



**Coal**  
Association of  
New Zealand

# Coal e-Newsletter

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

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## COAL NEWS

### NEW ZEALAND

#### **Solid Energy reports improved environmental performance**

Solid Energy has published its 2006 Environmental Report, highlighting that, for the first time since measuring and reporting its environmental performance, the company met its overall policy objective of having a net positive effect on the New Zealand environment with a 3% overall improvement (or reduction in total effect) .

Solid Energy described this as a great result given that the area of land affected by its operations increased by 8%. The company said its investment in environmental research is now having a practical application across its business, with a focus on improving water and air quality and increasing biological diversity. It was encouraging there were no significant environmental incidents last year.

Solid Energy said it was unfortunate that all these positive achievements have been overshadowed by its recent announcement that 19 months of delays in accessing ridgeline coal at Stockton Mine will result in the loss of up to five export shipments, reducing the year's profit before tax by \$25M, and that the cost of the land snail protection programme is now nearing \$10M.

Solid Energy is calling for a rethink on how some of the money allocated to the land snail programme might have been better spent. The company believes that at least 90% of the actual conservation benefit could have been achieved for \$1-2M, or only 5% of the actual cost incurred. The remaining costs incurred exceed the Department of Conservation's entire annual possum control budget. They could have been used instead to fund development and maintenance of a major mainland wildlife sanctuary, or carry out predator control over an area the size of Fiordland National Park, or to conserve some of our national heritage sites.

#### **Spring Creek Mining Company joint venture now operating**

The Spring Creek Mining Company, the joint venture between Solid Energy and international agriculture and energy company Cargill, has begun operating following approval in May from the Overseas Investment Office. In March Solid Energy announced it had secured Cargill's commitment, helping secure a long term future for the mine provided it continues to meet development and production targets. Solid Energy retains the majority shareholding (51%) and as the mine operator continues to employ all 140 staff.

All effort at Spring Creek Mine is currently devoted to development: upgrading and repositioning underground processing machinery, tunnelling to give access to more than 3 Mt of coal and upgrading the nearby washery to provide a low ash, low sulphur product for international thermal and steel making markets.

When production resumes, planned for around the end of the year, the mine is expected to produce around 65,000 tonnes a month (about 800,000 tonnes per annum). Over the next three years, the joint venture will invest \$25M in new equipment for the mine. Cargill will transport coal to its international customers using its ocean transport business.

#### **Solid Energy to explore for coal west of Hamilton**

Solid Energy has been awarded a coal exploration permit for a 2350 hectare area about 15 km west of Hamilton in the Whatawhata coalfield.

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Solid Energy said the permit covers an area including the historic Campbell underground mine south through to the Kapamahunga Sector of the Whatawhata coalfield. As a coal prospect, available data suggest resources in excess of 1 million tonnes (Mt) of opencastable coal may be present within the permit area.

The work programme will undertake geological data gathering and resource assessment within the next two years. The major activities consist of completing a programme of drilling, geological model of the coal deposit, and reporting on the coal resource potential of the area.

The initial assessment will determine whether it will continue on with the permit for a further year, when additional drilling investigations over the permit area and a conceptual mining study would be completed. Baseline geotechnical, environmental and hydrogeology assessments would also be established in this phase.

### **NZOG's Pike River IPO**

New Zealand Oil & Gas has launched an IPO (initial public offering) involving West Coast coal mine Pike River Coal. NZOG said it had registered a 190 page prospectus for the IPO with the Companies Office. The company has worked hard to interest potential investors, as well as brokers and media, organising eight field trips to the coal mine in the past five months. The lead broker has promoted the stock to institutions in the UK and Australia and Pike River has started a national roadshow to promote the stock in New Zealand. The company is seeking \$65M in the IPO, giving a total market capitalisation of \$180M. NZOG said it would continue to hold at least 34.6% of Pike River after the float (currently at 61% stake), while Indian interests would hold 20.6%.

Gujarat became the project's third cornerstone investor in June 2006 when it injected \$20M into the company. It had agreed to buy 40% of Pike's production for the life of the mine. The other cornerstone investor was Indian coking coal company Saurashtra Fuels, which paid \$17M for a 10.6% stake. The money to be raised by the IPO would allow the company to continue developing the mine.

Pike River will mine about 18 Mtonnes of coal identified as recoverable from the Brunner seam in the Paparoa ranges, 46 km northeast of Greymouth. Pike River coal has ultra low ash and high fluidity, qualities particularly sought after by coke manufacturers and steelmakers.

