Science Teachers Association of WA	Support for an electric powered vehicle competition for schools	20 000	Continuing
Central TAFE	Solar Water Pumping Training Facility	15 000	New
Conservation Council of WA	Cool Community Solution to Global Warming	15 000	New
WA Museum	The Power of the Wind	20 000	New



New approaches to project assessment include post completion evaluation and communication.

Projects for which there was no demonstrated market need, such as applications for education, training, equipment, or requests to prove renewable energy resources were also declined.

Renewable energy projects that had limited applicability beyond RAPS applications were generally not supported because the SGC believed these had less scope for making substantive Greenhouse gas reductions, and significant funding was available elsewhere.

Mr Versluis also said that with limited funds, the SGC would be ill advised to spend money on hardware that could be acquired, for example, by manufacturers sponsorship. Other projects declined were those considered viable in their own right.

Success for many projects would rely on ongoing behavioural change. This was (in part) the rationale for supporting a higher percentage of information, promotion and education projects.

The SGC was aware that the largest energy use and Greenhouse gas savings were not in the residential sector so it attempted to support projects that targeted commercial and industrial applications.



The emphases of project evaluation now has a different focus.

The SGC also placed emphasis on commitment, competence and experience of the applicants.

In the past, RE projects received the majority of Alternative Energy Development Board funding. This imbalance was addressed by allocating only 48% of funds to RE projects as a result of a change in emphasis by this committee.

Future Applications

If you want to apply for funding in the second round of 2003 you can find information at www1.sedo.energy.wa.gov.au The official call for applications will be made on 2 August 2003, and applications close on 29 August 2003. It will help applicants to make enquiry before committing resources to an application which may not fit the criteria. In ensuing issues of "30/10" we will bring to our readers a selection of completed projects.

Contact SEDO for more information on the these projects. 9420 5600 email: scg@energy.wa.gov.au

SEDO has generously supported "30/10" to communicate results and project outcomes (wherever possible) to a wider audience.

Carnegie to Generate Energy From Wave Power in Agreement with Pacific Hydro

Renewable energy company Pacific Hydro, is buying into and advancing a renewable energy generator to produce electricity from wave power that Carnegie Corporation has been developing in Fremantle.

This is part of a highly significant dual endorsement for the Seapower project and for Carnegie, with Pacific Hydro bringing in new expertise and strategic financial support.

Combined with strong support from the Commonwealth Government, which is also injecting \$600,000 as part of an R&D Start Grant offered by AusIndustry, the project now has in place the necessary funding for the construction and deployment of the first large-scale prototype.

Carnegie's Managing Director Alan Hopkins said the development of the first large-scale wave energy generator was already underway in Fremantle with in-sea trials now scheduled to commence early 2004.

"The relationship with Pacific Hydro (already the operator of 40% of Australia's wind energy capacity) is very promising for wave energy technology," he said. "For Carnegie it means we reap the benefits from development work to date and while continuing to provide technical support to the development program, we have limited financial exposure to the development process going forward and in future have a potentially large revenue stream from electricity generated by wave energy."

Under the agreement with Carnegie, Pacific Hydro has exclusive rights to develop and operate commercial wave units over 5MW in capacity. And the company will earn royalties from these larger units plus retain the rights to build small-scale power units less than 5MW for all areas of the world south of 10 degrees North latitude. This size of unit is considered ideal for many islands and remote communities.

The wave energy generator technology is designed to economically produce pollution-free electricity



Alan Burns (seated) with Alan Hopkins

and desalinated water. It has been under joint development in Fremantle by Carnegie and the research and development group of Alan Burns, (Chairman of Carnegie).

Seapower Pacific Pty Ltd is a joint venture between Pacific Hydro, Carnegie Corporation and Seapower Pty Ltd.

Further information:
Alan Hopkins, Carnegie Corporation 9486 4466

Wave energy and the Seapower system

The World Energy Council has estimated global wave resources contain twice the world's current energy consumption. Research to harness this resource is increasing in response to global warming caused largely by burning fossil fuels for energy generation.

The Seapower Pacific system is a submerged, near shore device on the seabed producing highly pressurised seawater. Hydraulic converters and generators convert the energy to electricity without the need for undersea grids or expensive marine qualified plant. The system also produces substantial fresh water

via reverse osmosis desalination, by directly tapping the pressurised seawater.

Standard units deliver approximately 2.4 MW of power on shore and 0.57 gigalitre/year of desalinated water (both at 80% availability). An array of 40 of these units could produce 100MW of electricity and approx 22 gigalitres/yr of drinking water. The construction materials are concrete, rubber and steel, all with proven longevity in sub-sea conditions. The system is immune to storm destruction, and is self-tuning to tide, sea state and wave amplitude.

