

# THIRTY/TEN

Western Australian Sustainable  
Energy Association (WA SEA) Inc  
Vol.2 No.1 February 2003

TARGETING 30% SUSTAINABLE ENERGY BY 2010

# 30% 2010

## Electricity Reform

opens the way  
for renewable  
energy

Senate  
increases  
MRET  
to 5%

*'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.'*

## Chairman's Report



Looking over my shoulder to the achievements and challenges of 2002 - a landmark year for WA's sustainable energy industry - a number of things stand out as highlights:

- The reform of the WA electricity sector, paving the way for more participation and competition in the delivery of renewable energy.
- The birth of our own association - WA Sustainable Energy Association (Inc).
- WA SEA's appearance before the Federal Senate to give evidence on the 2% mandated renewable energy target.
- The delivery of 10 submissions to Government on issues ranging from the state's sustainability strategy to the electricity reform process at all levels of government.
- The implementation of the government's Energy Smart program.
- The great feeling of camaraderie and shared purpose within the industry sector.

However the year was not without its challenges, including:

- Attacks by the Australian Gas Association on the solar hot water industry.

- The ongoing saga and bureaucratic buck-passing that has not yet delivered the all important renewable energy access regime.

The year ended, though, on a very high note when, in the early hours of December 12 on the last day of sitting, the Federal Senate amended legislation that increased the Mandated Renewable Energy Target (MRET) from 2% to 5%.

While the amendment is currently back with the House of Representatives, the signs are good that MRET is part of our long term reality and that levels will soon increase.

The implications for WA are both challenging and far reaching. Challenging in that a 5% MRET target requires the installation of some 500MW of new renewables by the year 2010 in WA - around double that required under the current the 2% target. Far reaching in the sense that this level of development would result in the order of a billion dollars worth of investment in WA's sustainable energy sector - changing the face of the industry in this state forever.

How well we as an industry rise to the challenge of delivering the projects will be crucial to our long term future and to the future of renewables in this state. Don't ignore the reality that the State Government can fund this investment anywhere in Australia and if we can't build the projects here, we will lose business to the eastern seaboard.

Now more than ever it is imperative that we do all we can to ensure that the Government's electricity reform is implemented promptly so that those conditions necessary for the entrance of sustainable energy projects are delivered to us.

As we move into 2003 it is essential that the members of the WA Sustainable Energy Sector continue to support WA SEA.

WA SEA has, even in its first year of operation, demonstrated to Government that it is an effective voice for a cohesive, innovative and committed industry sector. We provide a focal point for consultation, negotiation and influence - which ensures our industry is not only seen to be, but is, relevant in the reform process.

More than ever before the benefits of membership to the industry are significant. Please fall in and support the Association. 2003 sees us faced with the challenge of demonstrating that the WA sustainable energy sector can meet all our renewable energy requirements locally. Working together to ensure the market mechanisms are in place, we will achieve this goal.

Matthew Rosser

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# Major Reform for the Generation, Distribution and Sale of Electricity in WA

The generation, distribution and supply of electricity in Western Australia is undergoing a much needed sea change with the acceptance of the Electricity Reform Task Force (ERTF) recommendations by Cabinet in November last year. The impending changes are so far reaching that every company related in any way to energy supply and management will be affected. The push to becoming more sustainable will gain strength and the Greenhouse gas intensity of the WA electricity industry will be reduced by opening meaningful opportunities for the sustainable energy industry that have remained effectively shut.



Reform is progressing in a timely manner with the Implementation Group currently taking up residency in the offices vacated by the now defunct ERTF, which disbanded last November. While it is still early days and appointments have not been officially announced there is one confirmed member, John Kelly, who previously served on the ERTF. It is expected that many Office of Energy staff members who so ably worked with the ERTF will also assist the Implementation Group.

This is an opportunity for the Government to provide a seat at the table and appoint a member who will strongly represent the interests of the sustainable energy sector. Such an appointment will facilitate the implementation of key recommendations that directly impact on the sustainable energy sector, ensuring that change is effective as intended. Central to this process will be the early implementation of a workable interim renewable energy access regime.

