

Crookwell II Wind Farm

This is the first newsletter for the next stage of the Crookwell II Wind Farm. It is intended to provide general information about the project as well as industry news to the local community, interested stakeholders and nearby landowners.

Information Day

An Information Day has been scheduled for early November to provide the Crookwell Community and interested stakeholders with information about the modification proposal. This is an opportunity to find out more about proposed changes to the project to provide comment which will be considered as part of the modification application. Specialists from the consultant team and representatives from Crookwell Developments P/L and Union Fenosa Wind Australia will be in attendance to answer any questions you may have in an informal setting with tea, coffee and sandwiches provided.

6th November 2008 4pm to 8pm
Country Womens Association Rooms
Spring Street, Crookwell

The CWA will serve tea, coffee and sandwiches.
Enquiries info@unionfenosa.com.au

Modification of consent needed for new turbines

Due to the high global demand for turbines and a shortage of supply to the Australian market, Crookwell Development Pty Ltd is looking to use newer turbines for the Crookwell II Wind Farm.

Three years ago Crookwell Development was granted development consent for Stage 1, approving the construction and operation of a wind farm consisting of 46 x 2 Megawatt capacity turbines and associated infrastructure.

The modification application will be accompanied by a detailed statement of environmental effects, reporting on the extent to which the proposed modification will vary the impacts of the wind farm as approved by the development consent.

The 46 turbines approved by the original development consent were capable of generating approximately 92 MW of electricity, produced by a Gamesa G80 turbine on a 67 metre tower

Crookwell Development*"The proposed modification relates only to the replacement of the approved turbines with an improved model and will involve no change in the layout or broader design of the approved wind farm"*

Crookwell Development is now preparing to lodge a modification application with the Department of Planning seeking consent to modify the Development Consent by replacing older model turbines with updated, superior turbines.

"The lack of supply of the older turbines has delayed our plans but the good news is that the turbines we plan to install – slightly taller than the original - are both more efficient and cost effective", said Shaq Mohajerani, engineering manager Crookwell Development.

"Since the original consent was granted one of the world's substantial renewable energy groups, Spain's Union Fenosa, has purchased an 80 percent stake in our business. The project is now part of Union Fenosa Wind Australia", said Mr Mohajerani.

with maximum height to blade tip of 107 metres. The newer turbines stand on an 80-metre tower, with maximum height of under 128 metres. The updated technology will allow Crookwell Development to harness the wind energy in a more effective way, allowing a higher energy yield without increasing the capacity of the machines.



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"At the same time we are concerned to ensure that all key Government agencies and integrated approval authorities who were involved in the original application, are offered the opportunity of consultation in relation to the proposed modification.

"We will also be communicating with the local community who may be effected by the proposed modification. There will be an opportunity to raise any issues and we will address them", Mr Mohajerani said.



Fast facts on the Crookwell II Modification?

- Development consent has been granted for Stage 1 of the development – 46 turbines of 2 megawatts each.
- Modification proposes to update turbines to a newer, more efficient model: Tower height will move from 67 metres to 80 metres and blade tip height from 107 to 128 metres.
- The merits of the modification will be tested against provisions of the Environmental Planning and Assessment Act 1979.
- This is aimed at testing only whether the additional aspects of the modification are acceptable.
- There will be an assessment of any additional impacts across visual amenity during day and night, noise, flora and fauna, hazards and risk, traffic and transport, telecommunications and consultation with the community and Government agencies.



Union Fenosa backs renewables

The Spanish energy major Union Fenosa has joined local partner TME Australia Pty Ltd to develop a portfolio of 850 megawatts of wind farm projects across Australia.

Union Fenosa is the majority stakeholder with an 80 percent share in Union Fenosa Wind Australia, which has seven projects in NSW and Victoria, including Crookwell II. The group has earned a reputation as a growing international energy supplier with a specialty in wind.

“Australia is a long way from my home in Galicia on Spain’s north west coast, a region not short of wind. Union Fenosa and its partners operate 10 wind farms in Galicia with installed capacity of 217 MW compared to NSW’s current capacity of 17 MW. Australia is an exciting new frontier for us”, says Mr Hermenegildo Franco, managing director of Union Fenosa Wind Australia.