Solar Pre-Heating Saves Money On Fuel

The Swan River paddle steamer "Decoy" is a replica of the original ship of 1878, built from the original plans in 1986. The ship is used as a charter pleasure craft, moored at Mends St jetty. But instead of using diesel as the exclusive fuel to fire the boiler, the "Decoy" has a pre-heater system using eight solar panels.

Paddle steamers were common in Australia at the turn of the last century as ideal transportation on the Swan River because of their shallow draft. They burnt wood which was in abundance, but they were slow.

The engine in the present vessel is the original two cylinder Ransomes. Typical of a steam powered ship, a large area amidships is taken up with the engine and steam boiler. Passengers can watch the action.

From its construction in 1986, the replica "Decoy" has always used diesel, both to power its steam engine, and to run an auxiliary diesel generator. The diesel for the steam boiler is burnt directly, not like a conventional compression diesel engine. For that reason, the only visible emission from the funnel is steam.

The addition of the solar panels came about because the owner wanted to reduce boiler start-up costs, and with the ship always moored facing north, the obvious choice was solar water heater collector panels. These are situated on the roof of the main aft saloon. The panels act as pre-heaters and have reduced diesel costs by 80% whilst steaming up. On sunny days the panels provide input when underway. The solar panels were donated by Solahart.

More information about the "Decoy" 9470 1727



Bio-diesel - Diesel's original intentions

The first diesel engine was named after its inventor - Dr Rudolf Diesel (on his wife's good advice) and patented in the 1890s. Dr Diesel's fuel of choice was peanut oil. He was no doubt a renewable energy entrepreneur but his idea of using a vegetable fuel got lost when fossil diesel became available cheaply.

A century plus later, we are beginning to look at the viability of returning to the "original" diesel, either sourced from plants we commonly grow as crops, or from abattoir and other waste fats. Either way, there are implications for transport in WA. Internationally, the production of biodiesel has topped 3 billion litres annually. The market is growing in the USA fuelled by legislation that requires the use of bio and regular diesel mixes. In Australia, the trend toward biodiesel is still in its infancy. As reported in the last "30/10", Transperth is trialling biodiesel in several buses. The diesel generators at Rottneest use it.

So why the growing focus on biodiesel? In the coming years we will slowly see the effects carbon taxes, of supply shortage, price hikes, and problems with availability. The recent Iraq war has shown how volatile the market can be.

Make your own fuel?

There are quite a few people now making biodiesel, including one individual who has registered his production facility as a "power station" and collects RECs. Another individual collects fat wastes from University restaurants. There are a number of commercial plants in operation and one in WA in planning, but it is unlikely that we will see biodiesel at the fuel stations just yet.

One industry that is well placed to take advantage of the simplicity of making biodiesel is agriculture. Although some in the industry doubt that farmers will ever use biodiesel, the growth of organic farming and crop production across the board and the unwillingness to allow petrochemicals near some of these farms may have a small impact. Technically there are no difficulties for a farm to make its own fuel and if the regular crop includes canola, the feasibility of devoting part the yield to fuel manufacture could be investigated. Already in the USA, government subsidizes the growing of corn and use of biodiesel in agricultural equipment.

Making biodiesel involves basic chemicals and is relatively safe and risk free. Suitable feedstock oil or fat wastes are treated with methanol and caustic soda. The conversion rate from oil to usable fuel is high (85%) and the production costs relatively low. The by-product is glycerol and this is also combustible.

There are environmental and health benefits. The emissions are virtually zero, and tail pipe black smoke, the particulates, foul smell and potential carcinogens are gone. One local producer claims his product is 88% renewable having analyzed everything involved in using canola from tillage and sowing to seed crushing and the process chemicals.

Commercially, the most cost-effective feedstock for biodiesel is recycled cooking oil and tallow and to make those "all climate", canola can be added to avoid low temperature problems.

Is it safe in modern engines?

Biodiesel is generally safe in engines designed to burn low sulphur regular diesel. In older engines, fuel hoses and other rubber components will require changing. Changing fuel filters and checking sediment traps is a wise precaution.

If you have a diesel vehicle, (and we stress, check vehicle age and "low sulphur" specs, and consult your mechanic) you might like to try it, (perhaps first as a blend). In most EU countries, biodiesel is commonly used in diesel passenger vehicles and manufacturers warranty its use. Time for Australia to catch up!

New excise and subsidy arrangements
In a recent media statement, Dr Kemp, Federal Minister for Environment and Heritage announced moves he said that would address key barriers to the take-up of biofuels and be consistent with the broader fuel excise reform framework. The Minister said the measures would aid the development of a commercially viable domestic biodiesel industry by addressing critical market barriers to its use, while providing greater certainty with quality.