Key to the Implementation Group's tasks will be to push a legislative program that has three key phases:

1. Establishment of the Economic Regulation Authority (ERA) by July 1st 2003. The ERA will be responsible for regulating electricity, gas, water and rail. The ERA will absorb the Office of Gas Access Regulation. OFFGAR supports the Independent Gas Pipelines Access Regulator and the Gas Disputes Arbitrator in Western Australia. This work is being led by Treasury in consultation with Office of Energy and a range of other agencies.
2. Amending existing legislation, such as the Electricity Corporation Act that will facilitate the introduction of the change process and other measures such as the early implementation of a workable interim renewable energy access regime. This is expected to be completed by July 1st 2003.
3. The final stage which is the drafting and introduction of the new legislation that will define the new electricity market. This legislation is expected to be drafted this year and introduced in 2004.

## BACKGROUND

The Gallop Labor government came to power in 2001 with a program targeting reform in the WA electricity industry. An early initiative was the establishment of the ERTF to advise on the likely structure of a new electricity market.

According to ERTF spokesman Dr. Frank Harman, the present monopolistic electricity supply arrangement is dysfunctional and discourages the use of renewable energy and application of energy efficiency measures. The cornerstone of the reform

is the disaggregation of Western Power into three separate state corporatized bodies that have responsibility for generation, networks and retailing.



## MAJOR STRUCTURAL RECOMMENDATIONS

Western Power's activities in the South West Interconnected System (SWIS) should be disaggregated into three Government-owned Enterprises.

- State Generation, a single entity encompassing all Western Power generation assets and related activities.
- State Networks, including all Western Power transmission and distribution assets and related activities.
- State Retail, incorporating all Western Power retail assets and related activities, acquiring and selling energy and energy services within the SWIS.

## REGIONAL POWER

Western Power's activities in the North West Interconnected System (NWIS) and its non-interconnected systems should be integrated as a separate single entity, the Regional Power Corporation (RPC), a further corporatised Government Enterprise. Its functions should include the generation, acquisition, transmission, distribution and retailing of electricity in the NWIS and the non-interconnected systems.

## ENCOURAGING SUSTAINABLE ENERGY GENERATION AND USAGE

The Government should examine options for the encouragement of sustainable energy outcomes, including placing a requirement on retailers (or large users) to source a certain portion of their electricity requirements from Western Australian based renewable energy sources; or by placing a greenhouse reduction requirement on retailers licensed in Western Australia.

Initially, under the new market, there should be no restrictions on or penalties for out of balance energy for renewable generators. Once the wholesale market model has been established, concessional energy balancing arrangements should cease and

renewable energy generators should become subject to the general competitive balancing mechanism applying under the new market.

## REGULATION AND DISPUTE RESOLUTION

The Economic Regulation Authority (ERA) should be responsible for electricity market surveillance and report to the Government the results of its market surveillance activities. The ERA should be responsible for monitoring, and reporting to the Government on the effectiveness and functionality of the electricity market in the South West Interconnected System (SWIS).

The ERTF also recommended that an energy ombudsman be established with powers to impose penalties on retailers not meeting standards and licence conditions. The Government should also oversee the development of an industry-based Energy Ombudsman.

## NEW GENERATION PLANT

State Generation should not invest in additional fossil-fuelled generating plant until the Government, on advice from the ERA, determines that such investments by State Generation would not hinder the development of a competitive generation sector. Nor should it replace ageing plants until the Government, on advice from the ERA, determines that such replacements would not hinder the development of a competitive generation sector.

## FULL RETAIL CONTESTABILITY (FRC)

FRC should be implemented only after the proposed disaggregation of Western Power is complete, when there is an effective wholesale market operating, with an effective access regime, and a regulatory framework suitable for a competitive market has been developed.

Existing rebate schemes should remain available to eligible consumers that switch to alternative retailers in a contestable market.

The threshold for contestability should be reduced to 5.7 kW average load (50 MWh per annum - a shop, or a small workshop on 1 January 2005).

## THE WAY FORWARD

The ERTF has put forward a set of recommendations that have been made with the benefit of seeing the mistakes of past reform processes, including unworkable privatisation. The new energy industries and jobs will benefit from this sea change. WA SEA strongly supports the reform process.

The ERTF's report can be viewed in full at [www.ertf.energy.wa.gov.au](http://www.ertf.energy.wa.gov.au)

## Western Power Seeks RECs from WA Renewable Generators

In January, Western Power (WP) called for Expressions Of Interest from the private sector, for the supply of 11% of their REC requirement (90,000 RECs) by the year 2005 from private sector projects located in WA. Under the Federal Government's 2% Mandated Renewable Energy Legislation WP is required, by the year 2010, to annually source some 800,000 renewable energy certificates (RECs) from renewable generators. WP can source RECs from its own renewable energy projects or private sector RE generators such as wind farms, landfill gas, solar hot water systems or biomass plants. These projects can be anywhere in Australia.

