



**Coal**  
Association of  
New Zealand

# Coal e-Newsletter

*The monthly e-Newsletter of the Coal Association of New Zealand*

Issue No. 34

August-September 2008

## What's news?

### COAL NEWS 1

#### New Zealand 1

*Resource approval for Huntly East development 1*  
*Pike River mine development conservation recognition 2*  
*Increased coal production in June quarter 2*  
*Pike River sees strong 2009 demand 2*  
*Weston favoured for Holcim cement plant despite higher cost 2*  
*Fontterra's \$212M expansion in Southland wins approval 3*  
*L&M Petroleum to drill up to 8 coal seam gas wells in Southland 3*

### INTERNATIONAL NEWS 3

#### Australia 3

*Victorian Premier says clean coal is the future 3*  
*Newcastle coal exports drop 6% 4*  
*Shenhua secures exploration licence 4*

#### Canada 4

*Coal still an important ingredient in the energy mix 4*

#### China 4

*Coal export tariff hike not to re-pattern home market 4*  
*Shenhua Group starts construction on various projects 4*  
*Shenhua Group wins approval to build coal mine 4*  
*Coal reserve plan a bid to tame prices 5*  
*Bolster coal price cap enforcement 5*

#### India 5

*Regulator may usher in free market era in coal 5*

#### Indonesia 5

*NTPC identifies 2 coal mines 5*  
*KPC says coal operations return to normal 5*  
*5 coal firms to pay taxes in addressing dispute with government 6*

#### Italy 6

*Italy's Enel opens new coal fired power plant 6*

#### Russia 6

*Coal exporters told to prioritise domestic supply 6*

#### Taiwan 6

*Taipower gets 19 offers for coal cargoes 6*

#### Thailand 7

*Banpu's sales may rise in 2008 7*

#### United Kingdom 7

*Welsh methane discovery may ease UK energy crisis 7*

#### USA 7

*Ausra hopes to add solar power to coal plants 7*  
*EPA grants air permit for coal plant on Navajo land 7*  
*Environmental groups drop opposition to Texas coal plant 8*  
*Court mulls water dispute in CBM drilling 8*

#### Vietnam 8

*Coal exports to China to fall this year 8*

### TECHNOLOGY & OTHER NEWS 8

*Carbon capture and storage in New Zealand 8*  
*'Emissions-free' power plant pilot fires up in Germany 9*  
*EU calls for tender to establish CCS project network 9*  
*Norway surveys Troll field for CO<sub>2</sub> storage 9*  
*Australian Minister says public should fund CCS 10*  
*China Huaneng and Australia start CCS pilot project 10*  
*Australian assessment claims viable CCS unlikely by 2020 10*  
*Japan plans 27% increase in budget to cut emissions 10*  
*Canada to move ahead on clean coal plant 11*  
*MPs call for UK coal power stations to adopt CCS 11*  
*University of Cincinnati wins grants for clean-coal research 11*  
*Siemens gasification technology for low-CO<sub>2</sub> power plant 11*  
*Federal grant to fuel coal-to-liquids study 11*

### EVENTS 12

### FEEDBACK 12

### DISCLAIMER 12

## COAL NEWS

### New Zealand

#### **Resource approval for Huntly East development**

Solid Energy said that the Huntly East coal mine has been granted resource consent to mine an additional 6M tonnes of coal over the next 10-15 years. The planned extension would carry on 2 km to the north from the current Huntly East mine.

The mine currently extends up to 4.5 km from the surface portal on the east side of the Waikato River. The 2 km extension would follow the coal seam down from the current working areas about 250 m underground to an ultimate depth of about 400 m below the surface.

About 90% of the coal mined at Huntly East is sold to New Zealand Steel for use at its Glenbrook plant which was specially designed to produce steel from Huntly coal and from coastal iron sands found near the plant.

Earlier this year, Solid Energy concluded a short-term coal supply agreement with New Zealand Steel.

Solid Energy said discussions are continuing with the aim of securing a longer-term contract that would underwrite the Huntly East mine expansion. The full development would require investment of approximately \$100M including the purchase of a \$4.5M road header.



### ***Pike River mine development conservation recognition***

The Pike River coal mine development on the West Coast has been recognised for its “environmental consideration” by the Department of Conservation.

Pike River Coal Limited has received a certificate of appreciation from the West Coast Conservancy for the “consideration it has demonstrated in establishing its mining facilities”.

Pike River chief executive Gordon Ward says “an integrated and sustained effort over two years by mine management, staff and construction contractors has successfully minimised the environmental effects from developing the mine in the Paparoa Ranges”. Ward also said, “we deeply appreciate the Department of Conservation’s acknowledgement of those efforts and this gives us further encouragement to maintain efforts going forward into mining.”

Pike River’s mine is located under land managed by the Department of Conservation and there are strict conditions for access and mining of the premium hard coking coal deposit.

As well as meeting the terms of its access and consent conditions, Pike River is directly investing in the health of its scenic environment by safeguarding significant features like the giant rimu and totara trees and endeavouring to rid the local catchment of pests and predators.

### ***Increased coal production in June quarter***

The latest MED statistics show that in the June quarter, New Zealand’s coal production was boosted by almost 15% compared with the previous quarter and 21% compared with the June quarter 2007. A major reason for this is that Solid Energy’s Stockton opencast coal mine returned to full production. Over the past year the Stockton mine has had limited output as a result of production difficulties and the slippage of an export shipment. Even greater production is expected in the second half of this year and throughout 2009.

Imports of coal more than doubled in the June quarter compared with the previous quarter, largely due to an increase in coal use for electricity generation as a result of this year’s dry conditions. However, this was still 39% lower than the June quarter 2007.

