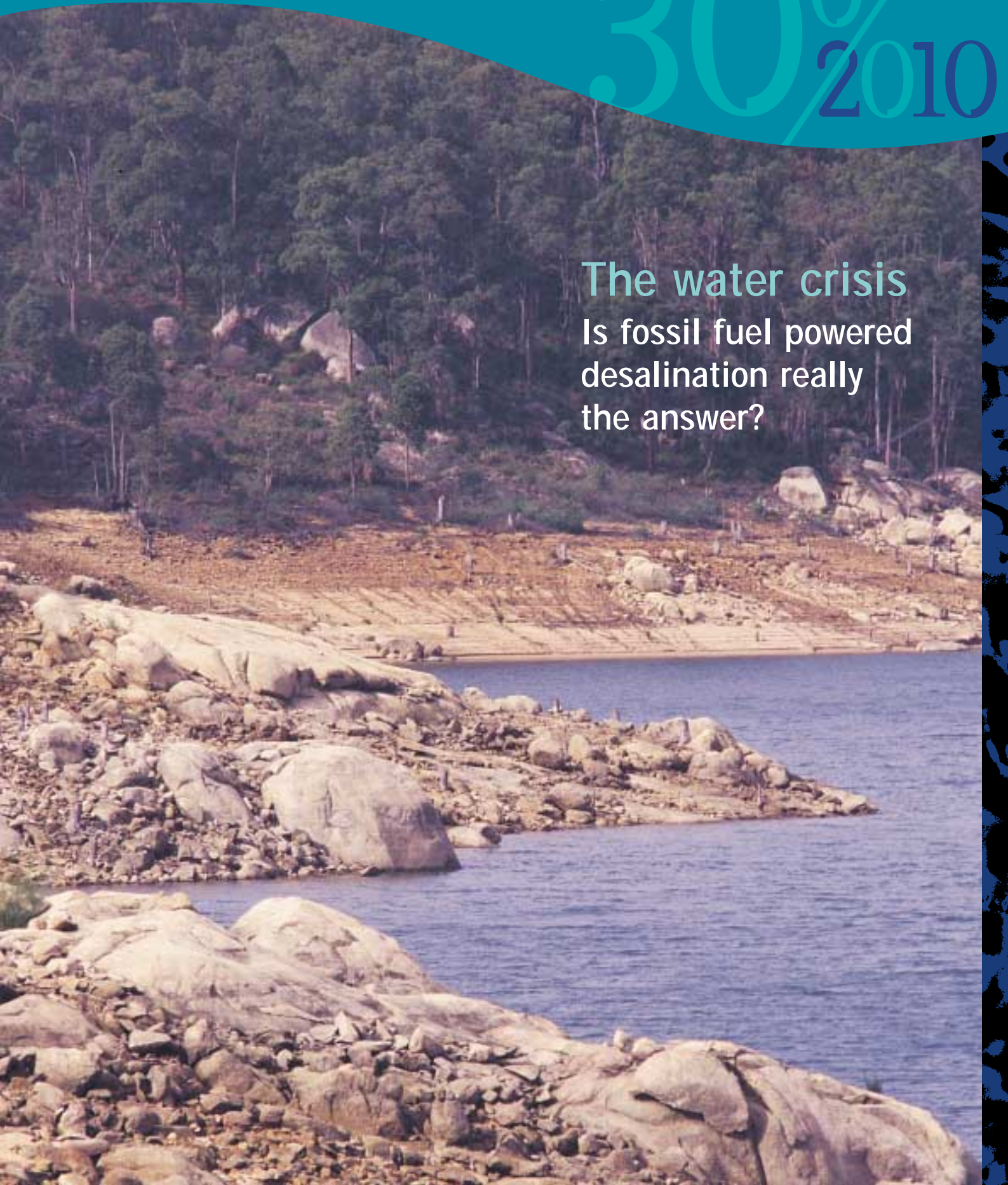


THIRTY/TEN

Western Australian Sustainable
Energy Association (WA SEA) Inc
Vol.1 No.1 July 2002

TARGETING 30% SUSTAINABLE ENERGY BY 2010

30%
2010



The water crisis
Is fossil fuel powered
desalination really
the answer?

