

COAL NEWS

NEW ZEALAND

Consent for Pike River coal trucks

The Environment Court has granted Pike River Coal Limited (PRCL) interim resource consent to truck coal to the Greymouth port along the preferred southern route to Greymouth that cuts 50km off the return trip of a previously approved route. The mine is being developed 46km north-east of Greymouth, near the township of Atarau.

In 2004, a Grey District Council commissioner ruled the trucks must travel north from the mine, cross the Grey River at Ikamatua, and back-track to Greymouth, a 142km return trip. The new route travels on a district road south from Atarau before crossing the river at Stillwater, a 92km return trip.

PRCL said it welcomed the common sense decision because the southern route was much shorter, significantly cheaper and had less impact on the community than the route north through Ikamatua. The company said the road would have a \$5M upgrade, which would include the addition of passing bays.

The court has restricted PRCL trucking to 16 hours a day, six days a week at 175 return trips a day. PRCL originally planned to move its full annual production of 1.3M tonnes for 24 hours every day so the restricted hours meant a greater frequency of trucks (157 return journeys daily).

INTERNATIONAL NEWS

World energy forecast tips coal, gas exports to increase (Australia)

Australia's booming energy export levels are likely to continue for 24 years as world demand for gas, coal, uranium and oil continue to be pushed skyward by China.

In its World Energy Outlook for 2006, the International Energy Agency is predicting energy demand to increase by 53% by 2030, a growth rate of 1.6% a year. Despite concerns about greenhouse emissions, fossil fuels are expected to continue to dominate energy production. By 2030 fossil fuels will actually increase their representation from 80 to 81% of the world energy market. Surprisingly, given recent concerns about oil shortages, average oil prices are expected to be \$US55 a barrel in 2030 in constant dollars, the IEA estimates. Oil imports for OECD countries are expected to rise from 56 to 75%.

An oil analyst from ABN Amro Morgan said the estimate did not surprise him. Canada's massive tar sands deposits, which hold more oil than remaining Saudi Arabian reserves, were "economically viable at a price above \$US55 per barrel". As a result, the long-term price was likely to be in the \$US50-\$US60 range.

The coal industry is expected to continue its recent strong growth. The IEA said global coal demand would be 59% higher in 2030. "Australia is expected to extend its lead as the world's biggest exporter of coking coal and along with Indonesia dominate steaming coal trade."

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Total coal demand would be 8.8 billion tonnes in 2030 on current projections.

The report highlighted the extraordinary and growing influence of China in world energy markets. China's projected growth will account for 30% of the growth in energy demand and is heavily slanted to coal. China and India alone will account for 57% of world coal consumption in 2030, compared with 43% now.

Funding takes first CCS project forward (Australia)

Supplementary funding announced in late December will enable the CO2CRC to undertake the most comprehensive pilot project in the world to test at a commercial scale, the storage and monitoring of CO₂ deep underground in geological formations. The A\$6.1M from the Cooperative Research Centre Programme is in addition to the A\$30M already obtained for the project by the CO2CRC.

Drilling of a deep (2000m) well for the geological sequestration is expected to begin early this year in the Otway Basin of Victoria, with the initial injection of a mixture of CO₂ and methane into a deep geological formation around the middle of the year. Stage 2 of the project will include separation of the CO₂ from the methane before injection.

The CO2CRC said this project will demonstrate that geosequestration is technologically feasible and that the CO₂ can be stored safely and effectively monitored under Australian conditions. It would also provide a unique new business opportunity for smaller Australian enterprises that become involved in the early stages of evolution of geosequestration technology.

Coal price on the rise (China)

China's coal price continued rising while export declined in September 2006, according to reports from the National Development and Reform Commission (NDRC). The reports on coal supply conditions showed that in coal consuming coastal areas, the price of coal went up an average of 5 yuan (US\$0.62) per tonne in September.