The company said forecasts over the next three years for steel production and for premium hard coking coal demand have both firmed since December. The first coal from Pike River is now expected in the March 2008 quarter. Access tunnel rates of advance have improved as expected as the tunnel proceeds further underground, although it remains behind schedule. Access roads are now substantially complete. Site building has commenced and all other major contracts are on target to support the critical path schedule.

### **Personnel changes at Pike River Coal**

Gordon Ward was appointed on 1 April 2007 as managing director of Pike River Coal with the company team presently comprising 21 full time employees.

Pike River Coal has appointed John Dow as its independent chairman of directors. Mr Dow is a former chairman and managing director of gold mining company Newmont Australia. He has extensive experience in the mining and exploration industry as a geologist and later as a senior executive for Newmont Mining on operations in South-east Asia, USA, Latin America and Australia.

Mr Dow is now looking forward to the challenge of leading a major New Zealand coal mining company. The mining of Pike River coal will be an important development for the West Coast and on a national scale.

## **INTERNATIONAL NEWS**

### **Clean Coal Council to determine funding directions (Australia)**

A Clean Coal Council is to be established in Queensland to determine where government and industry funding should be spent. The announcement ended nearly two weeks of speculation in the industry about who should fund clean coal research, with the Queensland Premier backing away from plans to increase royalties paid to the government by coal companies. The money will instead be raised when the government legislates to make coal producers pay a "voluntary" 20 cent levy for every tonne of coal sold from 1 July 2007.



The Queensland Resources Council said the industry is expected to contribute A\$600M over 10 years, based on current expectations for future coal tonnage. The Clean Coal Council will be supported with funding of A\$300M from the State Government and other partners over time. This will be a huge commitment for clean coal technology in Queensland and a good outcome for 1) the environment and 2) for Queensland as a leader in developing clean coal technology and 3) for securing the future of the coal industry.

The Premier said one of the key areas in his recent discussions with the New Zealand Prime Minister had been climate change and collaboration between Queensland and NZ scientists on clean coal technology. Helen Clark said NZ was well aware of the resources Queensland - and Australia in general - were putting into clean coal technology, a critical issue for Australia's coal fired economy. "This is an issue of interest for us because we do have 1000 years of coal reserves and we do export coal," she said.

### **BHP Billiton to sell Elouera Mine (Australia)**

BHP Billiton announced that it has reached agreement to sell its Elouera mine, which is a part of the Illawarra Coal business located in New South Wales, Australia, to Gujarat NRE FCGL Pty Ltd. The sale includes the mine, associated land holdings and the responsibility for rehabilitation and closure of the mine once operations are complete.

Mining operations at Elouera by BHP Billiton were completed in 2005. Since then the mine has been operated under a limited contract mining agreement with Delta Mining Company, which was finalised in March 2007. Sale of the mine is subject to various conditions precedent including completion of the transfer of the Coal Lease, and associated licenses to Gujarat.

### **Coal giant Shenhua to buy mines overseas (China)**

Shenhua Energy is in talks to buy coal mines in Indonesia, Australia and elsewhere, but no timetable has been set. The company would start importing coal from Indonesia and Australia this year to meet the growing demand for energy. However, it will not reduce its coal export volume significantly to maintain its global presence. Shenhua aims to export 23 Mt of coal this year. It aims to raise commercial coal production to 152 Mt.

It had settled the price of exports to Japan, South Korea, Taiwan and other countries at US\$60 to US\$65 a tonne for 2007. The average sale price of coal is expected to rise 15% to 20% year on year. Meanwhile, Shenhua said it produced 12 Mt of coal in April, while coal sales rose 11% to 16 Mt.

### **Project represents win-win economic partnership (China)**

The Shenhua Group and The Dow Chemical Company have signed a cooperation agreement and are planning a detailed feasibility study to build a world-scale coal-to-chemicals complex in Shaanxi Province, China.

The project will use "clean coal" technologies that convert coal to methanol to produce ethylene and propylene, the building blocks to make various plastics and chemical products. The complex will include a chlor-alkali unit, enabling the production of products such as caustic soda, vinyl chloride monomer and chlorinated organics. Other derivative products being planned for the complex include glycols, amines, solvents, surfactants, acrylic acid and derivatives and propylene derivatives.

The feasibility study will encompass environmental impact assessment, water supply, front-end loading engineering design, market and product mix, logistics and supply chain, and economic evaluation. The feasibility study is expected to take approximately two years. The two companies then will compile a project application report based on the completed positive feasibility study and submit that to the Chinese government for approval.

### **Future uncertain for liquefied coal (China)**

China might scrap efforts to produce petroleum by liquefying coal, an official with the country's top economic planning agency said at a recent seminar on the development of China's ethanol industry in Beijing. The possibility of such a move was raised after an evaluation of the nation's limited energy resources and environment, according to a deputy director of the industry department of the National Development and Reform Commission.