With recent changes to the 2% Mandated Renewable Energy Legislation (*see our story on opposite page*) WP REC requirement is set to rise from around 800,000 to 1.6 million per annum by 2010. This raises several questions.

At present, WP creates around 10% of its RECs requirements from the wind farm at Albany, and all their other renewable energy plant is either

under construction or too small to be of any significance.

The present tender seeks to buy 90,000 RECs from private industry by 2005 (2 years away). Two years is a very short time frame for major developments such as wind farms considering all the different approvals and reviews that are required.

We estimate that an additional 120,000 RECs are available from the installation of approved solar hot water systems within WA, but the tender calls for its requirement to come from within the southwest grid.

With all the RECs available from its own projects plus the recent tender and the assumption that WP secures all the 120,000 RECs from the solar hot water industry, WP still appear short some 500,000 RECs by the year 2010.

If the WP's RECs requirement cannot be sourced from local projects then they will have no choice but to go outside the state to get them. In effect, taxpayers in WA would be financing the construction of wind farms in the Eastern states.

The signals are ominous considering:

- the long time frame between the initiation of projects and the delivery of RECs;
- the small amount of RECs required, secured or tendered for; and
- WA's impending increase in the levels of RECs (worth a potential \$600 million in capital expenditure alone).

Positive action is required to ensure that the local sustainable energy industry meets WA's REC requirement and that we don't subsidise renewable energy developments on the eastern seaboard.

To this end it is imperative that the Government's electricity reforms aimed at facilitating the development of local renewable energy projects are given high priority and the change process delivers for WA taxpayers.

Want more info on RECs?

Visit [www.orer.gov.au/factsheets](http://www.orer.gov.au/factsheets)

## Expression of Interest

### Renewable Energy Certificates (RECs)

Western Power is seeking Expressions of Interest (EOI) from suitably qualified and experienced organisations to supply a total of up to 90,000 Renewable Energy Certificates (RECs) per annum from accredited renewable energy generation facilities located within WA's South West Interconnected System.

Following assessment of the submissions received, Western Power will issue Request for Proposal documents to organisations successful in the EOI process.

An EOI document can be obtained by telephoning Ms Kerry Llewellyn at Western Power's Energy Trading Branch on (08) 9326 4511 between the hours of 8:30am to 4:00pm AWST Monday to Friday or by emailing: [kerry.llewellyn@westernpower.com.au](mailto:kerry.llewellyn@westernpower.com.au)

**EOI Submissions close at 10:00am AWST  
Monday 24 February 2003.**



**Western Power**

## Federal Senate Increases Mandatory Renewable Energy Target to 5%

In a surprise move on December 12, 2002, the Federal Senate voted to increase the MRET target from 2% to 5%.

The amendment has been sent to the House of Representatives where its fate will not be known for some weeks. However, the Senate has sent a very clear message to the Howard Government on how it will deal with the up and coming review of MRET scheduled for early 2003. It is widely rumoured that this review will lead to an increase of the MRET to 10%.

The implications for WA are significant as the 5% level lifts WA's modest Renewable Energy Certificate (RECs) target from around 800,000 RECs to 1.6 million per annum by the year 2010, increasing the capital expenditure from \$600 million to well over \$1 billion.

With WA currently appearing to be short some 500,000 RECs on the 2% requirement it is imperative that the WA electricity market reform facilitates the development of local renewable energy projects.

### MRET Background

Australia is fortunate to have legislation that mandates the production of electricity from renewable sources.

In 1997 the Prime Minister in his announcement "Safeguarding The Future: Australia's Response To Climate Change" stated that the Federal Government would work with the States and Territories to set a mandatory target for electricity retailers to source an

additional 2% of their electricity from renewable energy sources by 2010.

In legislation, the 2% mandated target became a fixed 9500 GWh of new renewable energy in Australia by the year 2010. The target was to be shared amongst retailers based on their percentage share of the Australian electricity market.

WA's share of the mandated target is around 9% of the Australian total (800 GWh) that equates to the installation of ten wind farms of the capacity of Albany. As with most legislation, MRET isn't perfect and there are deficiencies.

