

Trialing a 90% capture of coal power's CO₂

The trial of new technology that could collect up to 90 percent of the CO₂ emitted from a conventional coal-fired power station should see Australia leading the way on carbon capture technology.

The Cooperative Research Centre for Coal in Sustainable Development (CCSD) and Queensland power generator CS Energy are working together towards the 2007 commencement of a joint venture trial of the Callide Oxy-fuel technology at the Callide A coal-fired power station operated near Biloela.

The plans are well developed for a 30 MW oxy-fuel plant retrofit, involving Front-End Engineering Design (FEED), and full demonstration trials are planned for 2009.

The technology involves burning pulverized coal in a stream of oxygen and recycled flue gas within a conventional boiler to reduce the overall amount of effluent gases and facilitate the capture and liquefaction of CO₂ for transport and geological storage.

Project leader Dr Chris Spero, of CS Energy, says that pilot scale trials have identified no significant technical barriers to oxy-firing, a process that has the added advantage of potentially more than halving



The Callide A power station near Biloela will advance confidence in oxy-fuel technology.

CS Energy

emissions of NO_x (oxides of nitrogen) through combustion control, as well as almost complete capture of SO_x (oxides of sulfur) and particulate emissions as part of the CO₂ recovery process.

'The 30 MW boiler retrofit is a low risk way to assess in more detail the technology and its costs as part of a global effort to develop near zero emissions pathways for coal-fired electricity generation,' Dr Spero says.

'This demonstration is the next step in our technology development process that will first focus on applications that can be

retrofitted to existing power stations, followed by the design of sequestration-ready power plants and ultimately new-build applications.'

CCSD Chief Executive, Frank van Schagen, said, 'There have been several studies of the technology around the world, but it has not yet been demonstrated at a commercial scale. That's what Australia aims to do.'

'We're encouraged that, for a very reasonable cost, this demonstration will show that it is possible to capture almost all of the CO₂ emitted when coal is burnt to make electricity – without pricing the electricity too high for users. It really puts Australia, and Queensland, on the global energy map.'

The next stage of the project also involves co-operation with the Japan Coal Energy Centre (JCOAL) representing a Japanese consortium, Xstrata Coal, Schlumberger, the Australian Coal Association and the CRC for Greenhouse Gas Technology (CO₂CRC).

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BP's big biofuels commitment

Announcing an emphatic commitment to clean fuel and local industry, BP Australia is to supply over 200 million litres of biofuel a year to the consumer by 2008. This represents an early delivery of more than half of the Federal Government's 350 million litre national target.

The supply will come from a range of Australian sources, and the company is investing heavily in refining and distribution infrastructure, and to secure product. BP says that after a strong and successful international track record with its biofuels since the mid-1980s, it is ready to provide local markets with cleaner fuels that provide equivalent performance and less harmful emissions compared to today's conventional ones.

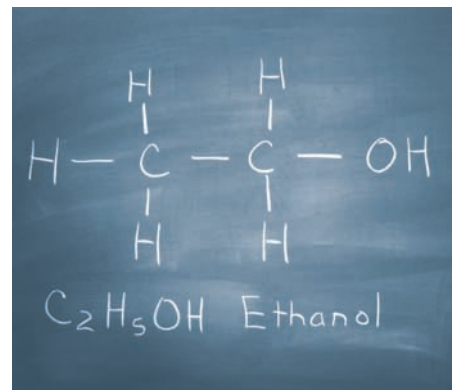
BP's Bulwer Refinery in Queensland will generate 110 million litres of biodiesel per annum through a new internally developed

technology that uses hydrogen to convert tallow (animal waste), supplied by Colyer Fehr Tallow Pty Ltd, to fuel.

In addition, 23 million litres of ethanol will be purchased over two years from CSR's Sarina distillery near Mackay and blended to produce e10 to be sold into the Queensland market later this year.

Primary Energy Pty Ltd's new ethanol plant in Kwinana, Western Australia, will sell 80 million litres of ethanol per annum across Australia as BP's e10 from 2008. The ethanol produced at the new plant will demand approximately 200 000 tonnes of Australian wheat as a feedstock.

The Kwinana plant will also generate renewable electricity from biomass as an integral part of its process. Together, the renewable fuel and renewable electricity will result in a reduction in greenhouse gases of around 200 000 tonnes per annum.



BP has announced a supply of millions of litres of ethanol from CSR's Sarina sugar distillery. Robert Kyllö

BP President, Mr Gerry Hueston, said, 'In delivering these initiatives we would like to acknowledge the support of the Federal and State Governments. This work signals a unique change to the composition of Australia's fuel supply and is evidence that much progress is being made towards the Federal Government's biofuels target.'