The new biodiesel arrangements include:

- from 18 September 2003 the Government will apply excise on biodiesel - whether pure or blended - at the same rate as diesel;
- providing domestic biodiesel producers and importers with a subsidy of 38.143 cents/ litre until 30 June 2008, with a nett effective excise rate for biodiesel of zero over this period;
- adjusting the nett effective excise rate for biodiesel in a series of five even annual steps, commencing on 1 July 2008 and ending on 1 July 2012;
- setting a fuel standard for biodiesel, after which biodiesel will be listed as an eligible alternative fuel for on-road grants under the Energy Grants Credit Scheme; and setting a new excise rate that will apply to biodiesel from 1 July 2012.

Further Information

WA Renewable Fuels Association Inc.
Contact Tony Clark (President).
ph: 0428 920 881 (mob) (08) 9497 8619 (a/h)
e-mail: ar.clark@bigpond.com

(After a few tankfuls of biodiesel in a 2.5L TDi 4WD vehicle, this writer has experienced no noticeable changes to performance but a significant improvement in fuel consumption.)

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A P O L O G Y

In the February issue of Thirty/Ten Alinta Ltd was mistakenly listed as a Small Company Member. Alinta Ltd is a Large Company Member of the WA Sustainable Energy Association.

Membership Application

Since its inception in July 2002 WA SEA Inc. has constantly worked towards achieving our mission of 30% sustainable energy use by 2010. The aim of the Association is to give voice to those with an interest in sustainable energy and to promote the development and adoption of sustainable energy technologies and practices.

WA SEA is guided by six key aims:

1. Promoting the adoption of sustainable energy solutions that encourage the protection of the environment which traditional energy sources are damaging
2. Forming productive relationships with stakeholders
3. Facilitating the adoption of sustainable energy technologies and practices as a method of reducing WA's greenhouse gas emissions
4. Lobbying WA Parliamentarians and Government agencies and providing representation on relevant committees
5. Providing relevant and timely information to members and stakeholders
6. Increasing employment opportunities within the WA sustainable energy industry by championing:
 - Policies and programs that foster the expansion of WA's sustainable energy industry
 - The adoption of sustainable energy technologies and practices by energy consumers

If you require further information about WA SEA and our activities, please contact Johanna Gastevich on (08) 9328 8411 or johanna@wasea.com.au

Membership Options and Benefits

ALL MEMBERS receive the following benefits...

- Membership Certificate
- One Vote for election of WA SEA committee members
- THIRTY/TEN industry magazine
- Fortnightly electronic newsletter
- Invitations to industry events, seminars and workshops
- Discounts offered for WA SEA organised events
- Eligibility to join the WA SEA Management Committee

In addition:

SMALL COMPANY MEMBERS receive...

- Three copies of THIRTY/TEN
- 5% discount for advertising in THIRTY/TEN
- Acknowledged as a Small Company Member of WA SEA
- Authorisation to use WA SEA logo

LARGE COMPANY MEMBERS receive...

- Five copies of THIRTY/TEN
- 10% discount for advertising in THIRTY/TEN
- Discounts offered for WA SEA organised seminars/workshops
- Acknowledged as a Large Company Member of WA SEA
- Authorisation to use WA SEA logo

WA SEA - APPLICATION DETAILS

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Position: _____

Company Name: _____

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<input type="checkbox"/> Large Company	\$1,100
<input type="checkbox"/> Corporate	\$5,500

Please complete, fold, enclose your payment, staple or tape and post.

Please note: All memberships require approval from the WA Sustainable Energy Association Committee.
All members will be notified via mail of acceptance.

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Sustainable Transport Coalition
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It's hard to believe,
but this is
a power station.

No fumes, no pollution, no greenhouse gases and no waste. But yes, this is a power station. Just a very different one. This is Pacific Hydro's first Blue Wind Energy power station, already injecting 18.2MW into the National grid – enough clean, green electricity for up to 14,000 homes.

Blue Wind is not only making a significant contribution to Australia's energy needs, it's also helping us reduce carbon dioxide emissions by up to 88,000 tonnes per year.

So if your business is able to choose its electricity supplier, consider Blue Wind Energy. Not only can we offer a clean, green power source, but there is also the opportunity to offset carbon emissions against positive energy initiatives.

For further information you can contact Pacific Hydro on 03 9615 6424, email enquiries@bluewindenergy.com.au or visit www.bluewindenergy.com.au

It's your choice.



The greenest power of all.

BLUE WIND ENERGY IS AN ENVIRONMENTALLY FRIENDLY AND EFFICIENT PRODUCT FROM PACIFIC HYDRO