As well, a major problem identified was that as electricity demand grows the 9500 GWh fraction diminishes. 2% is a rolling amount. 9500 GWh is fixed, and the Business Council for Sustainable Energy showed that far from 2%, the real amount might be closer to 0.5%. This is because growth in the electricity industry is fast outgrowing the original projections.

The original intent was that electricity retailers (liable entities) purchase renewable energy certificates (RECs) from plant:

- that generated renewable energy from a qualifying renewable energy technology; and
- should be new and constructed post 1997. This is a moot point as under some special arrangements some very old hydro power stations are allowed to generate RECs, without any new expenditure.

A government appointed auditor, the Office of the Renewable Energy Regulator (ORER), regulates the process.

A wind farm is within the spirit of the legislation. But is the waste left from logging old growth forests, using methane from coal mines, or giving financial credit for a hydro plant that was producing renewable energy anyway?

The financing strategy of new plants typically takes account of two cash flow components, the physical electricity and the value of tradeable renewable energy certificates (RECs).

So a REC can be generated by a wind farm and sold to a liable entity while the electricity can be sold to the market - unfortunately for WA's renewable energy developers no electricity market currently exists, with practically all electricity purchased by a single Government owned monopoly. The purpose of the REC is to enable liable entities to avoid paying a fine for non-delivery of the REC.

Read Hansard at:

[www.aph.gov.au/hansard/hansen.htm#daily](http://www.aph.gov.au/hansard/hansen.htm#daily)  
Click on "December 12" for details of the debate.

## Is the gas industry again busy destroying the solar hot water industry?

The Australian Gas Association (AGA) recently released its report entitled 'Reducing Greenhouse Emissions from Water Heating: Natural Gas as a Cost-effectiveness Option'.

The report states that a more effective way of reducing greenhouse gas emissions from water heating can be achieved by encouraging the uptake of five star gas water heaters. The AGA also states that government based solar hot water schemes are an expensive mechanism for reducing greenhouse gas emissions. WA SEA and members of the Council of Australian Solar Water Heater (CASH) manufacturers are concerned about major flaws in the arguments used in the report.

The methodology used to compare Solar Hot Water Heater (SHWH) and Gas Hot Water Heaters (GHWH) is not consistent. For instance, the report compares gas with the most expensive electricity tariff to make gas a more favourable option.

The report ignores the various climate zones in Australia. It only compares the relative effectiveness of SHWH compared to GHWH based on climate conditions in Melbourne and Canberra (relatively cooler climate zones) while ignoring hotter climate zones, where the majority of systems are sold. In some of these hotter areas, SHWH have practically

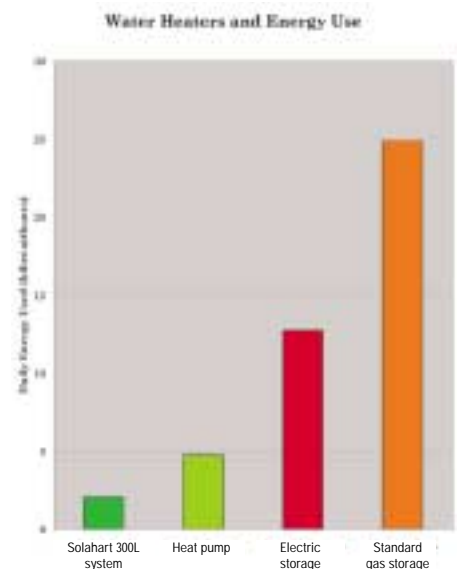
zero greenhouse emissions and running costs as automatic boosting can be turned off for the majority of the year. Analysis should also be replicated in the warmer climate zones.

The purchase and installation costs cited for SHWH are much higher than the average. The prices quoted for the installed price for the average system in all states has been over stated by at least \$1,000. Expensive high performance SHWH with extended warranties may cost more but so does the equivalent up market extended warranty gas storage unit.

Finally and most importantly, the report does not acknowledge the significant economic benefits (via job creation) of the SHWH industry and the social benefits of householder participation in the reduction of greenhouse gas emission and their on-going saving on their electricity bills, with the installation of a SHWS.

It is important that the installation of GHWH does not assist in achieving the Federal Government's 2% Mandated Renewable Energy Target. The Renewable Energy (Electricity) Act 2000 legislation was implemented as a method of shifting away from non-renewable forms of electricity generation. Though the use of gas does have considerable greenhouse savings when compared to coal, it is not a renewable energy source and therefore does not assist in meeting this Federal obligation.