"Liquefied coal projects consume a lot of energy, though the successful industrialisation of liquefied coal could help reduce the country's dependence on petroleum," said the official, who declined to be named. The country is also confronting huge demand for capital and the increased consumption of water and coal associated with the production of liquefied coal, the official said. He said the authorities had launched the coal liquefying projects without first carrying out any trial runs, and the technologies involved were not yet sophisticated enough.



However, the country will continue to search for substitutes to petroleum. The State Council decided at a recent meeting that the government would not approve new grain based ethanol projects in order to cut grain consumption for industrial use.

### **China becomes net coal importer (China)**

China became a net coal importer as imports exceeded exports by 2.89 Mt in the first quarter of 2007. From January to March, coal exports slumped 32% to 11.4 Mt while imports surged 61% to 14.3 Mt. In the first quarter last year, the country exported more coal than it imported by 7.9 Mt.

In 2006, the government abolished export tax rebates on coal and imposed export charges, while cutting import duties in an effort to curb pollution and its fast growing trade surplus. The Ministry of Finance announced on May 21 further tariffs on exports and cuts in import duties from June 1. The likely duration of China's net importer status was still unknown, according to officials.

### **Sakoa South Coal Project greenlighted (Malagasy)**

Pan African Mining Corp announced that it has now received full environmental permitting from the Malagasy Government to commence exploration and development of its interests in the Sakoa South Coal deposit.

The company holds Research Permits covering an area of approximately 400 km<sup>2</sup> in Southwest Madagascar. It encompasses significant tracts of the major Sakoa and Sakamena coalfields as well as the entire extent of the Beroy and Vohipotsy coal-bearing basins. Coal-bearing seams have been identified along 38 km of strike within the company's license area.

Environmental Permits have now been granted to the company to carry out anticipated drilling, trenching, pitting, road-building, camp establishment and other exploration activities contemplated in the Phase I exploration program now getting underway. The programme aims at testing an initial target of 100 Mt of coal in situ near surface within 325 km<sup>2</sup> of the company's license area. Phase I is anticipated to include 6 km of core drilling.

### **Korea seeking to develop coal mines (Mongolia)**

South Korea wants to cooperate with Mongolia to jointly develop coal and other natural resources. Government negotiators at the bilateral resources cooperation meeting in Ulsan said South Korean energy companies want to take part in the large Tavan Tolgoi mine 540 km south of the Mongolian capital of Ulan Bator.

The mine, which is 100% owned by Mongolia's Energoresources Co., is estimated to hold 5 billion tonnes of good-quality bituminous coal. It currently ships out 1 Mt of coal to China per year.

### **China quits coal project (Pakistan)**

The Shenhua Group of China is quitting the US\$1.5 billion Thar coal project in Pakistan. The Chinese firm has decided to roll back its plan for setting up coal-fired power plants at Thar in the Pakistani province of Sindh. The decision is considered a major setback for the South Asian country, which is facing a serious power shortage. The project was expected to add 1,000 MW to the national power grid in three years.

The main reason for the company's withdrawal is the power tariff rate offered by Pakistan, which the Chinese side deemed insufficient to continue power generation. Security and domestic workload have reportedly been cited as the other reasons that forced the company to drop its plan.

The Chinese group later expressed its willingness to install the power plant at a generation price of up to 6.5 cents per unit, but the government had not yet made a final decision on the tariff, which was more than what the Chinese company had previously sought. The company had also sought the government's assurance to allow the use of water from underground aquifers and guarantees of a return on its investment for setting up a coal-based power plant in Sindh province.

### **PNOC sets new coal ventures (Philippines)**

Philippine National Oil Co.-Exploration Corp. (PNOC-EC) plans to spend about US\$28M mainly to fund its petroleum and coal exploration ventures. Of that amount, about US\$14M has been earmarked for petroleum exploration, US\$11M for coal exploration and development and US\$3M for downstream petroleum projects. PNOC-EC may also invest about US\$9M for coal projects located in Zamboanga, Sibugay, Isabela, Surigao and Indonesia.

### **Napocor bids out Pagbilao coal deal (Philippines)**

The lone bid of Indonesian company PT Andalan won the contract to supply the coal requirements of the Pagbilao power plant from the National Power Corp. (Napocor). The company was the only supplier to respond out of the seven



that were invited to tender an offer for the contract. PT Andalan's winning offer was pegged at US\$65/tonne as against the reference price of US\$67/tonne.