Coal exports remained relatively high, increasing by more than 70% compared with the June quarter 2007. This was the third highest level of exports on record, and is expected to grow as production from the Pike River coal mine ramps up.

### ***Pike River sees strong 2009 demand***

Pike River Coal Limited recently said the outlook for the year to June 2009 was positive with forward orders in place and prices for premium hard coking coal tripling to US\$300 a tonne compared to a year ago. The company added that hard coking coal demand was forecast to remain high over the next few years with India desperate for coal and China becoming a net importer for the first time this year.

Pike River reported the first premium coking coal production from the underground mine 46 km north of Greymouth in the Paparoa Range was due by the end of September. That is two months behind the earlier target of July. For the June 2009 year, Pike Coal still expected to produce 200,000 tonnes and then one million tonnes a year after that.

The company said the most exacting task was completing the 2.3 km tunnel to the Brunner coal seam. It was nearing completion but the final section was revealing “variable rock conditions”. Pike River Coal has also completed its \$19M coal preparation plant which will separate saleable coal from rock and other reject materials. Once the tunnel to the coal seam is completed, coal from the mine will be pump-fed 10 km down a steel pipeline to the plant in the foothills of the Paparoa Range.

The company also reported that recruitment has gone well with more than 80 staff now employed.

### ***Weston favoured for Holcim cement plant despite higher cost***

Building a \$300M cement plant at Weston is still the preferred option for Holcim (New Zealand) Ltd, despite the latest estimate to upgrade its 50 year old Westport plant being a third of that. The Weston cement plant option was estimated in May to cost \$300M, a \$100M increase on calculations done in 2005.

In addition, Holcim would spend another \$100-200M on a new ship, providing facilities at the Port of Timaru to ship the Weston produced cement and upgrading its national distribution system. A recently completed estimate for upgrading



its Westport plant is for \$100M, although the company would still need a new ship, costing about \$40M to replace one of its two vessels.

Holcim said it still preferred building the Weston plant over upgrading Westport because the new plant would improve reliability and extend the life of the plant by 20-30 years. The new plant would produce 880,000 tonnes of cement a year whereas the upgrade at Westport would not increase production - currently 500,000 tonnes a year. The last major upgrade at Westport was in the mid-1970s, when a third kiln was installed.

Holcim said it was still aiming to make a final decision on building the Weston plant or upgrading Westport in the first quarter of next year after appeals to the Environment Court were settled over resource consents granted for the Weston plant in February. Coal suppliers will be watching the decision with interest because of the major implications for coal supply to either of the plants.

### **Fonterra's \$212M expansion in Southland wins approval**

The Southland District Council has granted Fonterra land-use consent for a \$212M expansion of its already huge Edendale plant, 35 km northwest of Invercargill. A resource management committee has agreed to give Fonterra permission to exceed the permitted heights in the district plan and build a 70m boiler stack, a boiler building and a milk dryer building.

The milk dryer will be one of the largest powder plants in the world and will handle expected growth in the South Island's milk supply, forecast to rise significantly by the 2012-2013 season. The new dryer will manufacture regular UHT milk and instant whole milk powders, and will take the site's peak processing capacity to over 15M litres a day. At the peak of the season, Fonterra processes about 70M litres a day nationally.

The Edendale factory - which produces more than 230,000 tonnes of dairy product a year - ran into trouble during the 2003-2004 season because a faulty filter system in coal fired boilers polluted domestic water supplies and damaged vehicles.

### **L&M Petroleum to drill up to 8 coal seam gas wells in Southland**

L&M Petroleum Ltd is about to begin a new programme of exploration for coal seam gas (CSG) in its Western Southland onshore permits with plans to drill up to eight wells. The first phase of its programme is in its Waiiau permit area where up to four CSG test wells are planned after the acquisition of 15 km of 2D seismic data. This is to be followed by the acquisition of a further 30 km of seismic in the company's permits to the north and the drilling of up to four additional CSG test wells which will be contingent on the outcome of the seismic interpretation.

Site construction for the first two wells will commence once the access permits have been approved and the rig contract has been finalised. The seismic programme will be run in parallel to the drilling operations so that the locations of subsequent CSG wells to be drilled can be confirmed. L&M geoscientists have been integrating the existing seismic data and conducting a detailed technical analysis of the area. Initial geological analysis of the onshore Western Southland Basin permit areas indicates up to 300PJ of mean potential CSG resources.

The company was recently reported as finding a much bigger than expected seam of coal gas near Ohai recently - a find that could be worth \$500M and rival the Kupe gas field in Taranaki. L&M said it was good news, "without a doubt", though the company had to do more tests and drill more wells before it could confirm this was a commercially viable find. "The first seam has come in 50% thicker and, according to the field geologist; the cores were 'fizzing with gas'."

## **INTERNATIONAL NEWS**

### **Australia**

#### **Victorian Premier says clean coal is the future**

Premier John Brumby declared recently Victoria stands on the brink of an A\$15 billion clean coal boom that will drive massive investment and jobs growth. In an interview with The Australian, Mr Brumby sought to quash doubts over clean coal's viability and predicted it would underpin the state's future once emissions trading begin.

He said Victoria was forging ahead with plans to turn coal into oil and gas in the Latrobe Valley, and predicted trials of geosequestration in the state's west would be successful. "I have always said about emissions trading and climate change, if we get the debate right and the policy right it should be possible to get the best of both worlds - more investment and lower emissions. I'm not in the doom and gloom business. I know there's a lot of speculation and argument about what's going to happen, but I think we will come out of this with more investment, and the key to all of this is clean coal and carbon capture and storage."