The price per tonne of coal for power plants increased to 515-525yuan in Guangzhou and 505-515 yuan in Shanghai and Ningbo by the end of September. As the price increased, coal exports fell in September by 9% compared with September 2005. The figure for the first nine months was 47 Mtonnes, 13% less than the same period in 2005.

The NDRC attributes the price hikes to rising transportation cost and market demand, fueled by heavier dependence on coal by power plants and preliminary stockpiling for heat supply in the coming winter season. China's coal output in the first nine months totaled 1.57 billion tonnes, an increase of 8.4% or 122 Mtonnes more than the same period in 2005. The government abolished its export tax rebate on coal in September 2006.

Large investment planned in coal exploration (China)

China is the world's biggest coal producer and consumer and the country plans to explore for new coal reserves. The aim is to secure about 170 billion tonnes of coal reserves, according to the NDRC. China so far has commercially recoverable coal reserves of 288 billion tonnes, with total estimated coal resources of 5500 billion tonnes. Production last year was 2.19 billion tonnes following an annual increase of 24% in coal production over the past five years.

Electricity firm inks deal for coal power plant (Indonesia)

Indonesia's state-run electricity distributor has signed a tentative deal with a US-led consortium for the construction of a coal-fired power plant costing up to US\$2 billion.

Indonesia's Perusahaan Listrik Negara (PLN) signed a memorandum of understanding (MOU) with the consortium led by AES Transpower Ltd for the 1,200 MW plant to be built in South Sumatra. The consortium will be responsible for supplying the coal and building the power plant. Power generated by the plant will be purchased by PLN. Construction of the plant may cost US\$1.2 billion but if the mining

equipment is included, the total cost could reach US\$2 billion. The AES consortium includes AES Transpower, Japan's Sojitz and local firm PT Triaryani.

NTPC mulls power plants (Nigeria)

State-run NTPC Ltd is planning to set up a 500 MW coal-based and 700 MW gas-fired power station in Nigeria. NTPC has proposed to assist the Nigerian power sector by improving its power plant performance and training to its operation and maintenance staff. The Nigerian government has also offered to allocate a proven gas block for NTPC to set up an LNG plant to overcome a shortage of gas.

The gap between demand and supply of coal from domestic sources was being bridged through import of coal. In addition, new coal blocks are being allocated for captive mining to meet requirements of their power plants in the coming years. The capacity addition for the 11th plan is around 66,000 MW. The Power Ministry had set a target of 37,000 MW in mid-term appraisal of the 10th plan, out of which capacity addition of 31,000 MW was now feasible.

GE to establish clean coal centre (Poland)

GE Energy, a unit of General Electric Co., has announced it will establish a European Cleaner Coal Centre in Warsaw to specialise in the development of clean coal technology. The new centre will provide the US conglomerate with a base for expanding the use of its IGCC technology across Europe. GE said Poland is a natural location for the centre because of its vast coal reserves, exceptional pool of engineering talent and its growing energy requirements.

GE Energy will locate the centre in the same building as GE's aviation engineering design centre in order to take advantage of GE aviation's expertise in engineering and developing a centre.

Richards Bay coal exports fall (South Africa)

Coal exports from South Africa's Richards Bay Coal Terminal (RBCT) fell to 5.74 Mtonnes in October from 7.12 Mtonnes in September. September's exports were unusually high because RBCT was shut for the last week of August due to severe weather and exports were carried over into September.

Based on figures up to the end of October, exporters are projecting calendar 2006 exports to total just over 64.1 Mtonnes. RBCT's export capacity is 72 Mtonnes a year. The terminal has been unable to reach its full export capacity in 2005 or 2006 due to rail and production problems. RBCT will increase its export capacity to 92 Mtonnes a year in 2009 under its Phase V expansion plan.

New unbundled Exxaro to become largest coal producer (South Africa)

Exxaro Resources, which will be the new name for Kumba Resources after Kumba's iron ore division is sold off, will become South Africa's largest coal producer, as it is to combine the assets of Kumba Coal and Eyesizwe Mining and also has a huge number of new projects in the pipeline.