The shipments have been earmarked for the 700 MW Pagbilao power facility and the proposed scheduled shipments of the coal supply for this contract are from June to December. This will be the third time PT Andalan has won a contract from Napocor. The company was earlier awarded a US\$2.3M contract for six barges of coal supply and a US\$1.2M contract for two barges of coal for the Pagbilao facility.

### **Clean coal plans for power plants (Scotland)**

Scotland's two coal-fired power stations, the Longannet power station in Fife and the Cockerzie plant in East Lothian, could be converted to clean coal technology under plans unveiled by Scottish Power. Scottish Power said the scheme would cut CO<sub>2</sub> emissions at the two stations by a fifth and would be the biggest clean coal project in Europe. Scottish Power, now part of the Spanish-based Iberdrola utility group, said the blueprint would see giant new turbines and low-emission boilers installed at the power stations.

A feasibility study for the scheme has now started and if it goes ahead, construction could start in 2009 with operations beginning in 2012. Scottish Power said it hoped that the remaining CO<sub>2</sub> would eventually be buried in the old Longannet coal mine.

### **Eskom licensed to build new coal station (South Africa)**

Eskom has been granted a license to build the first new coal-fired power station in more than 20 years by the National Energy Regulator of South Africa (Nersa). Nersa said the first unit was planned to be commissioned by early 2011, with the last unit scheduled for commissioning by January 2015.

Formerly known as Project Alpha and Charlie, the power station has been named Medupi. The station is a green-fields, coal fired power plant project in Lephalale comprising six units and rated in total at 4500 MW installed capacity. It would include supercritical boilers, which are able to operate at higher temperatures and pressures than older generation boilers and operate with greater efficiency.

Medupi will also use direct dry-cooling, which will be Eskom's fourth dry-cooled base-load station after the Kendal, Majuba and Matimba Power Stations. The boiler and turbine contracts for Medupi are set to become two of the largest contracts that Eskom has ever signed in its 83 year history. Tenders for the long lead boiler and turbine packages were lodged and the evaluation process is now complete.

### **Power industry warns on high price of moving to 'clean coal' (UK)**

The UK power industry has told the Government that the development of "clean coal" power stations will not take place without heavy subsidy and higher electricity prices.

Centrica, the UK's largest energy supplier, said that Britain and other European countries must penalise polluters by doubling the cost of carbon permits under the European Emission Trading Scheme (ETS), which would raise the cost of electricity.

The warning over the price of green energy came as the Government delayed publication of its Energy White Paper by a week. RWE npower will ask the Government for clarity over plans to support clean coal technology as it reveals a blueprint to build Britain's biggest coal-fired power station for more than 30 years.

### **Backers of coal gasification plant say study shows its benefits (USA)**

Proponents of "clean coal" technology are touting a new study that predicts many new jobs and a huge boost to the economy of the southern half of the state from a proposed state-of-the-art coal gasification plant. The \$3 billion plant in Taylorville would convert high-sulfur Illinois coal into a cleaner, synthetic gas and then burn that gas to produce electricity.

Taylorville and other former coal mining areas have been devastated in recent decades by federal environmental regulations that made the state's high-sulfur coal difficult to market. State officials are backing startup loans for the private venture and say coal gasification could be a savior to the region by making Illinois coal usable again. The plant, which would not be operational until 2012 at the earliest, would use 1 to 2 Mt of Illinois coal each year. That level of coal use would generate \$78.5M a year in economic activity and more than 400 jobs.

### **Headwaters building coal cleaning plant (USA)**

Headwaters Inc. started construction on a coal cleaning facility in Brookwood, Ala., and plans to build two more in the state this year.



Headwaters said the new facility at its Jim Walter Resources Mine No. 4 site would begin cleaning and recovering waste fines from the property by the end of the year. Waste fines are tiny pieces of coal left over from mining and processing activities. Headwaters expects the facility will produce about 400,000 tonnes of high-quality coal annually, and plans to market the recovered coal for steam production in utility and industrial boilers.

### **States urge EPA to tighten rules on coal plants (USA)**

New York and 15 other states have urged federal regulators to put teeth into a proposed pollution rule aimed at making US electric utilities reduce emissions of localised impact contaminants and of greenhouse gases when they expand or modernise their coal fired power plants.

Attorneys general from the mostly East Coast and some western states urged the Environmental Protection Agency to change its proposed rule on enforcement of the New Source Review programme, which seeks to ensure air quality is not worsened by overhauls and additions at power plants and other emissions sources.

At issue is the ability for US power companies to modernise and expand their aging fleet of about 500 coal fired power plants. The EPA proposed the rule in response to a 2005 court decision in a case in which New York sued the agency.