### **Newcastle coal exports drop 6%**

Coal exports from Newcastle harbour recently fell 6% and fewer ships left the port. Transportation bottlenecks in Australia have restricted supplies of power station coal, helping to boost prices from the port in New South Wales to a record high. Contract prices may rise a further 24% next year to A\$155/tonne on continuing supply constraints and rising demand from Asia, ANZ Banking Group said in a report.

A total of 27 ships, waiting to load 2.4M tonnes of coal, were lined up outside the port, down from 29 ships. Coal ships waited 9.8 days to load coal, down from 10 days a week earlier, Newcastle Port said. The waiting time compared with 0.6 day for general cargo vessels that week, it said.

### **Shenhua secures exploration licence**

China Shenhua Energy Co has agreed to pay A\$300M for a coal exploration licence in Australia. Shenhua will explore an area of 190 kms<sup>2</sup> near Gunnedah in New South Wales, where there are thought to be shallow thermal coal resources.

In addition to the licence fee, China Shenhua would give \$1M annually for five years to a regional community trust and invest \$175M in transport infrastructure if a mining lease is granted. Shenhua beat companies such as Anglo American and Xstrata in the bidding for the permit, which was opened in October and closed in February.

### **Canada**

#### **Coal still an important ingredient in the energy mix**

The National Energy Board (NEB) said while coal-fired power generation remains an important component of Canada's energy industry, environmental concerns could limit its wider development. In a briefing note called Coal-Fired Power Generation: A Perspective, the NEB describes the factors that influence the use of coal-fired power generation to meet Canadian energy requirements.

Canada's coal reserves are roughly equivalent to its oil reserves and coal fired generation represents over 16,200 MW of the installed power generation capacity in Canada: 13% of Canada's total. In 2006, approximately 16% of Canada's electricity was generated from coal, mostly in Alberta and Ontario. Coal-fired generation is non-existent in provinces such as British Columbia and Quebec, which have an abundance of hydroelectric resources.

The NEB expects that the use of coal will decline but will remain an important part of meeting Canada's energy requirements with an estimated 10,000 MW of installed capacity in place in 2030.

### **China**

#### **Coal export tariff hike not to re-pattern home market**

China's latest move to raise its tariff rate for coal export is unlikely to change the domestic market pattern of coal supply and demand though it will have some effects in underpinning international coal prices in the short term.

The Chinese Ministry of Finance announced recently raising the export tariff of coking coal from 5% to 10%, that of coke from 25% to 40% and also charging 10% export tariff on bituminous coal including anthracite coal, aiming at inhibiting the export of resource products and easing the domestic shortage of coal.

Some specialists, however, are not optimistic over the effects of the new policy. They said that the tariff adjustment will not impose great influences on the domestic supply and demand situation but will enhance market anticipation of the government's efforts to limit coal exports. For coal export enterprises, the policy is not expected to affect their export profit because it is claimed they will be able to raise their contract prices to cover the increased tariff costs.

### **Shenhua Group starts construction on various projects**

Shenhua Group Corp. has started construction on coal, power and coal to liquids projects in Hulun Buir, Inner Mongolia with a combined investment of US\$19.5 billion. Construction on the projects began in August.

The group is building a 60M tonne/year mining project and a coal-fired power plant with six 600MW units in the Northern Province. A 5M tonne/year coal-to-fuel project is also being constructed. These projects are expected to generate US\$7.4 billion in sales annually by 2020.

### **Shenhua Group wins approval to build coal mine**

Shenhua Group Corp. won government approval to develop a mine with reserves that are more than sufficient for one year of the nation's demand.



The Tarangaole mine in northern China's Inner Mongolia has about 3 billion tonnes of proven coal reserves and an estimated lifespan of more than 95 years. It will have an annual output capacity of 10M tonnes. Shenhua Group will need up to 20 months to start producing coal at the mine. The project was approved by the National Development and Reform Commission.

### **Coal reserve plan a bid to tame prices**

The Chinese government will revise coal legislation to include a strategic coal reserve by 2015, as it tries to tackle soaring prices.

Industry analysts said the strategic reserve would help to keep the coal price down. The revised legislation will outline the process, supervision and penalties involved in the proposed reserve.

The coal reserve legislation was put forward under the scheme to establish a Chinese legal system for coal, which aims to develop a framework to ensure sustainable development of the industry. The scheme is in the public consultation stage, administered by the China National Coal Association and China Coal Information Institute. The National Energy Administration plans to create a policy framework to manage the strategic coal reserve.

### **Bolster coal price cap enforcement**

China will strengthen enforcement of its price cap on thermal coal to curb prices of the fuel. The National Development and Reform Commission (NDRC), also foresees tighter coal supplies in central and southwestern China as hydro power generation falls in the winter.

China has struggled with severe power shortages this summer, with power generators reluctant to build coal stockpiles as prices of the fuel rose while state-capped power tariffs also discouraged increased generation. Although the power crunch has eased since the government raised power tariffs and as the summer draws to an end, worries are now mounting over supplies to meet heating demand in the winter.

The NDRC capped thermal coal prices at June 19 levels and asked coal miners to deliver fully on term contracts. The government is also planning a cash reward to miners with a high level of coal output.

## **India**

### **Regulator may usher in free market era in coal**

The proposed coal regulator will likely develop coal trading in India into a free market concept with greater transparency in award of coal blocks to help the consumers, and clear pricing policy to help the producers.

India has state-controlled coal production, where the coal production for commercial selling can be undertaken only by a government company. Coal mines are also allocated to companies for captive use to generate power, make steel and other purposes, on the condition that the coal produced from such mines cannot be traded in the market for commercial considerations.