30% 2010


DEPUTY PREMIER
TREASURER, MINISTER FOR ENERGY
107 St George's Terrace, Perth, Western Australia 6000
Telephone: 08 9222 8798 Fax: 08 9222 8799
Email: eric.ripper@treasury.wa.gov.au

Our ref: E001233

Mr Matthew Rosser
Chair
Western Australian Sustainable Energy Association
PO Box 8374
PERTH WA 6849

Matthew
Dear Mr Rosser
I would like to extend my congratulations to the committee and members on the formation of the Western Australian Sustainable Energy Association.

I believe that the Association will fulfil an important role as a local group that is able to provide membership and benefits to both individuals and companies working in the industry, and that will maintain a focus on local sustainable energy issues. I am confident that the Association will also work constructively with other organisations on national issues.

I look forward to the Association and SEDO working closely together to promote the sustainable energy industry in Western Australia.

Yours sincerely,

Eric Ripper
ERIC RIPPER MLA
DEPUTY PREMIER, TREASURER,
MINISTER FOR ENERGY

11 JUN 2010



The Conservation Council of WA

congratulates the WA Sustainable Energy Association and its members for taking this positive step towards ensuring the development of a sustainable energy industry in WA. Given the threat posed by climate change, the importance of the Association's work can not be sufficiently stated. Sustainable energy systems will be central to the creation of a society founded on the principles of ecologically sustainable development.

The Conservation Council wishes you well.



A heartfelt welcome to the first edition of our new magazine. I hope you agree that the magazine's title, *30/10* captures the overarching objective of the association:

'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.'

I have been delighted and encouraged, but not surprised, by the positive feedback and assistance that we have had from all quarters with the formation of the new association. There is clearly a real need and passion for a local association that is opening debate and championing local issues.

We have established our new office in the city and appointed an Executive Officer, who is well known to many within the sustainable energy sector - Johanna Gastevich whose professional manner and generosity of spirit has been instrumental in realising the formation of WA SEA.

Our new bi-monthly magazine, *30/10*, is aimed at debating those issues that are impacting on the local front. This is captured in our lead story on the water crisis - a problem that is crying out for a sustainable solution. As our article shows, the Water Corporation's current direction is difficult to understand and our analysis makes a valuable contribution to the means of resolving such a significant resource issue for our State.

Our other key story discusses the Government's *Energy Smart* program that has the potential to have a substantial, positive, growth impact in our local sustainable energy industry. The new *Energy Smart* program with mandated reductions in greenhouse gas emissions is a genuine step forward in achieving WA SEA's key goal and is a credit to all involved in its design. The task of demonstrating to the Minister the many benefits of broadening the Program so that Government Agencies must also purchase renewable electricity, provided it is supplied at a price equivalent to black power, is made easier by the obvious supportive approach to renewables implicit in *Energy Smart*.

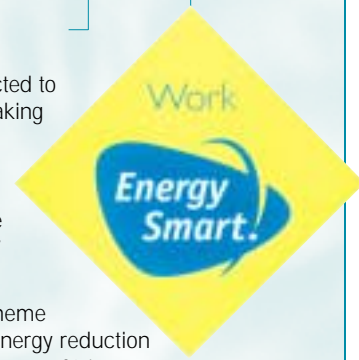
WA SEA will continue to consult with, inform and lobby Government to enable the best outcomes for our industry, and thus the State, to accrue from *Energy Smart*. *30/10* will keep a watching brief on its implementation and report on the outcomes it delivers for sustainable energy in WA.

I would also like to extend a welcome to WA to Dr David Harries who has been appointed the Executive Director of SEDO and look forward to working with him.