The states say the EPA's new proposed rule fails to fix the problem, making it easier for power plants to escape emissions enforcement. In a letter the states sent to the EPA, they said the EPA proposal is "legally flawed." EPA responded the Bush administration "has established rules that will achieve significant and permanent reductions in power plant emissions, as well as encourage safety and energy efficiency."

## **TECHNOLOGY & OTHER NEWS**

### **Rio Tinto, BP plan clean coal plant**

Rio Tinto and BP announced plans for a US\$1.5 billion coal-fired power project in Australia which would capture CO<sub>2</sub> to cut greenhouse gas emissions. The clean coal power station would be the first new project for Hydrogen Energy, the company launched by BP and Rio Tinto.

The 500MW power station at Kwinana, 45 km south of Perth in Western Australia, would produce electricity for 500,000 homes while capturing about 4 Mt of CO<sub>2</sub> each year. The project will capture in excess of 90% of the CO<sub>2</sub> produced and will permanently and securely store it in a geological formation deep beneath the seabed of the Perth basin. That amount of CO<sub>2</sub> in one year is the equivalent of taking three quarters of a million cars off the roads of Australia.

The government is developing carbon capture and storage legislation to provide investment certainty for the developers of the technologies and investing in geological mapping to identify sites where CO<sub>2</sub> could be stored. If the feasibility study for the project is successful, a final investment decision is likely in 2011, with the station coming online after three years of construction.

### **Proposal for the first full-scale assessment of advanced coal technologies**

Southern California Edison (SCE), recently requested state regulatory approval to conduct the nation's first feasibility assessment of combining several advanced "clean" coal technologies, on a full commercial scale to advance these emerging approaches to low-carbon generation.

A chemical process that captures as much as 90% of the carbon in domestic coal, the highest level targeted by a U.S. clean coal initiative; producing a mostly H<sub>2</sub> fuel and emitting only 10% of the carbon released by an integrated gasification combined-cycle coal project without carbon capture.

The advanced technologies in SCE's proposed study, an approach the utility calls Clean Hydrogen Power Generation (CHPG), are being considered or tested in clean coal projects elsewhere. The SCE plan would be the first assessment of a full-scale, 600-MW facility using all of them. It is an effort to advance the technology of low-emission power generation using coal, the nation's most secure, readily available, domestic fuel source.

SCE is seeking authorization to commit US\$52M of revenues it collects from customer rates during a two-year period to an advanced technology feasibility study. If approved, this would represent less than 0.25% of current customer rates.



### **TIPS awaits decision on funding for model plant (Canada)**

Thermo-energy Integrated Power System (TIPS) is a revolutionary coal fired combustion process that, in the laboratory at least, utilises high pressure in generating electricity and steam, producing CO<sub>2</sub> in liquid form ready for geological sequestration, and almost no atmospheric emissions. Invented by an American chemical engineer and evaluated by scientists from the Canada Centre for Mineral and Energy Technology, the electricity generation technology is said to be much lower cost than other technologies that capture CO<sub>2</sub> and to require a furnace only one-tenth the size of conventional coal furnaces. Those behind the technology are awaiting a decision on an application for Canadian funding to build a model plant at a cost of about \$12M.

### **Federal coal-to-liquids study on Illinois coal basin**

A study done for the U.S. Department of Energy suggests it would be economically and technically feasible to operate the nation's first-ever coal-to-liquids plant in the Illinois coal basin.

The conceptual design evaluated is technically feasible using equipment that has been demonstrated at commercial scale. Commercial-scale CTL (coal-to-liquids) plants using Midwestern bituminous coal represent promising economic opportunities. Under a scenario tested for a generic site, a plant with an estimated US\$3.65 billion cost could generate a greater return on investment the higher the price for crude oil reaches on the world market.

The study said with crude oil at US\$37 a barrel, the project would achieve at least a 10% return on investment. With prices US\$47 or higher, the yield on investment could be 15%. The 70-plus page report was prepared by Research & Development, LLC/Science Applications International Corp. under the direction of the energy department's National Energy Technology Laboratory.

### **Japanese testing cleaner coal-fired power plant**

When a coal gasification demonstration plant in Texas fires up in September, the designer, Mitsubishi, expects to prove it's possible to burn the types of coal available in Texas without high levels of emissions.

This IGCC technology should give Mitsubishi's client, NRG Energy, the momentum to jump all the other hurdles to build a whole fleet of the clean plants across the US.

### **Allocating US coal tax credits on carbon capture**

The Bush administration said recently tax credits of \$650M for advanced coal and gasification projects would be allocated under a new ranking system favouring projects that capture and sequester CO<sub>2</sub> emissions. The Treasury Department and Department of Energy said the deadline for new project applications under the 2007-2008 tax credit application round were due October 31.