It is expected the regulatory institution will develop transparency, objectivity and accountability in pricing and other commercial matters in the sector. The coal ministry hopes to obtain Cabinet approval for the draft legislation after it receives comments and inputs from other ministries.

## **Indonesia**

### **NTPC identifies 2 coal mines**

NTPC Indonesia will soon appoint consultants to carry out due diligence of two coal blocks identified in Indonesia, a move that would help the country's largest power producer meet the shortfall of coal from domestic sources.

NTPC approached the power ministry to resolve the crisis saying many of its plants are facing the threat of closure which may lead to a power crisis in the country. The company is also looking at acquiring coal blocks abroad that can give up to 20M tonnes of coal per annum, with a current focus on Mozambique and South Africa.

NTPC plans to import 8M tonnes of coal in the current financial year to bridge the shortfall in total requirement. NTPC, which has an installed capacity of 29,000MW, plans to add another 25,000 MW by 2012.

### **KPC says coal operations return to normal**

PT Kaltim Prima Coal (KPC) of Indonesia said operations at its mining area had returned to normal after local officials opened up the mining pits.



Recently, local forest rangers shut a road leading to its East Kalimantan mine, disrupting operations of KPC, a unit of PT Bumi Resources. In late August, Indonesian police re-opened the road used by KPC and other miners to transport coal to a nearby port, bringing distribution back to normal, but two of KPC's mining pits remained shut.

East Kutai regency, East Kalimantan said it had ordered KPC and another coal miner PT Bayan Resources to stop operating in some areas because they did not have permits from the forestry ministry for 40,000 hectares of land.

KPC produced 39M tonnes of coal in 2007, or about a fifth of Indonesia's total production. PT Bayan Resources plans coal production of up to 14M tonnes in 2009. Indonesia expects to produce 205M tonnes of coal in 2008, with domestic demand seen at 52M tonnes and the remainder to be exported.

#### **5 coal firms to pay taxes in addressing dispute with government**

5 out of 6 Indonesian coal companies, whose top executives were banned from overseas travelling because of unpaid royalties, agreed to pay about US\$66M as a guarantee to address the dispute with the government.

Indonesia has prohibited 14 executives of the firms from exiting the country due to the tax disagreement. The five companies are Adaro Indonesia, Arutmin Indonesia, Berau Coal, Kaltim Prime Coal and Kideco Jaya Agung.

The chairman of the Financial and Development Supervisory Board said the coal contractors are ready to pay the guarantee to settle the dispute. He said that so far only five out of six companies had agreed to settle the dispute. In total the companies withheld about US\$764M royalty payment connected with sales in the period of 2001 to 2007.

The coal producers had claimed that under their coal contracts they are not subject to new tax policies issued after the documents were signed, including value added tax.

#### **Italy**

##### **Italy's Enel opens new coal fired power plant**

Enel, Italy's power utility, has inaugurated the world's least polluting coal fired power station as part of the centre-right government's energy strategy which is aimed at reducing reliance on more expensive and "politically unreliable" oil and gas producers. The 1980MW Torrealvaldiga Nord plant, north of Rome, emits less CO<sub>2</sub> than other coal fired stations (0.7 tonne/MWh compared with 1.0 tonne/MWh produced by a "normal" coal station), and slightly less than the oil fired plant it is converted from. However environmentalists argue that Italy's shift towards coal will result in higher CO<sub>2</sub> emissions than if it built more gas fired stations.

The economic development minister said Italy had the highest rate of oil and gas dependency in the industrialised world, costing its consumers 30% more in electricity bills than the average European. Italy's objective was to source 50% of its electricity needs from oil, gas and coal, 25% from renewable energy and 25% from nuclear. Italy abandoned nuclear energy following a 1987 referendum, but the centre-right government, elected in April, has pledged to bring it back.

Italy needed to reduce its energy reliance on "politically more unstable countries", said Enel. Coal for the new plant will be supplied by Indonesia and South Africa. Enel is planning a second 2000MW conversion from oil to coal at Porto Tolle outside Venice. The utility is also spending €320M by 2012 developing CCS.

#### **Russia**

##### **Coal exporters told to prioritise domestic supply**

Russian coal exporters were told to prioritise domestic coal supply for the balance of this year over exports. Russian power plants have extremely low stocks of coal and the lowest hydro reserves for decades.

There are not enough rail cars available to move domestic coal and coal for export so to avoid power cuts domestic coal supply must be given priority. Russian state rail monopoly RZhd has already cut the availability of rail cars for movement of export coal from the Kuzbass in Siberia by up to 50%.

#### **Taiwan**

##### **Taipower gets 19 offers for coal cargoes**

Taiwan Power Co (Taipower) has received 19 offers of sub-bituminous coal cargoes in a recent tender for 9 Panamax-sized shipments.



However, all the offers submitted exceeded Taipower's ceiling price, which was set at about US\$160/tonne on an evaluated cost and freight (C&F) basis. The tender was seeking 630,000 tonnes of thermal coal for delivery between September and December this year.

### Thailand

#### **Banpu's sales may rise in 2008**

Banpu Plc, of Thailand expects sales to rise to a record US\$1.5 billion this year on higher coal prices. The company stated that continued rising coal prices in the regional market have pushed their average selling price up this year.

Banpu has acquired mines in Indonesia, China and other nations to benefit from higher coal prices. It paid US\$420M to buy the shares it doesn't already own in Asian American Coal Inc., an investor in China's coal mines.

Asian American Coal holds a 56% stake in Shanxi Asian American-Daning Energy Co., which has been operating a mine in Shanxi province since 2006 with a 25-year concession. It has coal reserves of 88M tonnes and produces 4M tonnes of the fuel a year.