Western Australia has four out of the five SHWH manufacturers located in the State. This Industry contributes significantly to the Western Australian economy and it's essential that such a misleading report does not stagnate a growing industry sector.



A comparison of the energy consumed by some typical water heater products. The data was derived using Australian Standard Climate data and a daily usage of 200litres. (Information courtesy Solahart Industries)

# THIRTY/TEN

## Capturing wind at Rottneest

Tourism Minister Clive Brown announced recently that a \$2 million wind turbine would be built at Rottneest Island in 2003.

The 80m-high turbine (rating 660kW) will be built at Mt Herschel, near the salt lakes at Geordie Bay.

The State and Federal Governments have each contributed \$1million to the project.

Mr Brown said the new wind turbine was expected to meet about a third of the island's power needs and save about 380,000 litres in diesel each year.

"This saving will reduce greenhouse gas emissions by about 940 tonnes of carbon dioxide per year," he said.

The Minister said the wind turbine would not only reduce the reliance of Rottneest Island on diesel for its power generation but would also reduce reliance on limited water sources by helping to power the island's reverse osmosis desalination plant.

"It also reduces the need to transport and deliver diesel from the mainland to the island," Mr Brown said.

A community consultation period conducted in 2001 showed significant community support for the construction of a wind turbine at Mt Herschel, with 95 per cent of respondents supporting the proposal.

"Many Western Australians foresaw the environmental and economic benefits of constructing a wind turbine on the island, and also its potential from a tourism and interpretation perspective," the Minister said.

The Rottneest Island Authority will call for tenders shortly for the installation of the wind turbine. Construction is expected to start in mid-2003.

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## Good news for Fremantle too

Pacific Hydro Limited has finally been given planning approval for a 7.2MW wind farm to be built in Fremantle at Rous Head.

The project will rely on the on - shore winds to generate more than 20,000MWh of energy per annum using 8 x 900KW turbines. The turbines are yet to be selected, but likely to be 900KW Micon machines.

The energy will be sold directly to the Fremantle Port Authority with any excess exported into the grid. Electricity will go directly into the existing FPA switchyard. The project proponents are currently negotiating grid access arrangements with the State's utility Western Power as well buy/sell prices for any exported and imported energy.

## Robin Chapple MLC

supporting your commitment  
to 30% renewables by 2010



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To find out more, contact  
Nicole on 9420 7295 or see

[www.wacollaboration.org.au](http://www.wacollaboration.org.au)



#### FOUNDING ORGANISATIONS

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Council of WA • Environmental Alliance • Unions WA •  
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## STEP - Sustainable Transport Energy for Perth - A Trial of Fuel Cell Buses



The WA government is undertaking a trial of hydrogen powered fuel cell buses in Perth. The purpose of the Perth fuel cell bus trial is to evaluate the potential for the possible future operation of a hydrogen powered fuel cell public transport bus system.

### Vehicles, Equipment and Fuel

Three prototype fuel cell buses are being purchased from EvoBus, a subsidiary of DaimlerChrysler. The buses will be delivered in Perth in early 2004 and trialed for two years. Ballard Power Systems are supplying the fuel cell engines (fuel cell stacks, hydrogen tanks, and all associated balance of plant). BP is supplying the hydrogen for the trial and they have engaged BOC to undertake the engineering work and execute the project on their behalf. The buses are being built on a Citaro chassis (a standard EvoBus chassis in Europe). The 250 kW fuel cell and hydrogen storage tanks, cooling modules, fuel cell stack modules, radiator modules and hydrogen diffuser will be located on the roofs and provide power to an electric motor at the rear of the bus.

The hydrogen will be obtained from BP's oil refinery at Kwinana. The hydrogen will be piped to the nearby BOC facility, purified to 99.999%, compressed and delivered to the bus depot.

The WA Government through its Department for Planning and Infrastructure will own the three buses. The buses will be used on high frequency central business district routes and on longer routes which circumnavigate Perth, and the project will be evaluated and independently monitored by Murdoch University.

### Finance

The WA Government is providing the bulk of the financial support for the project, both direct and in-kind. The Australian Commonwealth Government has provided a grant of \$2.5 million to the project through Environment Australia and the Australian Greenhouse Office. BP is funding the design and construction of the hydrogen-refuelling infrastructure at an expected cost of \$2.5 million. DaimlerChrysler Australia/Pacific will fund the training and employment of some bus maintenance staff over the life of the project.