Exxaro also plans to increase its exports of steam coal through the Port of Richards Bay from approximately 2.3 Mtonnes a year to 6.5 Mtonnes over the next four to five years and will continue to be a large supplier of coal energy in South Africa.

Clean coal technology proposals (UK)

Utility E.ON AG has submitted a planning application for the UK's first new coal fired units since 1974 in Kingsnorth, Kent. E.ON UK, which runs Powergen, submitted a scoping document for the two state-of-the-art cleaner coal 800MW units at its existing Kingsnorth power station in Kent recently, and the company has now decided to apply to build the new units. The new units will be built next to the existing four units and would come on line in 2012 once they had been proven. The existing units will then be demolished.

E.ON estimates the changes could cut CO₂ emissions by millions of tonnes a year and could eventually be fitted with carbon capture kit that would enable the station to move to being genuinely clean coal. The new units will cost around £1 billion (US\$1.9 billion) to build and could be capable of burning biomass alongside coal. E.ON is also conducting a feasibility study into a £1 billion clean coal power station at Killingholme in Lincolnshire.

British Gas owner Centrica has revealed plans for a possible new coal-fired power station on Teesside. The firm claims it would be the UK's greenest fossil fuel station, using both clean-coal and carbon-capture technology at the same time. It would cost about £1 billion and supply power to 1M homes. Centrica said it would have the fewest emissions of any fossil fuel power station in the UK. The move comes after a summer of soaring oil prices and as the UK seeks to determine its energy strategy for the coming decades. German power operator RWE has also announced its intention to build a clean coal plant in Tilbury on the Thames Estuary at a cost of £0.8 billion for a start-up in 2016.

Meanwhile, Mitsui Babcock is to retrofit £250M worth of lower emissions and carbon capture ready technology at Scottish and Southern Energy's Ferrybridge Power Station in Yorkshire. This retrofit involves the installation of a 500MW supercritical boiler and turbine unit, the first of its kind in the UK. The higher efficiency (over 45%) is expected to save around 500,000 tonnes of CO₂ a year. The capture-ready plant could be in commercial operation as early as 2011.

Europe's biggest coal fired power station, Drax, is to spend £100M improving its efficiency. Drax Group, which owns the North Yorkshire plant, said it will spend the money on reblading the turbines used in generating electricity. The programme will run between 2008 and 2011 and the improved efficiency is expected to save 500,000 tonnes of coal and cut CO₂ emissions by 1M tonnes a year.

Joint development agreement on Rentech coal-to-liquids plant (USA)

Rentech Inc. plans to build a \$1 billion coal-to-liquid fuel plant in southern West Virginia to take advantage of the area's abundance of coal and mining infrastructure.

Rentech and Mingo County Redevelopment Authority (MCRA) announced a joint development agreement that aims to build a plant that would employ up to 400 full-time workers by 2012. The proposed plant would convert synthesis gas, a combination of hydrogen and carbon monoxide produced from coal, into 3M to 9M barrels of clean-burning transportation fuel per year. Construction of the plant could take three to four years. Rentech and the MCRA plan to cooperate in developing, financing, owning and operating the plant. Rentech said the plant is designed to initially produce 10,000 barrels of fuel a day and then gradually move to 30,000 barrels.

Start-up of innovative fine coal recovery plant in West Virginia (USA)

PinnOak Resources and The Beard Company jointly announced that the Beard Pinnacle pond recovery facility at the Pinnacle Mine complex located near Pineville, West Virginia, has successfully started operations.

The operation includes a plant with innovative technologies designed to recover fine coal that had previously been lost in processing during conventional coal preparation. The coal from the Pinnacle Mine is considered to be one of the highest quality metallurgical coals in North America.