In closing I would like to thank all those who have made the formation of WA SEA possible and encourage those who have yet to join to investigate the many benefits that becoming a member can bring. And I would also like to wish Mary Dale well in her retirement from leading SEDO and thank her for the support that she has provided over her many years of involvement with our sector.

Matthew Rosser, Chairman

Strong government action creates real opportunities for sustainable energy players. The Government's new Energy Smart Program is expected to create significant opportunities for sustainable energy industry players and has been roundly welcomed by WA SEA.



Energy consumed by Western Australian State Government agencies accounts for a substantial portion of the State Government's operating costs. It also plays a significant role in the impact State Government agencies have on the environment through the emission of greenhouse gases. In June, Minister for Energy, Eric Ripper, announced the Energy Smart Government initiative.

The initiative has the potential to save millions of dollars as participating State Government agencies work to achieve a 12% reduction in non-transport related energy use by 2006/07. There is no doubt that the services and equipment supplied by the sustainable energy industry will see significant growth as a result of this move.

Launching the Energy Smart Government program, Mr Ripper said he expected more than 50 agencies to reduce their energy consumption by five per cent in 2002-03, and then 12 per cent in five years.

"By 2006-07, we expect emissions to fall by 54,000 tonnes a year," he said.

"The Government has committed \$16million through the Sustainable Energy Development Office to offer interest-free loans to agencies wanting to fund energy conservation initiatives."

Mr Ripper said agencies that failed to meet the targets without good reason would face financial penalties.

"On the latest figures available, Government generates 448,000 tonnes of greenhouse gases a year and spends well over \$60million to meet its energy bills. Cutting emissions not only benefits the environment but it saves money that can be put to good use delivering services for the community," he said.

The Energy Smart program also involved an annual report to Parliament on energy consumption across Government and procurement policies for equipment, accommodation and other facilities to deliver energy savings.

Mr Ripper said Government agencies consumed around 615 gigawatt hours of energy each year for lighting, heating, cooling and powering office equipment, such as personal computers.



The Energy Smart Government program was launched at Dumas House in West Perth, a pilot project for energy efficiency initiatives.

Built in 1964, the building was designed to use natural light and heat from the sun and has overhanging eaves to provide shade.

"While Dumas House was at the forefront of energy efficiency in its day, with a combination of good housekeeping and some capital investment - including window tinting and the installation of high efficiency lighting - significant energy savings can be achieved."

"Audits will be conducted to ensure agencies are taking every step possible to reduce energy consumption and meet their greenhouse gas reduction targets," he said.

The Energy Smart scheme imposed mandatory energy reduction targets of 5% in 2002-03, 6% in 2003-04, 8% in 2004-05, 10% in 2005-06 and 12% in 2006-07.

The Energy Smart Government policy covers all stationary energy used in buildings, plant and equipment by participating State public sector agencies. Agencies will be required to report each year their total energy costs, consumption, greenhouse gas emissions and key performance indicators.

The Sustainable Energy Development Office (SEDO) is the lead agency in overseeing the Energy Smart Government initiative. However, it is up to individual agencies to monitor targets and ensure they are achieved. Therefore, energy management should be an integral part of all business management plans.

Other agencies and Government Trading Enterprises (i.e. public non-financial corporations, public financial corporations and agencies outside the State's public sector) are encouraged to adopt the principles of the policy as an integral part of their business.

SEDO can assist State Government agencies meet their Energy Smart Government obligations and can provide advice in developing and implementing a tailored energy management plan, establishing an energy management culture and monitoring the plan's effectiveness.

In addition to the \$16 million over 4 years for repayable grants for investing in energy saving capital projects, SEDO has some funds to help agencies identify cost effective energy efficient projects.

Further information

Brett Cummings or Pat Smith at SEDO on (08) 9420 5600

"THIRTY/TEN" is the newsletter of the Western Australian Sustainable Energy Association (Inc)
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Circulation
 THIRTY/TEN goes to all members of the association with interests in any aspect of sustainable energy. It also goes to all WA State politicians, municipal councils, media, and other decision makers.