### United Kingdom

#### **Welsh methane discovery may ease UK energy crisis**

Test drilling in Wales has revealed huge quantities of high quality coalbed methane (CBM) gas, which could be piped out and used to help Britain's growing energy crisis. Australian energy company Eden has been testing a 230 sq. km block in a field in the Llynfi Valley near Bridgend, where it is believed they may be enough CBM to meet 5% of the whole of the UK's energy needs for a year.

Eden, which is working with two British companies, say there may be four or five more blocks in Wales alone that could provide similar amounts of energy. The Department for Business, Enterprise and Regulatory Reform described the new efforts to tap the energy source in Wales and elsewhere as "encouraging" revealing one in three licences granted for onshore oil and gas exploration this year concerned CBM.

Eden Energy also has the rights to areas including Somerset and Kent and other companies are exploring Scotland.

### USA

#### **Ausra hopes to add solar power to coal plants**

Ausra is an alternative energy company (using solar power to generate steam) that is counting on fossil fuels to help it survive.

US Congress' failure to renew a 30% investment tax credit for cleantech energy makes it unlikely that banks will finance plants like those that Ausra develops. So in the meantime, the Palo Alto company is turning its attention to coal plants. By supplementing the use of coal with solar power, the company said it can reduce the amount of coal a power plant uses during daylight hours by 30% to 50% for state-of-the-art coal plants and more for older, less efficient plants.

Ausra has already installed the solar thermal technology on a coal power plant in Australia, where its technology was first developed before Silicon Valley Venture capitalists poured in millions and moved its headquarters to Palo Alto. That plant in New South Wales is producing 11MW of steam through solar-thermal electricity generation to supplement burning coal there.

#### **EPA grants air permit for coal plant on Navajo land**

Environmentalists who have been fighting a proposed coal-fired power plant on the Navajo Nation and supporters of the project expected it: an air permit for the plant. The Environmental Protection Agency signed off on the permit for the Desert Rock Energy Project, which the agency says will set a new standard for coal-fired plants in the United States.

Navajos hailed the EPA's decision as necessary to improve conditions on their vast reservation, while environmentalists proclaimed it "a sad day" and prepared to appeal.

The EPA had filed a consent decree in June, agreeing to act on the permit that sets limits for emissions covered under the federal Clean Air Act as part of the settlement of a lawsuit that the developers of the US\$3 billion project filed against the agency.



The Navajo Nation's Dine Power Authority and Houston-based Sithe Global Power are joining to build the 1,500 MW plant near Farmington in North-Western New Mexico. The air permit was considered a major hurdle before construction could begin. An environmental impact statement also needs approval.

### **Environmental groups drop opposition to Texas coal plant**

Environmental groups have dropped opposition to the expansion of a NRG Energy Inc Texas coal plant after the company agreed to offset some of the unit's greenhouse gas emissions. Under the agreement, the NRG Limestone 3 plant near Houston would offset or store underground half of its CO<sub>2</sub> emissions until the US launches a federal climate change programme.

NRG will build or support the development of a utility scale solar power project in Texas as part of the agreement, or contribute to a trust that would fund Texas energy efficiency projects. The utility came to the agreement with the Environmental Defense group and the Texas Clean Air Cities Coalition.

In addition, NRG will not build another coal fuelled power plant in Texas unless the plant uses efficient technologies such as coal gasification of coal or ultra-supercritical and agrees to offset or bury half of its CO<sub>2</sub> emissions.

### **Court mulls water dispute in CBM drilling**

A case with potentially far reaching effects on Colorado's gas industry will soon be decided by the Colorado Supreme Court. The court heard arguments in a dispute over water pumped from the ground in order to draw coalbed methane out of coal beds. Landowners in southwest Colorado had sued, saying the practice threatens their limited water supplies. They argue that gas companies should defer to water users with older water rights and replace the water they use when it belongs to others.

Pumping groundwater relieves the pressure trapping the methane gas trapped in the coal seams. Other gas drilling might produce water, but not in the volumes that CBM extraction does. One large gas company and the state regulator claim the water is a waste product of the drilling and should continue to be regulated under state oil and gas rules. The company re-injects the water into the ground, usually at deeper levels than they draw it.

The federal government is studying the impacts of CBM drilling in the Rockies on surface and groundwater. CBM accounted for 9.4% of the natural gas produced nationwide in 2006 and the percentage is growing, according to the Environmental Protection Agency.

## **Vietnam**

### **Coal exports to China to fall this year**

The volume of Vietnam's coal exported to China this year is estimated to drop by some one-third because a port in Vietnam's biggest coal hub has been damaged by a recent storm. The volume is likely to decline by 8M tonnes, because 3 out of 4 cargo-loading facilities are not operating at the Cam Pha port in northern Quang Ninh province.

Vietnam supplied the world market with nearly 15M tonnes of coal worth US\$811M in the first 7 months of this year, down 23% in volume but up 38% in value against the same period last year.

Vietnam is lessening the export of crude oil and coal to ensure sufficient supplies for oil refineries and energy-thirsty industries like electricity and cement.

Vietnam will, under a recent national coal development strategy, produce up to 50M tonnes of coal in 2010, and complete exploration of new coal mines in the northern Red River Delta by 2015. Using more advanced technologies in all stages of coal production, it will produce more high-quality coal, and reduce environmental impacts.