### Further Information: Simon Whitehouse

Department for Planning and Infrastructure, (08) 9216 8490

[www.dpi.wa.gov.au/fuelcells](http://www.dpi.wa.gov.au/fuelcells)

[www.evobus.com](http://www.evobus.com)

[www.daimlerchrysler.com](http://www.daimlerchrysler.com)

[www.ballard.com](http://www.ballard.com)

## LATE BREAKING NEWS

### Minister Alannah MacTiernan announces broader trial.

As we go to press the Minister has announced that in addition to the Fuel cell buses, Biofuels will be trialled in buses and 40 Hybrid electric vehicles will be added to the government's fleet. WA SEA fully supports this initiative.

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## RENEWABLE ENERGY AND ENERGY EFFICIENCY PROJECTS

The Sustainable Energy Development Office Grants Committee has been established by the Government of Western Australia for the purpose of providing funds for research, development and demonstration projects. The Committee's primary objectives are to:

- Reduce greenhouse gas emissions associated with the production, conversion or use of energy for non-transport applications;
- Promote a West Australian sustainable energy industry;
- Increase the adoption of sustainable energy technologies and practices in Western Australia.

Funding applications for technical, scientific, marketing or education projects are evaluated from the perspective of the categories of:

- Energy efficiency,
- Renewable energy and
- Market research or market intervention.

The Sustainable Energy Development Office Grants Committee evaluates requests for funds twice per year. In 2003, application rounds will close on 14 February and 29 August. To obtain an Application Form, contact:

### Executive Officer

Sustainable Energy Development Office Grants Committee

9th Floor, 197 St Georges Terrace, Perth 6000

Ph: (08) 9420 5600 Fax: (08) 9420 5700

Email: [sgc@energy.wa.gov.au](mailto:sgc@energy.wa.gov.au)



Sustainable Energy Development Office  
Government of Western Australia

# Cities for Climate Protection CCP™ - how it can benefit local councils and communities in Western Australia

Local governments around the world are responding to the threat of climate change by joining the Cities for Climate Protection™ Campaign. The campaign is an innovative program that helps local government and their communities to reduce greenhouse gas emissions and their impact on the environment. The program is delivered by ICLEI in collaboration with the Australian Greenhouse Office.

What does local government have to do with climate protection? "Think Global, Act Local" is a motto that suits greenhouse action - climate change is a global issue that requires a local response. While the effects of climate change will be felt worldwide, it is the cumulative impacts of local actions that will lead to effective emission reductions. National and state governments play an important role, local government has a critical role in creating and sustaining local solutions to greenhouse problems.

Local governments can reduce the greenhouse gas emissions they produce from their own activities. Their planning powers, spending policies and community and business links can influence households and businesses and reduce emissions from waste disposal, land use change, energy use and transport.

The benefits of joining CCP™

Preventing global warming is not the only reason for joining the campaign. Other economic and social benefits also accrue. Examples of these 'other' benefits include:

- Saving money - ending energy waste and lowering energy bills.
- Developing new markets and industries, providing local employment and business opportunities.
- Creating opportunities for partnerships with industry, residents and other governments at a regional, national and international level.
- Generating additional revenue for your Council through the initiatives and expertise you develop.

What is involved?

CCP™ empowers local governments to cut greenhouse gas emissions. It provides local governments with a strategic milestone framework, helps them to identify the emissions for their councils and communities, set a reduction goal and develop and implement an action plan to reach that target.

To become a participant, your council needs to adopt a resolution that commits the council to a structured Milestone program:

- Analyse the key sources of greenhouse emissions in your council and community, and forecast future emissions growth.
- Set an emissions reduction goal.
- Develop and adopt a local greenhouse action plan to achieve those reductions.
- Implement your local greenhouse action plan.
- Monitor and report on greenhouse gas emissions and implementation of actions and measures.

CCP™ members are supported and helped with:

- software and other appropriate tools for calculating emissions.
- Direct support in assessing emissions and understanding what they mean.
- Training workshops which will walk participants through the milestone and provide practical and relevant assistance in establishing an inventory, developing an action plan and setting a target.
- Direct one to one support over the phone to follow up the workshops.
- Access to expertise and networks of council peers to exchange ideas and solutions

Who is eligible?