During the start-up, all elements of the plant reached or exceeded their targeted performance levels. Testing is anticipated to continue for another two weeks, and all indications are that the plant will be capable of producing more than its rated tonnage of clean coal annually.

Illinois' stricter coal mercury rule (USA)

The Illinois Pollution Control Board unanimously approved a new mercury pollution reduction standard for coal plants in the state. The next and final step is the Joint Committee on Administrative Rules. Illinois has the fourth highest number of mercury "hot spots" in the nation and mercury pollution is getting worse. If passed, Illinois' mercury plan will be much stricter than the Bush Administration's plan.

Coal price hike fears (Vietnam)

Looming coal price hikes for large state corporations are likely not to be approved by a Vietnamese government increasingly divided over the question.

The Vietnam National Coal-Mineral Industries Group (Vinacomin), currently the country's sole coal supplier, recently announced it would raise prices on coal sold to paper and fertiliser producers by 20 to 50% per

tonne. Vinacomin argued that the coal price for the Vietnam National Cement Corporation (VNCC) and Electricity of Vietnam (EVN) should be increased, as the existing price was much lower than production cost.

Analysts have said that the hikes would result in a successive increase in the price of paper, fertiliser, cement and electricity, which would affect the economy in general. Analysts have further said that coal is a crucial input material for paper, fertiliser, cement and electricity, so if the price increases, all the others will follow. Inflation would then undermine government plans for an 8% GDP growth this year.

Imposition of 10% duty on coal exports (Vietnam)

Vietnam has imposed a 10% duty on coal exports to discourage sales abroad in a move analysts said was likely to affect trade of the fuel with China, the main buyer.

A Finance Ministry directive issued to curb coal exports, was in line with proposals sought by government agencies. The directive would come into force early in 2007. Vietnam's January to November coal exports jumped 68% percent on a year earlier to 26.7 M tonnes

Vinacomin is aiming to reduce coal exports in 2007 to 20M tonnes, still enough to satisfy a third of the import needs of Taiwan, the world's number-three coal importing nation. Coal exports far exceed a previous government-approved level of 11 Mtonnes per year for 2006 and 2007. The national export strategy envisages coal exports falling further to 12 Mtonnes in 2010 and 5 Mtonnes in 2015. More coal-fired power plants would be built, using both Underground Coal Gasification and IGCC technologies for power generation that can use coal more efficiently.

TECHNOLOGY & OTHER NEWS

Alberta announces clean coal pilot (Canada)

The Alberta provincial government has announced a plan to complete an engineering design study for the CCT pilot power plant project over the next three years. Fundings for the project will come from the private sector, the provincial government's recently created Energy Innovation Fund, and the Canadian national government.

The Alberta Energy Research Institute has invested over the past five years on clean coal technologies with strong support from the Alberta Premier. Natural Resources Canada is currently considering where and when investments will be made, according to the department's Office of Energy Research and Development. NRC has launched CCS Technology and Clean Coal Roadmaps, stating that 3.4M tonnes of CO₂ a year could be economically captured in the Western Canadian Sedimentary Basin "today" with "many more megatonnes available if appropriate policies emerge for dealing with CO₂ emissions. The time to invest in CCS is now.'

Meanwhile a report by the Round Table on the Environment and the Economy stated Canada can cut its greenhouse gas emissions 60% by 2050 using existing technology, including CCS. The report considers the chief difficulty in significantly reducing greenhouse gas emissions is not the lack of relevant technologies, rather the lack of long term signals that ongoing GHG reduction will remain a priority.

Oxyfuel plant gets under way (Germany)

The German Chancellor has presided over the official ground breaking ceremony for a coal fired power plant that will employ oxyfuel technology to capture and sequester CO₂. The 30MW plant is under construction in eastern Germany near Cottbus and is the pilot plant being built by Vattenfall AB, an electric utility owned by the Swedish government. The plant is scheduled to commence operations in 2008.