## **TECHNOLOGY & OTHER NEWS**

### **Carbon capture and storage in New Zealand**

The Ministry of Economic Development's website has a useful assessment of the state of CCS development in New Zealand. It says CCS will largely be making use of "off the shelf" technology developed overseas. Large scale deployment in New Zealand is therefore likely to follow international advances, as well as reflect New Zealand-unique factors. First among these is a need to better understand of our geological capacity to sequester CO<sub>2</sub>, especially in seismically challenged areas. A further issue for consideration is whether or not commercial incentives/barriers to undertake CCS exist currently in New Zealand.



Both government and private investigations into New Zealand's geological storage capacity are currently ongoing; it is expected that final results should be available by mid-2009. GNS Science, in conjunction with CRL Energy and the University of Auckland and the support of both industry and government, is investigating storage capacity in Taranaki and Waikato. Indications to date suggest that there may be significant offshore Taranaki capacity and some onshore capacity in both Taranaki and Waikato. GNS Science is also undertaking risk management assessments, considering the implications of seismic activity on CCS.

The New Zealand emissions trading scheme (NZ ETS) legislation includes a provision that allows CCS to be incorporated in the NZ ETS at a future date (by Order in Council). However, before CCS can be introduced to the NZ ETS, further work is needed to develop a robust domestic regulatory framework for CCS in New Zealand. The CCS Policy Group is currently undertaking ongoing work to determine the appropriate regulatory, legislative and governance frameworks that will be needed for any CCS activity.

Through the Ministry of Economic Development, the New Zealand government will also be considering options for various issues around CCS as part of its ongoing work programme. Once specific options have been designed, the Ministry will move to undertake more formal engagement with interested and/or affected parties.

### **'Emissions-free' power plant pilot fires up in Germany**

Vattenfall, one of Europe's biggest power firms, inaugurated a prototype coal-fired power station in September it says is almost emissions-free but environmentalists have had mixed reactions. Located on the site of the existing Schwarze Pumpe power station in eastern Germany, the Swedish company said the new technology has the potential for major reduction of greenhouse gas emissions.

After first burning the lignite in pure oxygen, Vattenfall captures the CO<sub>2</sub> released, compresses the gas, transports it in liquid form 350 km in lorries and injects it "for permanent storage" into an empty gas field in northern Germany.

Vattenfall admitted that the technology has some way to go, not least with regard to its high cost, but also in terms of the infrastructure needed to transport and store the captured gas. The firm insisted that storing the gas was safe; saying underground reservoirs of CO<sub>2</sub> already occur naturally in geological formations where it has been trapped by sedimentary rocks in much the same way as oil or gas. "There is much more storage capacity than will ever be needed."

### **EU calls for tender to establish CCS project network**

The European Commission recently launched a tender to establish a network of projects to demonstrate the use of CCS technology in power plants. The selected contractor will assist the EC in ensuring that the network allows early movers to exchange information and experience from large scale industrial demonstration of the use of CCS technologies and optimise costs through shared collective actions. The selection process should be completed by the beginning of 2009.

The International Energy Agency estimates that the use of CCS could account for 20% of the achievable global greenhouse gas emissions reductions by 2050.

### **Norway surveys Troll field for CO<sub>2</sub> storage**

Norway has begun seismic surveys at its biggest North Sea oil and gas field, Troll, to determine whether CO<sub>2</sub> emissions could be stored there. Troll is touted as one of three possible North Sea locations for storing CO<sub>2</sub> produced by gas fired power plants in the coastal cities of Mongstad and Kaarstoe.

Troll operator StatoilHydro has been storing CO<sub>2</sub> below the seabed at the Sleipner gas field in the North Sea since 1996, but that is CO<sub>2</sub> stripped from the gas stream at the field, not emissions from plants on shore. The company said finding the optimal placement of injection wells is important to ensure that the CO<sub>2</sub> can be stored and that it will remain in the reservoir in the future. The "Johansen formation" in which the CO<sub>2</sub> could be stored is located below Troll's oil and gas reservoirs, at a depth of approximately 2,500m.

StatoilHydro also announced recently that a 280MW power plant in Mongstad would capture 2.5M tonnes of CO<sub>2</sub> annually from 2014. The government has said that final Mongstad investment decisions were due in late 2008 and according to a 2006 agreement, StatoilHydro will take a 20% equity stake in the project. StatoilHydro said the cost at Mongstad might be higher than International Energy Agency 2006 cost estimate range of US\$25-110 per tonne of CO<sub>2</sub> captured.



### **Australian Minister says public should fund CCS**

Federal Climate Change Minister Penny Wong said recently CCS should be funded by taxpayers because cleaner coal options are in the public interest. The world's first laws to allow companies to capture CO<sub>2</sub> emissions from power stations and bury them under the seabed are under consideration in Canberra.

Senator Wong said in excess of 75% of Australia's base load electricity currently came from coal. She said the coal industry would inject money into the clean coal plan and it had already made some investments in research and technology.

### **China Huaneng and Australia start CCS pilot project**

China Huaneng Group, the nation's biggest electricity producer, together with government research agencies in China and Australia have started a project to capture CO<sub>2</sub> emitted by a coal fired power plant. The pilot project will be the first instance of capturing CO<sub>2</sub> in China using post-combustion capture technology, according to CSIRO.

CSIRO estimates the technology could potentially cut CO<sub>2</sub> emissions from coal fired generators by more than 85%. It recently completed Australia's first trial using the technology, at the Victorian Loy Yang Power plant. It has plans for similar projects at generators in New South Wales and Queensland, in addition to the China Huaneng project in Beijing.

The Chinese project will capture 3,000 tonnes a year of CO<sub>2</sub> and may be followed by a much larger demonstration plant before being scaled up fully, CSIRO said. The technology uses a liquid to extract CO<sub>2</sub> from power station waste gases.