"The modified allocation method will substantially favour projects that capture and sequester CO<sub>2</sub> emissions and will favour to a lesser extent projects optimised for future CO<sub>2</sub> capture," the Treasury said.

### **UK and Norway seeking regulatory changes to assist CCS**

The last major regulatory hurdle for CCS in Europe is expected to be cleared by the end of the year, when the law of the sea relating to the north-east Atlantic is expected to be amended to allow storage under the sea bed. This would open the way to a major new business market for the potential prime players in Europe - the UK and Norway - and could give them an edge over possible rivals in the US, where similar legal changes could be slower to arrive. The world market in CCS has been estimated at £150 billion a year by Edinburgh University.

At the moment, storage under the sea is banned in the north-east Atlantic - one of the biggest potential sites in the world - but the prohibition is expected to be lifted by the end of 2007. The four governments with the most to gain - UK, Norway, France and the Netherlands - have proposed the change. A report from the UK and Norway concludes that CCS is 'technically feasible' and could deal with up to 40% of CO<sub>2</sub> emissions by 2050. It says Europe has such significant storage capacity that it could cope with most of Europe's CO<sub>2</sub> emissions for perhaps hundreds of years.

Old oil and gas fields and aquifers (natural underground reservoirs) under the sea provide the biggest opportunities for Europe. Experts believe the nations and companies that develop CCS first will have a major advantage over those that follow.

'Commercially, this could be huge,' says Harry Audus, general manager of the International Energy Agency's greenhouse gas research programme. 'It's a parallel industry to the whole fossil fuel industry.' Once the legal issues are removed, the final practical barrier will be finance. The UK government will soon launch a competition under which it will fund a CCS pilot plant, but the Treasury needs to announce a capital funding structure for other schemes and a system for guaranteeing revenue to energy companies that use CCS.



A recent survey of over 500 key energy decision makers from 28 nations across Europe has found a strong appetite for the development of CCS technologies. The survey was funded by the Research Directorate of the European Commission and directed at the energy industry, researchers, government, environmental groups and parliamentarians. The perceived advantages of CCS are that it can be implemented over the next few decades and has the potential to significantly reduce CO<sub>2</sub> emissions rapidly in most countries.

### **Australian boost for CCS**

The Australian government will establish a world leading regulatory system for carbon capture and storage (CCS). The Minister for Industry, Tourism and Resources announced in the May budget A\$18.5M (over four years) will be committed to establish the system to support CCS projects in Australia. He said the Offshore Petroleum Act 2006 will be amended to provide industry with the necessary access rights in the same way as the proven system for oil and gas. The Commonwealth, state and territory governments have agreed to a set of nationally consistent principles to govern CCS.

The legislation will be underpinned by a regulatory regime which will establish the methods for selecting storage sites and then regulating and monitoring the storage activity. The system will cover the assessment and approval of proposed activities, risk and site analysis and the monitoring required for long term storage and data analysis. The Minister stated geological storage of CO<sub>2</sub> is safe and reliable. Geological structures have stored oil and gas securely for tens of millions of years. Storing CO<sub>2</sub> in similar geological locations will achieve similar storage retention times.

### **US researchers study potential impact of CO<sub>2</sub> storage on groundwater resources**

The US Department of Energy (DOE) and the US Environmental Protection Agency (EPA) have begun a coordinated research effort to evaluate how the storage of CO<sub>2</sub> might affect the nation's valuable groundwater resources. The 3 year effort is an integral part of the DOE Carbon Sequestration Program. This coordinated effort between DOE and EPA will take a hard look at CO<sub>2</sub> storage in geologic formations so that there can be certainty that the nation's drinking water will not be adversely affected by large scale sequestration.

EPA will concentrate on the migration of CO<sub>2</sub> and its possible impact on underground sources of drinking water. DOE is funding four research tasks to better understand whether the large scale increase of water pressure in CO<sub>2</sub> storage formations may change the hydrologic conditions in shallow aquifers. This effort will specifically focus on any changes in groundwater table levels, effects on discharge and recharge zones in the groundwater systems, and potential impacts of those changes on underground sources of drinking water.

### **Great River Energy joins liquid-coal effort**

Great River Energy is teaming up with Headwaters Energy Services and The North American Coal Corp. to explore the development of a North Dakota coal-based refinery to pursue coal-to-liquid transportation fuels and electricity. The companies have established a single venture, American Lignite Energy, which will evaluate the project.

This would be the first coal-to-liquid project for Great River Energy, a not-for-profit generation and transmission cooperative that provides electricity to 28 distribution cooperatives in Minnesota and Wisconsin.