In oxyfuel technology the combustion process burns the coal in pure oxygen, rather than air (which is 78% nitrogen). The volume of flue gas is much less and consists mostly of CO₂ and water, so the CO₂ can more readily be liquefied and stored. CO₂ storage solutions under review include underground storage in aquifers and spent oil wells.

Given successes with the technology, economics, and public acceptance, Vattenfall plans to develop a larger, 300MW plant by 2015 and a 1000MW plant by 2020.

200M tonnes annual CO₂ storage plan (Japan)

The Japanese Ministry of Economy, Trade and Industry has announced plans to set up facilities in Japan and abroad to capture and store 200M tonnes of CO₂ annually. Ministry officials have said the plan aims to have half of this disposed of in Japan and the other half abroad. The target is equivalent to a sixth of current Japanese domestic CO₂ emissions.

The plan is to spearhead research, build facilities and seek necessary legislation with the aim of making CCS technology one of the main methods of reducing emissions, according to METI. One aim is to drive technology until “the cost of reducing CO₂ emissions reaches around 3,000 yen per tonne (US\$25).” One official said that underground storage could begin as soon as 2010. The first target would be the CO₂ produced during natural gas production, but emissions from steel mills, power plants and chemical factories would follow.

IGCC plant progresses (Netherlands)

In the Netherlands, energy company Nuon is developing a 1200MW gasification plant, which will in stages involve CCS. The technology is currently being used in the Nuon power plant at Buggenum. Lessons learned from this plant are being incorporated in the development of the new plant. Nuon will use a multi-fuel concept to be less dependent on one fuel type only. Besides coal, biomass and gas will be used.

In the middle of 2007, Nuon will take the final decision on whether the power plant will be built. Nuon expects the power plant to start supplying electricity at the beginning of 2011.

North Sea has vast CO₂ storage potential (Norway)

Norway's oil minister said the North Sea has many subsea oil and gas reservoirs in both the Norwegian and British sectors suitable for long term storage of CO₂. He said the oil and energy ministry was studying legal hurdles to storing CO₂ (some linked to the London Convention on marine pollution) but expressed confidence that they could be overcome. He said that CO₂ was viewed as industrial waste when stripped from the exhaust of a power plant or a cement factory, even though CO₂ is not toxic. Norway is trying to clarify this legally in cooperation with British authorities.

Meanwhile, British and Norwegian oil companies have announced plans to expand CO₂ storage under the bed of the North Sea. Statoil and Shell plan to take CO₂ from a power station in Norway and pipe it to an oil field, where it will be used to force oil to the surface. Statoil already extracts CO₂ from a natural gas well in its Sleipner field and stores it under the sea bed, while schemes using compressed CO₂ to enhance oil recovery are already running in North America. This North Sea venture would be the world's largest geosequestration project involving enhanced oil recovery. Elements of the project could be phased in from 2010, with CO₂ also being piped later to Statoil's Heidrun field.

Advances \$1 billion for clean coal projects (USA)

The Bush Administration has awarded \$1 billion in federal tax credits to utility companies for clean coal power generation as part of a broad US strategy to move toward emission-free energy. The tax credits, authorised by the energy law passed by Congress in 2005, were awarded to nine companies mostly for IGCC projects, with an additional \$650M for similar projects available in 2007. The chairman of the White House Council on Environmental Quality called the action the largest step to broad commercialisation of clean coal technologies.

Tampa Electric, one of the tax credit recipients, said that incentives also would bring “significant savings” to customers. Tampa Electric was the first US utility to commercialise IGCC technology in partnership with the DOE. The DOE said the overall US strategy to make the best and most efficient use of coal in power generation also includes investing in CCS; supporting further modernisation of existing power plants; ensuring new plants have the most efficient equipment; and building the first virtually emission-free coal power plant known as FutureGen. This plant will combine a range of innovative technologies including CCS. The construction of the plant is expected to start in 2009 and conclude in 2012. It will be operated by an international consortium, which includes companies from Australia, China and the UK.