### **Australian assessment claims viable CCS unlikely by 2020**

In economic modelling released by the Business Council of Australia, ACIL Tasman predicted that CCS technology would not contribute to the country's energy mix within 12 years. 2020 is shaping as a critical short term milestone for emission reductions. ACIL Tasman is one of the leading independent centres of expertise on the nation's electricity market.

In a report to the Energy Supply Association of Australia, ACIL Tasman said: "Based on the information available, it seems reasonable to assume that emerging technologies (such as coal plant with carbon capture and storage) are unlikely to be commercially available before 2020, with demonstration projects potentially operating from 2015 onwards."

This is contrary to statements by the federal Resources and Energy Minister, who has set a target of having CCS commercially deployed between 2015 and 2020. "We have got to have a target, not only in Australia, but also the global community, of making a real commercial breakthrough in terms of deployment of low-emissions coal technology in the time span 2015 to 2020."

The ACIL Tasman report said major technological breakthroughs would be needed if clean coal were to be in commercial use within the next 12 years. However, the consultancy firm believed other cutting edge technologies would be in commercial use by 2020, including geothermal, concentrated solar and biomass.

### **Japan plans 27% increase in budget to cut emissions**

Japan's trade ministry plans to increase spending next year by 27% on measures to reduce greenhouse gases. The Ministry of Economy, Trade and Industry plans to spend US\$4 billion on measures that include CCS, the development of advanced nuclear plants and electric vehicles.

A consortium of Japanese firms including utilities and energy companies said in July it would conduct a feasibility study on a CCS project. The consortium expected the study for the government to take about three years, with the eventual goal of demonstrating the technology at a large scale power plant in Japan. The study envisions injecting CO<sub>2</sub> emissions from a coal fired test plant into the offshore Iwaki gas field off Japan's Pacific Coast, which ceased gas production last year. The field was expected to be able to hold at least 20 million tonnes of CO<sub>2</sub>, while the test plant would emit around 1 million tonnes of CO<sub>2</sub> a year at a run rate of about 70%.

The Japanese government is accelerating investment in next generation clean technologies in a bid to cut the country's greenhouse gases by between 60 and 80% by 2050. Japan is struggling to meet its commitment under the Kyoto Protocol to reduce emissions by 6% from the 1990 level by 2012; they rose 6.2% from that level in the year ended March 2007.



### **Canada to move ahead on clean coal plant**

Canada's first coal fuelled plant capable of capturing and burying CO<sub>2</sub> is moving forward as Saskatchewan Power Corp. begins lining up vendors to build it. Canada will spend US\$1.34 billion on the plant, incorporating oil recovery in the plans to offset costs. This is a different approach from the US FutureGen scheme, which cancelled a CCS plant last year. From 2013, the Canadian facility will prevent 1 million tonnes a year of CO<sub>2</sub> emissions.

Provincially owned SaskPower, which is paying for more than half of the project, will select among two technologies and three companies to refurbish a 100MW coal unit that can capture and pipe CO<sub>2</sub> to nearby oil fields. The gas can be used to pull up deep reservoirs of previously unreachable oil from geological seams. The Canadian government, which is spending \$240M on the project, has targeted a 20% emissions cut by 2020 and is requiring sequestration of emissions from oil sands projects started after 2011.

### **MPs call for UK coal power stations to adopt CCS**

MPs have called on the UK government to get tough with coal fired power plants, which they say should be given a deadline to adopt CCS technology or face closure. The Environmental Audit Select Committee claims that by setting a limit of capturing at least 90% of CO<sub>2</sub> emissions the government would send out a strong signal to the power generation industry that it has to clean up its act.

The Committee's warnings come in a new report that slams the government for its slow process in developing CCS. It claims Whitehall dithering means that a demonstration plant won't be operational much before 2015 and wide scale deployment could be as far away as 2020. "We cannot emphasise strongly enough that the possibility of CCS should not be used as a fig leaf to give unabated coal fired power stations an appearance of environmental acceptability."

"Carbon capture and storage has undoubted potential, but there is a real question about when it will become technologically and, equally importantly, commercially viable. We cannot afford to develop new coal fired power stations when we have no guarantee about when they will be fitted with CCS, if at all."

### **University of Cincinnati wins grants for clean-coal research**

The University of Cincinnati (UC) was among four Ohio universities to win Ohio Coal Development Office grants for clean-coal research projects. The two-year grants, approved by the Ohio Air Quality Development Authority, cover the 2008-09 academic years. Each university will also contribute a share of money toward its projects. UC won grants for the following projects:

- \$160,000 to develop a mercury sorbent to capture mercury during coal combustion in an efficient way that can be disposed of in a secure landfill;
- \$160,000 to develop ceramic membranes that separate oxygen from air more efficiently;
- \$160,000 to build a reactor that can create H<sub>2</sub> and CO<sub>2</sub> from synthesis gas, a gas mixture of hydrogen and carbon monoxide.

### **Siemens gasification technology for low-CO<sub>2</sub> power plant**

Siemens coal gasification technology has been selected for Canada's first low-CO<sub>2</sub> IGCC power plant. EPCOR Power Generation is planning to build an integrated gasification combined cycle power plant (IGCC) featuring carbon capture and storage in Genesee near Edmonton, Alberta. The demonstration plant, with an installed capacity of approximately 250MW, is scheduled to come on line in 2015.

In the first project phase, Siemens will provide the technology licence, as well as the process and basic engineering design for the coal gasification island based on the Siemens SFG-500 coal gasifier. Following the completion of the front-end engineering design of the plant, EPCOR intends to enter into an agreement with Siemens to supply the gasification reactor and components of the feed system. The plant in Genesee is designed to capture approximately 85% of the CO<sub>2</sub> contained in the coal for enhanced oil recovery in existing oil fields.

