



## WHAT'S HAPPENING IN AUSTRALIA RIGHT NOW?

**WILL THE CARBON POLLUTION REDUCTION SCHEME PASS THE SENATE? WHAT WILL THE OUTCOME OF COPENHAGEN BE? WHAT SHORT-TERM EMISSIONS REDUCTION TARGETS WILL THE FEDERAL GOVERNMENT SET?**

THE ANSWERS TO THESE QUESTIONS REMAIN UNKNOWN. THIS MONTH'S EDITION OF THE CLIMATE MONITOR FOCUSES ON ACTIONS AND INITIATIVES, BOTH POSITIVE AND NEGATIVE, WHICH WE KNOW ARE OCCURRING RIGHT NOW.

### Passing a Renewable Energy Target

Although the future of the CPRS remains uncertain, an expanded renewable energy target (RET) has passed the Senate. Australia has had a Mandatory Renewable Energy Target (MRET) since 2001 which required Australia to produce 9,500 giga-watt hours (GWh) of renewable electricity. This was equivalent to approximately 4% of Australia's total electricity production. The new target equates to 20% of Australia's expected electricity generation in 2020 and will require Australia to produce 45,000 GWh of renewable electricity.

The scheme operates by providing producers of renewable energy with a Renewable Energy Certificate (REC) for every mega-watt hour (MWh) of renewable electricity they generate. One MWh supplies enough electricity to meet an average home's electricity needs for approximately two months. These are then sold to electricity wholesale purchasers who are required to surrender a certain percentage of RECs each year as their contribution to meeting that year's renewable energy target.

The scheme will provide the main form of financial incentive for households that install solar panels on their homes. Homeowners will be eligible to register and sell five RECs for every MWh of electricity they produce instead of one. This should result in a financial payment of approximately \$4,500 to homes which install solar panels.

This financial incentive is not available for other forms of small scale renewable energy such as wind or hydro and will replace the solar rebate which the Federal Government ended in June this year.

The passing of the RET legislation has caused companies to consider how best to take advantage of the new market for RECs. Pacific Hydro is selling off assets in order to accelerate the rollout of its Australian wind farm portfolio. This could see 650MW of new turbines brought into production, at an estimated cost of \$1.5-\$2 billion. Another company, Infigen, is also looking to sell its US holdings so that it can focus on accelerating its operations within the Australian market.

The Australian Stock Exchange is also looking to capitalise on the new demand and is hoping to list futures and options contracts on RECs by the end of the year.

 **WANT TO KNOW MORE?** Allens Arthur Robinson has a useful primer on the recently enacted renewable energy target [www.aar.com.au](http://www.aar.com.au)

For more detailed analysis on the benefits and costs of the RET see this report by McLennan, Magasanik Associates to the Department of Climate Change [www.climatechange.gov.au](http://www.climatechange.gov.au) To see the Australian report on the impact of the RET for businesses see [www.theaustralian.news.com](http://www.theaustralian.news.com)

## ↑ INCREASING OUR RENEWABLE ENERGY

While the RET has only recently passed the Senate, there are a number of renewable energy developments already going ahead. The NSW Government has approved the development of the Silverton wind farm which, once completed, will have an installed capacity of over 1000 MW supplying the equivalent of approximately 4% of NSW's electricity demand. In Victoria, 20 wind farms with a total of 850 turbines are currently approved. Victoria also has another 27 wind farms, with more than 1000 turbines, at the proposal or planning approval stage. There have also been promising solar developments around Australia. Australia currently generates approximately 31 GWh of solar electricity per annum. In the ACT, submissions have been received for the construction of a solar power plant which will be designed to supply enough electricity to power approximately 10,000 homes. In Victoria a site has been chosen for a 150 MW photovoltaic solar plant. The plant will have a solar field of about 700 ha and will be developed on a site south of Red Cliffs. The plant will be built in three stages, with the first stage scheduled to be completed by the end of 2010. This year's Federal Budget also included funding for the construction of up to 1,000MW of concentrated solar power.