EVENTS

27-28 Mar 2007, McCloskey's 5th Asian coal conference 2007, Kuala Lumpur, Malaysia, Georgina Lucey, The McCloskey Group, 2 Pages Court, St Peters Road, Petersfield GU32 3HX, UK, Tel: +44 1730 265095, Fax: +44 1730 260044, Email: georgina.lucey@mccloskeycoal.com, Internet: conf.mccloskeycoal.com

15-17 May 2007, 3rd international conference on clean coal technologies for our future, Cagliari, Sardinia, Italy, Consulcongress Srl, Via San Benedetto, 88-09129 Cagliari, Italy, Tel: +39 070 499242, Fax: +39 070 485402, Email: info@cct2007.it , Internet: www.cct2007.it

20-23 May 2007, 6th Asia-Pacific conference on combustion:ASPACC07, Nagoya, Japan, Prof. Akira Umemura, 6th Asia-Pacific Conference on Combustion , Department of Aerospace Engineering, Nagoya University, Furo-cho, Chikusa, Nagoya, 464-8603, Japan, Tel: +82 52 789 4404, Fax: +82 52 789 3280, Email: aspacc07@combustionsociety.jp, Internet: www.combustionsociety.jp/aspacc07/

21-25 May 2007, 2007 international coalbed methane symposium, Tuscaloosa, AL , USA, The 2007 International CBM Symposium, College of Continuing Studies, The University of Alabama, Box 870388, Tuscaloosa, AL 35487-0388, USA, Fax: +1 205 348 9276, Email: nhodo@ccs.ua.edu, Internet: www.coalbed.ua.edu

10-15 Jun 2007, 32nd international technical conference on coal utilization & fuel systems, Clearwater, FL, USA , Barbara A. Sakkestad, Coal Technology Association, 601 Suffield Drive, Gaithersburg, MD 20878, USA, Tel: +1 301 294 6080, Fax: +1 301 294 7480, Email: BarbaraSak@aol.com, Internet: www.coaltechnologies.com

28-31 Aug 2007, International conference on coal science and technology: ICCS&T, Nottingham, UK, Prof. Colin E. Snape, Nottingham Fuel & Energy Centre, University of Nottingham, University Park, Nottingham NG7 2RD, UK, Tel: +44 115 951 4166, Fax: +44 115 951 4115, Email: Colin.snape@nottingham.ac.uk

10-14 September 2007, Call for papers – 24th Annual International Pittsburgh Coal Conference will be held in Johannesburg, South Africa. For a paper to qualify for acceptance, please submit a one-page abstract before 1st March 2007 to pitt2007@sasol.com or Coal processing abstracts to www.sacoalprep.co.za, Johan van Dyk, PO Box 1, Sasolburg, South Africa, 1947, Tel: +27 16 960 4505, Fax: +27 11 219 2398, Email: pitt2007@sasol.com, Internet: www.sacoalprep.co.za/events.htm

4-5 Oct 2007, 2nd international symposium on capture and geological storage of CO₂, Paris, France, François Kalaydjian, IFP - Communication Division, 1 & 4, avenue de Bois-Préau, 92852 Rueil-Malmaison Cedex, France, Tel: +33 1 4752 6440, Fax: +33 1 4752 7049, Email: francois.kalaydjian@ifp.fr, Internet: www.co2symposium.com

9-15 Nov 2007, World energy congress, Rome, Italy, , Mike Treacher, PennWell UK Office, PennWell House, Horseshoe Hill, Upshire Essex EN9 3SR, UK, Tel: +44 1992 656 636, Fax: +44 1992 656 700, Email: miket@pennwell.com , Internet: www.rome2007.it

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, CheltenhamGL52 7RZ, UK, Tel: +44 1242 680753, Fax: +44 1242 680758, Email: johng@ieaghg.org, Internet: mit.edu/ghgt9

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*

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