Disclaimer
 The views published in this newsletter are not necessarily the views of the WA Sustainable Energy Association (Inc) nor of the editor.

Whilst every attempt is made to check the authenticity and accuracy of the contents, neither the editor nor the Association is responsible for any inaccuracies or for actions taken based on the information contained herein.

Printed on 100% recyclable paper.

Print Post Approved: PP602669/00858

Public Comment

THIRTY/TEN will publish a regular list of new developments that have relevance to energy. For more information on projects before the EPA visit: www.environ.wa.gov.au/ and go to "Monday Advertisements"

Climate change at the grass roots

Changing our energy consumptive culture for the better is a challenge. Last February, the Eastern Metropolitan Regional Council (EMRC) took up that challenge and sought funding from the Australian Greenhouse Office. The combined regional approach paid off and both Liz Sideris and Martin Parsons were employed at EMRC as Cities for Climate Protection project officers.

A first step was taken - an audit of greenhouse gas emissions of the member local governments and communities (Town of Bassendean, Cities of Bayswater, Belmont and Swan, and Shires of Kalamunda and Mundaring). The next step was to set an emissions reduction target and develop an action plan.

A base year was taken as 1998, and everything in the community was measured. Projections were made to 2010. All of the councils involved have now set greenhouse gas reduction targets at 20% on 1998 levels.

But how are these targets to be achieved? The dual strategies of using renewable energy and being smarter with energy "efficiency" are the cornerstones. According to Liz Sideris, the de-regulation of the electricity market will have an effect. Two of the EMRC local governments are in the tender process to seek renewable energy suppliers.

But waiting for the de-regulation roll out to occur is one thing. The program is already taking a pro-active role at the grass roots level. A mobile energy audit van is to be commissioned. The public can access this service free of charge and receive advice and access to energy efficient products at a 50% discount on retail prices. Consideration is being given to the provision of low interest capital loans to fund insulation installation programs where the repayments are added to council rates. Can we expect mandatory insulation requirements in planning controls? Not yet says Liz.

Meantime, the EMRC is happy to hear from industries in the sustainable energy and resources area in terms of partnering and promotion. One major solar hot water manufacturer is already involved. And how about the really hard basket - the



Eastern Metropolitan Regional Council

The EMRC since inception has been active in better waste management, and various activities had been put in place before the present CCP program. Landfill Power and Gas Pty Ltd have had an agreement with EMRC to use methane at the Red Hill Waste site to supply electricity. But the association with the Red Hill site (apart from generating revenue to fund the EMRC) also includes such activities as an education centre to promote better management and waste reduction.

From Left: Cr Alan Richardson, City of Belmont; Cr Tina Klein, Town of Bassendean; Ken Goldsworthy, Manager Health & Environmental Services, Town of Bassendean; Shire President Elizabeth Taylor, Shire of Kalamunda; Max Williams, Chief Executive Officer, Shire of Mundaring; Mick McCarthy, Executive Manager Environmental Services, EMRC; Graeme Mackenzie, Chief Executive Officer, Town of Bassendean; David Vaughan, Chief Executive Officer, Shire of Kalamunda

rental market? The landlord never sees the benefits and the tenant is not going to spend money to improve something they don't own. Maybe we contemplate the type of legislative requirement they have in the ACT whereby any home placed on the re-sale market must show that a house complies with minimum energy standards.

And how will the program measure outcomes? The measurement of corporate local government energy consumption will be done by looking at fuel bills, making changes to fuel types (LPG for example). In terms of households in the six local

government areas, Western Power and AlintaGas are being approached to gain data from household bills. There is even thought of running a website rather like Newcastle City Council's "Climate Cam" in order to show regularly how the communities are doing. Climate Cam has been very successful in providing immediacy for people wanting answers.