### **Federal grant to fuel coal-to-liquids study**

A US\$1.4M federal grant will enable the University of Kentucky to step up research on refining coal into liquid fuels and advance the development of a synthetic fuels industry in the state.

The University will use part of the federal money to begin building a \$12M "mini-refinery." The Kentucky Energy and Environment Cabinet have pledged an additional \$350,000 for the project.

The mini-refinery will enhance the University's research into the Fischer-Tropsch process, a series of chemical reactions creating synthetic oil and fuel from coal, natural gas or animal and plant matter. The mini-refinery is expected to reduce costs and create a more environment-friendly liquid fuel by reducing CO<sub>2</sub> emissions.



## EVENTS

**19-21 Oct 2008**, 28th Coaltrans' World Coal Conference, Prague, This conference has been running for 28 years and has 1,400 participants in 2007. Visit [www.coaltrans.com/prague](http://www.coaltrans.com/prague).

**19-23 Oct 2008**, 12th Australian Coal Preparation Conference: Cleaning Coal to Secure our Future, Darling Harbour, NSW, Australia, Australian Coal Preparation Society National & NSW, PO Box 2315, Dangar NSW 2309, Australia, Tel: +61 02 4926 4870, Fax: +61 02 4926 4902, Email: [acpsnational@acps.com.au](mailto:acpsnational@acps.com.au), Internet: [www.acps.com.au](http://www.acps.com.au).

**20-22 Oct 2008**, 17th International Symposium on Mine Planning and Equipment Selection 2008 and China International Mine Planning and Equipment Selection Exhibition, Held at the Beijing International Convention Center, Beijing, China. Contact persons: Mr Guangjun Qiu Tel: +86-10-85110095 / 65132109 Fax: +86-10-85110094 Email: [qiu@mc-ccpit.com](mailto:qiu@mc-ccpit.com). Official Website: <http://www.mpesbeijing.com>.

**21-23 Oct 2008**, Power-Gen Asia 2008 Conference, Kuala Lumpur, Malaysia, Samantha Malcolm, PennWell Corporation, PennWell Publishing (UK), Warlies Park House, Horseshoe Hill, Upshire, Essex EN9 3SR, UK, Tel: +44 1992 656 619, Fax: +44 1992 656 704, Email: [attendingpga@pennwell.com](mailto:attendingpga@pennwell.com), Internet: [www.powergenasia.com](http://www.powergenasia.com).

**28-29 Oct 2008**, Mine Haulage, Grand Copthorne Waterfront Hotel, Singapore [www.abc-asia.com/minehaulage](http://www.abc-asia.com/minehaulage) This year will feature new case studies and presentations covering key haulage areas - truck, tyre and equipment maintenance.

**11-12 Nov 2008**, McCloskey US Coal Imports and Exports Conference 2008, Renaissance Hotel, Portsmouth, Virginia. For further information regarding this conference please contact: [claire.lewis@mccloskeycoal.com](mailto:claire.lewis@mccloskeycoal.com), Tel: +44 (0) 1730 265095 or visit: [www.mccloskeycoal.com/conferences](http://www.mccloskeycoal.com/conferences)

**16-20 Nov 2008**, 9th International Conference on Greenhouse Gas Control Technologies, Washington, DC, USA, John Gale, IEA Greenhouse Gas R&D Programme, Orchard Business Centre, Stoke Orchard, Cheltenham, GL52 7RZ, UK, Tel: +44 1242 680753, Fax: +44 1242 680758, Email: [johng@ieaghg.org](mailto:johng@ieaghg.org), Internet: [mit.edu/ghgt9](http://mit.edu/ghgt9).

**4-5 Dec 2008**, McCloskey India Coal Conference 2008, The Oberoi, New Delhi.. For further information regarding this conference please contact: [claire.lewis@mccloskeycoal.com](mailto:claire.lewis@mccloskeycoal.com), Tel: +44 (0) 1730 265095 or visit: [www.mccloskeycoal.com/conferences](http://www.mccloskeycoal.com/conferences).

**9-10 Dec 2008**, Exploration, Mining & Processing Fundamental, A Comprehensive 2 Day Course Teaching the Technical Fundamentals of Exploration, Geology, Mining Methods & Production for Industry Newcomers. Visit: [www.abc-asia.com/exploration](http://www.abc-asia.com/exploration) for more information.

**18-20 May 2009**, 4th International Conference on Clean Coal Technologies, Dresden, Germany, IEA Clean Coal Centre, 10-18 Putney Hill, London SW15 6AA, UK, Tel: +44 20 8780 2111, Fax: +44 20 8780 1746, Email: [mail@iea-coal.org.uk](mailto:mail@iea-coal.org.uk), Internet: [www.iea-coal.org.uk](http://www.iea-coal.org.uk).

### FEEDBACK

*This e-Newsletter is published for the Coal Association of New Zealand Inc. by CRL Energy Ltd.*

*We value your feedback on issues discussed in this e-Newsletter.*

*For comments or enquiries about specific articles, please contact:*

*The Editor*

*CRL Energy Ltd*

*PO Box 31-244 Lower Hutt*

*Phone: 04 570 3715 Fax: 04 570 3701*

### DISCLAIMER

*The views contained here may not represent the views of Coal Association of New Zealand (CANZ) Inc., its members and affiliates. CANZ makes no representation, warranty or guarantee as to the accuracy or completeness of the information (including news, editorials, prices, statistics, analyses and the like) provided through this publication. In no event shall CANZ or its members and affiliates be liable to any person for any decision made or action taken in reliance upon the information provided herein.*