The North Dakota Industrial Commission has committed US\$10M toward the project, US\$1.2M of which is expected to be expended in the next phase of engineering, permitting, and site development. American Lignite Energy will provide matching funding in order to receive the state assistance.

### **Kobe Steel to begin construction of upgraded brown coal demonstration plant**

Kobe Steel, Ltd. announced the start of construction of a large-scale, 600-tonne-per-day demonstration plant in Indonesia to upgrade brown coal into higher quality coal for use in power generation.

A groundbreaking ceremony was held in May at the Satui coal mine in southeastern Kalimantan, Indonesia. Plans call for the plant to begin trial operation in October 2008.

Although Indonesia has an abundance of brown coal, the high moisture content makes utilization of this natural resource difficult. The demonstration project aims to upgrade the brown coal into a higher heat content fuel so that it can be used for power generation. The demonstration plant is scheduled to operate for 18 months from October 2008. Bulk samples of upgraded brown coal (UBC) will be supplied for trial use to a number of power companies, including Japanese power companies. Following successful demonstration, Kobe Steel aims to begin commercial marketing of the UBC Process from the second quarter of 2010.



The UBC Process uses dewatering technology developed by the company since 1980 to reduce the moisture in the brown coal. The pulverized coal is mixed with recycled oil (normally petroleum light oil) and heavy oil to make a slurry. The slurry is then heated in an evaporator to remove moisture. The oil is recovered from the dewatered slurry using a decanter. The upgraded powdery coal is then briquetted for easy transportation.

### **Coal giant orders simulators for training centres**

Immersive Technologies has made a further significant breakthrough in Queensland with an order to supply its state-of-the-art Advanced Equipment (AE) Simulators to Australia's largest coal producer and exporter. BHP Billiton Mitsubishi Alliance (BMA) will take delivery of three new training simulators in the next two months, expanding its Immersive Technologies simulator fleet to four units. BMA has also purchased a further seven simulator Conversion Kits™ allowing BMA to simulate over 18 different machine models, including the worlds-first simulator based dragline operator training system which was recently awarded the title most Innovated Mining Solution at the 2006 Mining Prospect Awards.

The mines operated by BMA produce about 60 Mt per annum of coking and thermal coal, and employ more than 9400 people, including contractors.

### **New portable extinguishers tackle coal & dust fire**

Two new portable fire extinguishers have been launched in the UK specifically designed to fight coal dust and other dust fires, particularly in the mining and quarrying industries. The new TOTAL® brand extinguishers have specially designed applicators that provide a smooth covering of the fire, so markedly reducing the kinetic energy of the extinguishant flow and the risk of explosion. This is claimed to be a major step forward in mine and quarry fire safety, as even the smallest amount of kinetic energy can initiate an explosion.

The new TOTAL extinguishers are filled with ABC powder with a high MAP content. Should a fire occur, the internal CO<sub>2</sub> propellant bottle is activated by a knock-down button. Two models are available: a 6kg coal dust extinguisher that, with the applicator removed, can also be used as a standard extinguisher for Class A, B and C fires, and a 10kg mine and quarry portable. The 10kg extinguisher is designed for use in the most extreme environments.

### **Coal dust turned into useful fuel**

An innovative method of transforming coal waste into a new energy form has been developed by a team of scientists based in Northern Ireland. They have come up with a chemical mixture which, when added to coal sludge, produces fuel pellets which can be burned in power stations. It can be used to clean up anything from wood dust to chicken waste. Applied Silicate Technologies has already secured an order worth £154M to clean up coal waste in Europe.

The coal dust is first fed into a drum known as an agglomerator. Once inside, it is sprayed with the chemical and is turned into clean, usable solid balls of fuel that can be burned by power stations. The residue left behind when coal is mined and cleaned can be an environmental problem, as it is sticky, hard to transport and expensive to turn into something useful like briquettes or pellets. Compared with traditional briquette manufacturing, the energy levels needed by this new process are low.

### **International Coal & Energy New Industry Expo 2007**

This expo in Shanxi, China in September is to be an annual event (see contact details below). The purpose is to upgrade the traditional coal industry and to speed up the comprehensive utilization of coal resources and the development of new energy sources. The Expo will display a wide range of coal related equipment, products and industrial technologies.