July will see the implementation of the CCP and we await with interest the progress.

For more information,
ring Liz Sideris at EMRC on 9479 4808
or visit the website at www.emrc.org.au

Win a dozen bottles of wine!

This first edition of THIRTY/TEN has been distributed free of charge to a large group of individuals and businesses with an interest in the aims of this association.

THIRTY/TEN will be published bi-monthly and sent only to financial members of the Western Australian Sustainable Energy Association (WA SEA) Inc.

Join WA SEA before 31st August, 2002 and be in the draw to win a dozen bottles of Western Australian wine to be drawn at WA SEA's inaugural AGM in September.

The first five small or large companies to join WA SEA will receive one quarter page advertisement to feature in THIRTY/TEN for FREE.

Membership application details are enclosed.

For further information about joining WA SEA contact:
Johanna Gastevich
on (08) 9328 8411
or email
johanna@wasea.com.au

Towards a sustainable water supply - or "business as usual"?

Here are two indisputable facts:

The major population centre of Western Australia is facing a long-term water shortage, and water is a commodity that takes a lot of electrical energy to process and deliver.

The south west of WA has been dry for nearly thirty years, and CSIRO experts are saying that this could be a foretaste of things to come due to the greenhouse effect. According to Dr Bryson Bates, a researcher with the Division of Land and Water, streamflow measurements indicate a decline in rainfall since the 1950s. In some areas, the average rainfall patterns are 20% lower than the norm. Perth's dams are in a critical state. There has been only one winter since 1975 with above average rain and Water Corporation data shows that the reservoir inflow for 2001 is only about 10% of the long-term average.

A drought contingency plan has identified a need for 100 MegaLitres/day of potable water to supplement Perth's existing sources by July 2004. The source options are desalination of seawater using reverse osmosis or pumping from deep artesian aquifer sources. The State government is yet to commit to the desalination option but if it does, the Corporation (already Western Power's second biggest consumer) will need to increase its electricity consumption by a massive 50% by March 2004. - equivalent to about 25,000 average homes. Whichever way it goes, the Water Corporation will use significantly more electricity.

Now put the equation together: a major contributor to global warming is electricity generation from fossil fuels. An effect of global warming in WA is decreased rainfall.

So we are heading into a situation whereby the production of potable water by desalination will contribute to the cause of the problem in the first place. There is a certain irony here that defies commonsense - particularly as WA grapples with a coordinated greenhouse strategy.

The key issue is the cost of desalinated water. This is predominantly determined by the costs of energy to run the plant. The Water Corporation is saying the process of securing electricity for the new desalination unit is exclusively price driven and appears to ignore environmental considerations. Consider the environmental costs and the lost opportunities. If the Federal Government's RECS program incentives are included, the current cost of renewable energy technologies (latest technology wind or biomass) are now competitive financially with the cost of fossil fuels for large scale projects. There are also innovations that could yield further energy because stored water is stored energy. The proposed desalination plant would be located on the coast between Mandurah and Coogee, an area which would be suitable for wind turbines.