Any Australian local government is eligible to join the program. The first step is to call the ICLEI office (03-9369 8688) or the AGO 1300 130 606 or visit the website at <http://www.iclei.org/ccp-au/>

The cost of joining

Joining the Cities for Climate Protection™ Campaign includes a one-off participation fee. The population of the council's municipality determines this fee. As the CCP™ Program is an ICLEI Campaign; ICLEI Members receive a discount on participation fees.

Council size by population	CCP™ Participation Fee	ICLEI Members fee
>50,000	\$2000	\$1500
>20,000 - 50,000	\$1500	\$1100
<20,000	\$700	\$500

Funding Assistance available

*Milestone One Assistance Package*

To assist councils, the Australian Greenhouse Office provides the Milestone One Assistance Package. The M-1 Assistance Program provides funding support to CCP™ Councils for engaging temporary staff to assist with the completion of Milestone One.

## CCP™ participating councils in WA

The CCP™ program to date has only had participants based mainly in the Perth Metro area. Many of these are at an advanced stage of working through the program and seeing benefit from their involvement, but the coverage is far from complete.

Beyond the Perth metro area, there have been only three sign-ups, and only one regional city (Kalgoorlie).

So if you are involved with a council in the "rest" of Western Australia, consider joining CCP™ and ICLEI and see how you can save money. Please mention THIRTY/TEN magazine when you make the call!



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## Broome Sustainable Housing competition



The winners of a national competition aimed at encouraging ideas on the issues, costs and benefits of sustainable house design for the Broome region were announced in mid December last year by Housing and Works Minister Tom Stephens.

Sustainable Built Environments (SBE) of Melbourne won the competition in a field of 37 entries, including 27 from Perth.

Mr Stephens said the ideas generated by the winning entry would now be further developed and incorporated into a display home to be built in Bin Sallik Avenue, Broome, to raise public awareness of sustainability issues. Construction is expected to begin early in May.

The project will include 12 months' monitoring with a tenant selected for their willingness to be part of the monitoring process - someone willing to support the objectives and allow the house to function as designed, so the final results have integrity. Mr Stephens said the competition carried prize money totalling \$8,500 and had been open to architects, architecture students, designers and builders.

"The competition was designed to show that a comfortable living environment can be achieved using passive solar design principles, and specific aims included a 50 per cent reduction in energy use and building waste, and a 25 per cent reduction in water consumption," he said.

The SBE Entry SBE's "filter house" proposes a building system with the ability to help move the provision of housing in northwest Australia to a more sustainable footing.

A standardised "pavilion" approach has been used to create an efficient and adaptive building system allowing for site-specific design and adaptation, with efficiencies of prefabrication based on standardised structural elements.

Response to Broome and the regional climate The design responds to the housing styles of both Broome and the wider region and is primarily focused on effective cooling measures and responsiveness to coastal tropical climates.

The home is high set (1.5metres off the ground) to catch and control the sea breeze while controlling blustery easterly winds. Slatted timber to north and west facades provides a further layer of screening and protection. Swing up corrugated iron panels in the western façade provide shade and control of lower afternoon sun angles, while giving lock-down protection in extreme weather.

### Pre-fabrication

The generic "pavilion" design allows for standardised, prefabricated, braced and insulated walls. Factory efficiencies can be gained by regional centralisation of prefabrication components, minimising off-cuts and wastage, giving budget surety, development of process efficiencies and refinement over time, as well as influence on supply chain, elimination of rain delays, worker comfort and occupational health and safety advantages.



### Thermal mass

Limited levels of heavy heat absorbing elements are used to create a light building that responds quickly to external temperature conditions and heat may be quickly purged via cross and chimney ventilation. The well insulated "cool cell" can be closed down and cooled or heated as desired.

### Cross-ventilation

As well as the design incorporating sub-floor ventilation, the single room depth pavilions are vented with fully openable louvre windows and clerestory windows to create "thermal chimney" passive ventilation.

A roller door to the east gives large volume air-flow control and ceiling fans give active occupant control of airflows in still conditions

### Insulation

All insulation is provided by recycled polyester roof blanket and batts. Ratings differ according to location in the house: R1.5 insulation in walls / R2.5 in roof and cool cells - R3 to walls / roof and floor. R 2.5 insulation and lining to deck roof cuts off radiated heat to outdoor living areas.