## **EVENTS**

**31 Jul-1 Aug 2007**, 2007 Australian coal summit, Brisbane, Qld., Australia, Vanessa Riley, Terrapinn, Level 6, 241 Commonwealth Street, Surry Hills, NSW 2010, Australia, Tel: +61 2 9005 0777, Fax: +61 2 9281 5517, Email: [vanessa.riley@terrapinn.com](mailto:vanessa.riley@terrapinn.com), Internet: [www.terrapinn.com/2007/coal\\_au](http://www.terrapinn.com/2007/coal_au)

**13-14 Aug 2007**, 9<sup>th</sup> Annual New Zealand Energy Summit, Duxton Hotel, Wellington NZ. Tel: +64 9 912 3616, Fax: +64 9 912 3617, Email: [register@conferenz.co.nz](mailto:register@conferenz.co.nz), Internet: [www.conferenz.co.nz](http://www.conferenz.co.nz)

**13-14 Aug 2007**, 3rd Coaltrans Australia, Brisbane, Qld., Australia, Stephanie Mercier, Coaltrans Conferences Ltd, Nestor House, Playhouse Yard, London EC4V 5EX, UK, Tel: +44 20 7779 8189, Fax: +44 20 7779 8946, Email: [smercier@euromoneyplc.com](mailto:smercier@euromoneyplc.com), Internet: [www.coaltrans.com](http://www.coaltrans.com)



**15 Aug 2007**, 2<sup>nd</sup> Annual Climate Change & Energy Emissions Management Forum, Duxton Hotel, Wellington, NZ. Tel: +64 9 912 3616, Fax: +64 9 912 3617, Email: [register@conferenz.co.nz](mailto:register@conferenz.co.nz), Internet: [www.conferenz.co.nz](http://www.conferenz.co.nz)

**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](mailto:Colin.snape@nottingham.ac.uk)

**10-14 Sept 2007**, 24<sup>th</sup> Annual Pittsburgh Coal Conference Johannesburg, South Africa, Johan van Dyk, PO Box 1, Sasolburg, South Africa, 1947, Tel: +27 16 960 4505, Fax: +27 11 219 2398, Email: [pitt2007@sasol.com](mailto:pitt2007@sasol.com), Internet: [www.sacoalprep.co.za/events.htm](http://www.sacoalprep.co.za/events.htm)

**16-18 Sept 2007**, China (Taiyuan) International Coal & Energy New Industry Expo, China, Zhang Lei, No.1 Xinjian Road, Taiyuan, Shanxi, China. Tel: +86 351 408 3916, Fax: +86 351 408 7916, Email: [office@cicenexpo.com](mailto:office@cicenexpo.com), Internet: [www.cicenexpo.com](http://www.cicenexpo.com) NZ contact Yan Zhigang, Attache, Tel: +64 4 471 4102, Fax: +64 4 471 4104, Email: [yanzhigang@chinaeco.org.nz](mailto:yanzhigang@chinaeco.org.nz)

**18-19 Sep 2007**, Coal21 annual conference, Hunter Valley, NSW, Australia, COAL21 Secretariat, Level 3, MTAA House, 39 Brisbane Avenue, Barton, ACT 2600, Australia, Tel: +61 2 6273 6044, Fax: + 61 2 6273 6060, Email: [info@coal21.com.au](mailto:info@coal21.com.au)

**4-5 Oct 2007**, 2nd international symposium on capture and geological storage of CO<sub>2</sub>, 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](mailto:francois.kalaydjian@ifp.fr), Internet: [www.co2symposium.com](http://www.co2symposium.com)

**17-18 Oct 2007**, Clean coal Asia 2007 conference, Singapore, Singapore, Roderic McLauchlan, Terrapinn Pte Ltd, 1 Harbourfront Place, #18-01/06 Harbourfront Tower One, NA 098633, Singapore, Tel: +65 6322 2724, Fax: +65 6226 3264, Email: [rod.mclauchlan@terrapinn.com](mailto:rod.mclauchlan@terrapinn.com), Internet: [www.terrapinn.com/2007/coal](http://www.terrapinn.com/2007/coal)

**21-24 Oct 2007**, 27th coaltrans world coal conference, Rome, Italy, Stephanie Mercier, Coaltrans Conferences Ltd, Nestor House, Playhouse Yard, London EC4V 5EX, UK, Tel: +44 20 7779 8189, Fax: +44 20 7779 8946, Email: [smercier@euromoneyplc.com](mailto:smercier@euromoneyplc.com), Internet: [www.coaltrans.com/](http://www.coaltrans.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](mailto:miket@pennwell.com) , Internet: [www.rome2007.it](http://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](mailto:johng@ieaghg.org), Internet: [mit.edu/ghgt9](http://mit.edu/ghgt9)

**19-20 Nov 2007**, McCloskey's Australian coal conference 2007, Sydney, NSW., Australia, 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](mailto:georgina.lucey@mccloskeycoal.com), Internet: [conf.mccloskeycoal.com](http://conf.mccloskeycoal.com)

#### FEEDBACK

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