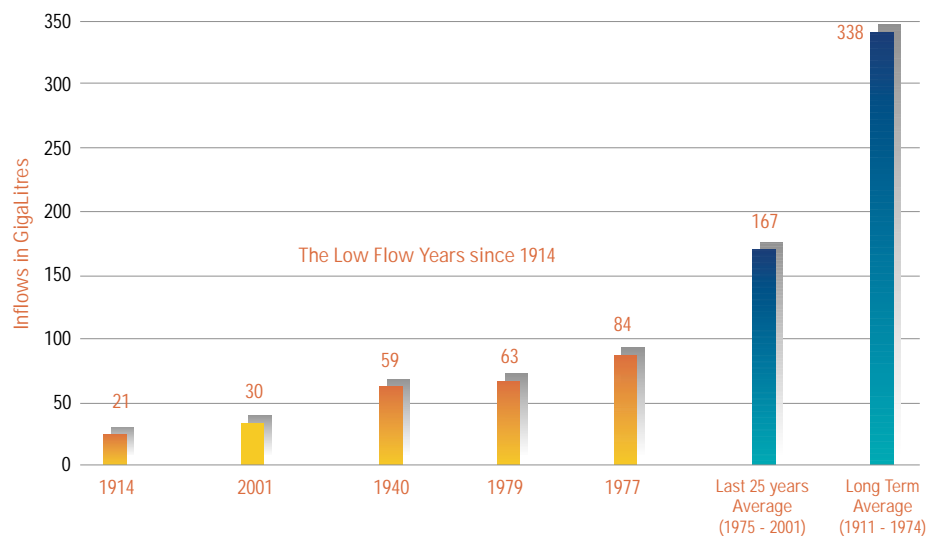


The Water Corporation's desalination plant could be used to stimulate the local sustainable energy industry by favouring local sustainable energy solutions such as wind or biomass. Yet the Corporation has imposed an electricity purchase strategy that overwhelmingly favours fossil fuel derived electricity over renewables. The present desalination proposal is in danger of excluding the possibility of using renewable energy, even as part of the mix, and the environment doesn't get a mention. Also ignored is the likely additional cost to the State if carbon taxes are imposed on energy as is happening in other OECD countries.

There appears to be no public discussion of this potentially major increase in fossil fuel usage. Questions have been asked in Parliament about the electricity purchase strategy, but essentially the "no" answer predominated when asked whether renewables sources were to be considered. The argument will always be presented that water must be provided at low cost, just like electricity. But at the cost of: more damage to the environment; financial risk (associated with an impending carbon tax) and lost opportunity for the local sustainable energy industry?

Western Australia appears to be stuck in a paradigm that has been called into question in many parts of the world. We fail to use our natural resources sustainably and continue with a "business as usual" approach to water. It is time to question this. We face serious water supply issues, and it is critical that the Western Australian sustainable energy industry is given the opportunity to be part of the solution.

Comparative Reservoir Inflows in GigaLitres



STOP PRESS As we go to press the Water Corporation has advised that "the Board of the Corporation decided to defer for several months consideration to proceed with a desalination plant...and reconsider its strategy for future power requirements". Water Corp has also initiated a public consultation process to consider many of these issues.



Fremantle Wind Farm Project Proposal

In 1999, the Fremantle Port Authority invited expressions of interest for the development of a renewable energy project at the Port of Fremantle. Fremantle Wind Farm was successful in its proposal to develop a renewable energy project utilising the abundant natural wind resource of the area and was granted preferred tender status.

Following engineering feasibility studies conducted during 2000/2001 which confirmed the viability of the proposal, consideration of sizing and locations to best integrate with the existing infrastructure, a wind generating facility consisting of 8 units capable of generating up to 7.2 MW of clean electricity is proposed for the Rous Head/North Mole area of the harbour. After conducting public consultations with Fremantle Port Tenants and Fremantle City and local community groups Fremantle Wind Farm has now submitted a planning application to the Department for Planning and Infrastructure.

PROJECT PROPONENTS

Pacific Hydro Limited is an independent power producer dedicated to the development and ownership of environmentally sustainable and efficient energy in Australia, South East Asia and the Pacific Basin. The company was formed in 1992 and listed on the Australian Stock Exchange in 1993. Pacific Hydro is committed to owning and operating power generation facilities that contribute to the reduction of greenhouse gas emissions with minimum environmental impact in their construction and operation. Pacific Hydro currently operates environmentally friendly hydroelectric power facilities in WA, Victoria and the Philippines and Australia's largest privately developed wind power project in Victoria. It is the majority partner in Fremantle Wind Farm.

Energy Visions Pty Ltd is a Western Australian based company formed in 1996 with the specific purpose of introducing and establishing private sector wind power projects and is working with Pacific Hydro to develop the proposed Fremantle Wind Farm. Energy Visions has recently obtained development approval for the Coronation Wind Farm located in the Mid West region of Western Australia.