In Spain the group has generating capacity of 8800 MW across hydro, coal, oil, gas and renewable plants and serves 3.6 million customers. It also owns electricity generation and distribution companies outside Spain in 9 countries in 3 continents, serving 5.5 million customers.

“Renewable energy and particularly harnessing wind energy is a major growth area for us and we are seeking opportunities right across the globe - in places including Australia, Chile, Panama, Mexico, Morocco and India”, says Mr Franco.

“We have a reputation of developing projects hand in hand with communities and I intend to do that here in Crookwell”, he said.

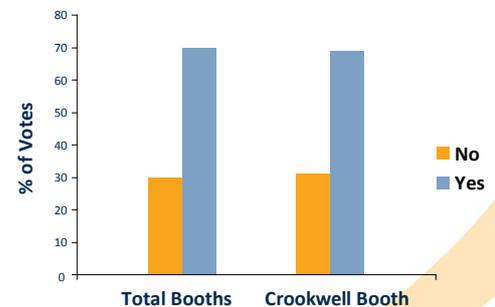
Environmental and Economic Benefits of Crookwell II

- Crookwell’s turbines will have the capacity to produce electricity annually, equivalent to the consumption of 40,000 households.
- The greenhouse gases avoided by using wind rather than coal power total around 350,000 tonnes of CO2 year.
- The Wind Farm will effectively take more than 85,000 cars off our roads each year.
- The wind farm will inject new and reoccurring income in the local economy to assist in providing a buffer against periodic downturns like drought or variations in farm commodity prices.
- Union Fenosa Wind Australia is committed to using local construction and manufacturing skills and to seeking out local equipment and materials wherever possible. The construction of the Wind Farm is expected to generate around 100 jobs at its peak.
- Union Fenosa will support local development projects through its Social Responsibility Policy, as it has done in other parts of the world.

Upper Lachlan election poll shows wind farm support

At the recent Upper Lachlan Council elections the following question was asked.

“Do you support the continuing development and construction of wind farms turbines in the Upper Lachlan Council area?”



All 12 polling booths were in favour of wind farms, with an overall result of 70 percent “Yes” to 30 percent “No”. At the Crookwell booth the result was 68.9 percent “Yes” and 31.1 percent “No”.

(These percentages taken after informal votes which were around 1.9 percent of total votes)



Climate change on the march

Do we take climate change seriously enough? CSIRO Research makes some alarming predictions for change from 1990 to 2030. It's strong argument for renewable energy. Read what's likely.

Warmer – more hot days and fewer cold nights. Days above 35°C could average 4-7 in Sydney (now 3), 6-14 in Canberra (now 5) while the number of days below 0°C could average 35-57 in Canberra (now 62).

Increased peak summer energy demand for cooling, with reduced energy demand in winter for heating.

Little change in annual rainfall with higher evaporative demand would lead to a tendency for less run-off into rivers – decreases of up to 20% in the ACT's Cotter and Queanbeyan catchments and 10 to 25% decrease by 2050 across the Murray-Darling Basin.

Droughts likely to become more frequent and more severe, with greater fire risk, e.g. by 2020, the number of days with very high or extreme fire danger could average 26-29 in Canberra (now 23) and 53-57 in Wagga (now 50).

A 10-40% reduction in snow cover is likely by 2020.

Controlled experiments have shown grain yield increases under elevated atmospheric carbon dioxide concentrations. However, it is not known

Carbon Pollution Reduction Scheme closer

Heading up the Government's climate change strategy is the Carbon Pollution Reduction Scheme. It aims to reduce carbon pollution while minimising the impact on business and households and also stimulate clean energy.

The Scheme will, for the first time, place a limit, or cap, on the amount of carbon pollution industry can emit. It will require affected businesses and industry to buy a 'pollution permit' for each tonne of carbon they contribute to the atmosphere, giving them a strong incentive to reduce pollution.