### Control of insects

Height above ground and good air-flow also gives primary protection from ground-based insects, including biting midges. Termites are a threat that will always be present and can never be "solved", only managed. Making them unwelcome by using height, light and good ventilation are the best deterrents. Sacrificial, active pest control sites under house will allow for early termite detection. Steel bearer/stump frames reduces stumps needed, and they are well lit and easily inspectable. The stone mulch below house discourages travel paths.

### Regional development

The design is adaptable to a range of sites and location within the climate zone and creates the potential to develop regional industries in the development of prefabrication "hubs".

General community and Aboriginal development groups are possible, and opportunities to integrate training programs in carpentry or steel fabrication in conjunction with TAFE courses could arise.

### Materials

A life cycle assessment approach has been used and accounts for full environmental impact of product use, including embodied and transport energy, resource extraction and end of life disposal. Plantation timber construction utilises replenishable, greenhouse neutral resource, and preference will be given to closest supplies to minimize transport energy and contribute to sustainability of local or regional economies. The use of Cypress Pine for framing and shade slats is an exception to this approach due to its inherent termite resistant properties. It is grown in plantations and regularly freighted to Derby.



### User education and involvement

Occupant behaviour is a crucial factor in achieving sound environmental outcomes, especially understanding and controlling passive ventilation systems.

The project will involve tenant education and "ownership" of systems, visual displays and monitoring allows for occupant interaction with the automated water and energy systems.

Further information:  
[www.sbe.com.au](http://www.sbe.com.au)



# New Subiaco Sustainable Demonstration Home promises big savings in water and energy



Mayor Tony Costa and Minister Tom Stephens roll up their sleeves to plant a symbolic olive tree.

In November last year the City of Subiaco's Mayor, Tony Costa with Tom Stephens, the Minister for Housing and Works, officially launched the Subiaco Sustainable Demonstration Home.

More than 60 project partners, sponsors, industry guests and media representatives present heard stories of the traditional links between the land on which the home will be built by Nyungar Elder, Doolann-Leisha Eatts who officially blessed the site.

Located in Subiaco Rise, this house will incorporate structural design elements which maximise energy and water efficiency. WA SEA member Solar Dwellings, in association with architect Elizabeth Karol was appointed by the Stakeholder Reference Group, through an open tender process to design the home. The team have produced a contemporary design, within the Subiaco Rise Design Guidelines.

The project is centred on the three themes of:

- Efficiency through efficient energy use, passive solar design, energy efficient methods of construction, renewable energy generation, grey water recycling, stormwater collection and landscaping.
- Accessibility in that construction costs are affordable (in the context of a Subiaco home), that materials are readily available in WA, that the home is visually in harmony with its surroundings, and that universal design principles are incorporated in the home.
- Liveability in that this will be a comfortable and modern home.

The home will feature:

- A grid connected photovoltaic system
- Solar hot water system
- A grey water recycling system,
- Shading provided by static louvres, deciduous trees and vines
- Insulation in the east and west walls, ceilings and roof
- Windows and doors to capture cooling summer breezes
- Living area opening to northern courtyard
- Thermal mass to give even internal temperatures
- Low environmental impact materials



Aboriginal Elder Doolann-Leisha Eatts gives welcome to country

HIA Executive Director John Dastlik added industry support to the project, commenting that HIA Greensmart involvement in the project demonstrates that the housing sector is taking seriously the challenges of sustainable housing.

Mayor Tony Costa told the group the City of Subiaco was very proud to be taking an active role in encouraging the community to embrace the principles of sustainable development.

"We want to demonstrate to the community just how readily we can all make our homes work for us - and the environment," Mayor Costa said.

"Never before has such a project demonstrated that ecologically sensitive housing design is a practical and attractive solution for homes of any style and budget."

The home is expected to be open to the public in August 2003 and will be auctioned later.

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## Yet another demonstration home?

The Subiaco City Council is keen to show the public what can be achieved in low energy design, but nothing much will change unless we face the real issue: we need to legislate to achieve real sustainability in housing.

What will it take?

- Solar orientation for all new sub-divisions
- Development of mandatory building regulations for climate appropriate low energy designs across the state
- Energy efficient appliances
- Solar hot water heaters (gas boosted where possible)

None of this is beyond the capacity of state or local government and there are enough examples to see how it can work and work very successfully.

WA SEA says: Let's make a start with mandatory insulation in new housing. This will reduce energy required for comfort and help build the insulation industry.

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