 **WANT TO KNOW MORE?** For more information on the Silverton wind farm see [www.silvertonwindfarm.com.au](http://www.silvertonwindfarm.com.au) To read about the wind farm construction in Victoria go to [www.theage.com.au](http://www.theage.com.au) To learn about the ACT Government's proposed solar plant go to [www.environment.act.gov.au](http://www.environment.act.gov.au) National Geographic has an informative map showing the GWh of solar electricity produced in Australia, compared to other countries [ngm.nationalgeographic.com](http://ngm.nationalgeographic.com)

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## ↑ INCREASING OUR COAL EMISSIONS

Although the Australian Government has responded to the need to move away from energy sourced from fossil fuels by introducing the Renewable Energy Target, concept plans were released this month for the expansion of two of Australia's largest coal fired power plants.

Bayswater and Mt Piper power stations currently have a combined capacity of 4,000MW. They also create in excess of 20 million tonnes of CO<sub>2</sub> per annum. Plans have been released which propose to increase the capacity of each plant by 2,000MW. This additional capacity will be met using fossil fuels; either coal or gas.



### WANT TO KNOW MORE?

To read an article on the expansion of the coal fired power plants see [www.smh.com.au](http://www.smh.com.au)

## ↑ INCREASING OUR EXPORTED EMISSIONS

A proposal has been lodged with the Victorian Government to export 12 million tonnes of brown coal annually to India over 40 years. It is estimated that this will produce approximately 11 million tonnes of greenhouse gases in Indian coal-fired power plants annually. This is equivalent to 10% of Victoria's annual emissions.

Brown coal emits considerably more greenhouse gases than alternative electricity sources such as gas and black coal. In the past, brown coal has been considered to be too volatile and inefficient to be of export quality, with the black coal of the Hunter Valley being seen as more desirable by overseas markets. Exergen, the company which has proposed to export the coal, claims to have developed a drying technology which can reduce the emissions of brown coal when burned.

The Exergen proposal, which has the support of Victoria's Energy Minister Peter Bachelor, involves piping the coal in the form of slurry 150km to Port Hastings for export to India. The Exergen proposal will be considered by state cabinet over the coming months.

There are currently 13 billion tonnes of unallocated brown coal in the Latrobe Valley. If burnt in coal fired power stations, this coal could release of 20 years worth of Australia's current annual emissions into the atmosphere.



### WANT TO KNOW MORE?

To see Exergen's statement in relation to their brown coal drying technologies go to [www.exergen.com.au](http://www.exergen.com.au)  
For an article which examines the proposal to export brown coal overseas see [www.theage.com.au](http://www.theage.com.au)

## DEMONSTRATING CARBON CAPTURE AND STORAGE

In addition to expansion of renewable energy generation, the Australian Government is looking to reduce emissions through the development of carbon capture and storage (CCS). This technology aims to bury carbon dioxide created in electricity generation deep underground, preventing its release into the atmosphere.

The Australian Government has established a \$2.4 billion CCS Flagship program to accelerate the deployment of large scale integrated CCS projects around Australia. There are currently no commercial scale CCS plants in Australia; however, two demonstration plants have recently become operational.

The largest Australian CCS facility attached to an existing coal-fired station is a \$10 million demonstration plant at Victoria's Hazelwood in the Latrobe Valley. The facility captures 25 tonnes of CO<sub>2</sub> per day (which is 0.05% of the plant's total of 11.5 million emissions per year) at an estimated cost of about \$1100 for each tonne captured.

A \$5 million CCS pilot facility at Lake Munmorah in NSW's Hunter Valley currently captures 3,000 tonnes per annum. If successful, it is anticipated that this project will become the foundation for a large scale \$150 million post combustion CCS demonstration plant by 2013; capable of capturing up to 100,000 tonnes of

CO<sub>2</sub> each year. To put this in context, the 30 largest fossil fuel electricity generation facilities in Australia currently each produce an average of 6.8 million tonnes of CO<sub>2</sub> per year.



### WANT TO KNOW MORE?

To read an article which considers CCS in Australia see [business.smh.com.au](http://business.smh.com.au)  
To read the transcript of ABC's program "Too late for clean coal?" go to [www.abc.net.au/lateline](http://www.abc.net.au/lateline)  
To access a website which provides data on the world's power stations go to [carma.org](http://carma.org)

### [www.kinesis.org](http://www.kinesis.org)

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