Because the carbon pollution reduction scheme will concentrate on the biggest polluters, it will place obligations on around 1000 Australian companies in total – those that produce more than 25,000 tonnes of carbon pollution each year. This represents less than one per cent of Australian businesses – there are 7.6 million registered businesses in Australia, the vast bulk of whom will not have scheme obligations.

The Government will use every cent raised by the sale of pollution permits to help Australian households and businesses adjust to the scheme and invest in clean energy options.



Annual heat-related deaths in those aged over 65 due to warming and population growth, e.g. from 14 deaths at present in Canberra to 37-41 by 2020 and 62-92 by 2050.

Water resources to be further stressed due to projected growth in demand and climate-driven changes in supply for irrigation, cities, industry and environmental flows.

whether this will translate to field conditions in Australia due to water and nutrient limitations and elevated temperatures.

Low to moderate warming may help plant growth especially frost sensitive crops such as wheat, but more hot days and a decline in rainfall or irrigation could reduce yields.

For more info: www.climatechange.gov.au/impacts/publications/risk-scenarios.html



By participating in a lower carbon economy through the global negotiating process, Australian businesses will be able to more fully participate in a new growing global market for renewable energy technology. Moving to a low carbon economy will create opportunities to develop expertise in expanding markets for clean technologies.



“There is a path to Australia being a low-emissions economy by the middle of the 21st century, consistent with continuing strong growth in material living standards,” the report says.



Garnaut hands over final report

Professor Ross Garnaut's review is a key input in assisting Climate Change Minister Penny Wong in arriving at a final climate change policy and Carbon Pollution Reduction Scheme.

In his final report released in September, Professor Garnaut offered two scenarios for cutting the greenhouse gas emissions that scientists believe are causing climate change.

Achieving a level of 450 parts carbon dioxide per million in the earth's atmosphere would require Australia to reduce its emissions by a quarter by the year 2020 and 90 per cent by 2050.

Alternatively we could aim for 550 parts per million, which Professor Garnaut says will be easier to achieve although it does put the world at a greater risk of very dangerous climate change. It would require Australia to make emissions cuts of 10 per cent by 2020 and 80 per cent by the middle of the century.

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Renewable Energy - the answer is blowing in the wind

The wind resource in NSW is very good by global standards. There is strong potential for wind power along much of the NSW coast and in exposed parts of the Great Dividing Range, including Goulburn/Crookwell.

But currently, NSW has only 17 megawatts of wind power, although there are wind farm proposals for up to 1,470 MW of additional wind power. Over 500 megawatts are already approved. By comparison, in 2005, wind power supplied 18% of all electricity generated in Denmark, 7.2% in Spain and 4.3% in Germany.

The electricity grid in NSW could readily accommodate 3,100 MW of wind power as long as the wind farms are well distributed across NSW and supported by advanced wind turbine technology and wind forecasting. This would be enough to supply about 10% of electricity generation in NSW.

The main barrier to greater use of wind power in NSW at present is the failure to include the cost of climate change in the cost of electricity generation. In NSW, 1,068 tonnes of greenhouse gas are emitted for every megawatt hour of electricity generated (Australian Greenhouse Office 2006). This means that the additional cost of climate change for current electricity generation in NSW is \$117 per megawatt hour (based on the social cost of carbon estimated in the UK Stern Report in 2007).

Wind power avoids most of this additional cost and if the cost of climate change is taken into account, wind power costs significantly less than power generated from fossil fuels.

Australian wind farms will be looking for a firm price signal through the Carbon Pollution Reduction Scheme. The Scheme will place a cost on carbon which is expected to initially be put at \$20 to \$30.

Meanwhile the Federal Government is assisting the transition to a low emissions economy through the Renewable Energy Target Scheme – committing the Government to ensuring 20 per cent of Australia's electricity supply comes from renewable energy by 2020. The Scheme lifts the existing Mandatory Renewable Energy Target by 4 times to 45,000 gigawatt hours.

The Government is backing the Scheme with initiatives including the \$500 million Renewable Energy Fund to help develop, commercialise and deploy renewable energy initiatives in Australia.

The NSW Government has also announced renewable energy targets of 10 per cent by 2010 and 15 per cent by 2020.

**For more information visit
www.climatechange.gov.au**

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