DETAILS OF THE PROPOSED PROJECT

Fremantle Wind Farm is proposing the development, and operation of a 7.2 MW wind energy project at the Fremantle Port. The project will involve the installation of 8 wind turbines, each of 900 kW capacity situated along the western-most portions of Rous Head on reclaimed land owned and operated by the Fremantle Port Authority.

Each wind turbine will be mounted on a tubular steel tower and will include three blades designed to rotate slowly in the range of 15-22 rpm. The total height of tower plus blade will be approximately equal to the

existing large cranes at the Fremantle Port. The wind farm is expected to generate 22 million kilowatt hours per year, enough to supply approximately 6,000 homes with clean power, or the full annual electricity usage of the Fremantle Port.

ENVIRONMENTAL CONSIDERATIONS

The wind farm will emit zero greenhouse gases and will eliminate the release of 22,000 tonnes of carbon dioxide.

Modern wind turbines are quiet, with noise emissions well below allowable limits. The turbines are situated on industrial land designated as Port use and will be well away from any residential premises.

The visual impact on surrounding areas has been minimised by careful design and turbine siting and consultations have been conducted with existing Port tenants and the Inner Harbour Community Liaison Group as well as with the Fremantle Port Authority.

Each turbine will have a footprint of only 3.5 metres in diameter with the foundations below ground. All cabling will also be underground.

INDICATIVE DEVELOPMENT PROGRAM:

The proposed development program envisaged for the project is as follows:

- Planning approval expected: July 2002
- Construction commences: 4th quarter 2002
- Project completion: 2nd quarter 2003

CONTACT DETAILS

Graeme Fitzpatrick

Pacific Hydro Limited

Tel: (08) 9429 8866

Email: gfitzpatrick@pacifichydro.com.au

Website: www.pacifichydro.com.au



The Australian & New Zealand Solar Energy Society is running a nationwide "Solar Home" tour on September 8th.

Visit www.solarhouseday.com to get details.

Where do old wind turbines go?

Do they simply "wind" down or find another home? The wind turbines at the Salmon Beach Wind Farm at Esperance (Australia's first wind farm) were recently de-commissioned.

Originally brought on line in 1987, the six 60 kilowatt(kW) Perth made Westwind turbines, had been in use beyond their expected life of ten years. Reliable winds, blowing at an average speed of 7.5 metres per second (27km/hr), made Esperance an ideal candidate for a wind farm. The Salmon Beach wind farm was a successful demonstration that led to the development of major wind installations by Western Power at Esperance and more recently at Albany. Wind pays off too. To date, the



Esperance wind farm at 10 mile lagoon has clocked up roughly 50million units of electricity, which saved over 12 million litres of diesel, saving at least \$10million at today's prices.

A Westwind machine was also installed at Denham to power the town's de-salination plant, and this too has been superseded by larger machines.

But the machines have now ceased operating. One has been left at the site as a monument and one has been donated to the Shire of Esperance, again as a static exhibit. The other four were shipped to Queensland, where after re-furbishment will see service in island communities in the Great Barrier Reef.



Don't Miss Out

Register now to attend the free **Energy Smart Government** breakfast for business to be held in September. Come and find out:

- How the program works
- How your business can become involved

FREE BREAKFAST

Register your interest in attending NOW and the Sustainable Energy Development Office (SEDO) will send you an invite with further details.

Name: _____

Address: _____

Phone Number: _____

Company: _____

Email: _____

Send to:

Sustainable Energy Development Office
Level 9, Governor Stirling Tower
197 St Georges Terrace
Perth WA 6000

OR

Email: sedo@energy.wa.gov.au

Fax: 9420 5700

Phone: 9420 5647

www.sedo.energy.wa.gov.au



Sustainable Energy Development Office
Government of Western Australia

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.