



## COAL NEWS

### NEW ZEALAND

#### **NZ, Queensland unite to fight gases from coal and farms**

New Zealand and Queensland will join forces in a scientific programme to fight greenhouse gases from coal-fired energy production and pastoral flatulence.

Prime Minister Helen Clark and state Premier Peter Beattie agreed to accelerate TransTasman action on climate change.

Mr Beattie recently met Helen Clark during her five-day eastern states trade mission to boost access and potential partnerships in Australia for small and medium-sized New Zealand companies.

Mr Beattie said one of the key areas in his discussions with Helen Clark had been climate change and collaboration between Queensland and New Zealand scientists on clean coal technology and farm animal greenhouse gas emissions.

Helen Clark said New Zealand 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.

#### **Eastern stripping at Takitimu mine in Southland**

Eastern Corporation is stripping overburden from its Takitimu coal mine (formerly Mossbank) near Nightcaps in Western Southland, prior to beginning a new contract to supply sub-bituminous coal to the Fonterra Clandeboye plant in South Canterbury. Eastern said in its quarterly report to March 31, that during the quarter, phase one of the stripping contracts was completed uncovering approximately 50,000 tonnes of coal ready for extraction and processing.

Under the Fonterra contract, Eastern will supply approximately 130,000 tonnes of coal each year, commencing September 2008. This contract would underpin the production from the Takitimu mine and the company regarded it as an important step in Eastern's New Zealand coal strategy. Bulk samples of Takitimu coal have also been placed with a number of potential industrial customers and production will be increased as further offtake agreements are secured. The outlook for coal sales from both Eastern's Cascade (West Coast) and Takitimu mines is expected to improve significantly for the next quarter with increased demand in the winter season.

#### **Solid Energy support for Buller developments**

Solid Energy is contributing \$2M to three significant Buller developments designed to improve the district's sport and recreational facilities and its visitor experiences. The three developments are key components of Buller District Council's strategy to upgrade Westport town centre, along with the area's recreational facilities and its visitor and tourism attractions. Solid Energy will contribute \$1M towards a new sports and leisure facility, to be known as the Solid Energy Centre, \$250,000 to the development of visitor experiences at the historic sites of Denniston and \$750,000 to a redeveloped Coaltown Museum.

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Solid Energy said "Stockton Mine and the Buller community have supported our business for many years. While we have an active programme of supporting local community initiatives in the Buller, the Council's visionary scheme to upgrade and enhance the district now gives us the chance to make a significant and lasting contribution. The sports centre will be a great asset, particularly for local schools and I'm sure that our current and future staff will see it as a positive benefit for the district. The developments at Coaltown and Denniston will be the key to enhancing Westport as a visitor destination and at the same time enable us to tell the story of coal, its importance in the district and its contribution to the New Zealand economy, both in the past and in the future."

Funding for the Denniston Heritage Trust will enhance and interpret the Denniston Incline, create an underground mine visitor experience at the entrance to the old Coalbrookdale Mine and upgrade displays at the Denniston Museum. The Trust, which includes representatives of the Department of Conservation (which administers the area), Buller District Council and Solid Energy, also plans to improve the walking track network which connects the Denniston historic sites. The balance of \$750,000 will be for the redevelopment of the Coaltown Museum in a new location at the heart of the upgraded town centre. The Buller Mayor said he is thrilled with the financial support by Solid Energy.

### **Pike River float over-subscribed**

Pike River Coal Company said its recent \$65M share float had been oversubscribed and an extra \$20M worth of shares had been issued.

New Zealand Oil & Gas, which spun off Pike River into a separate company for the initial public offering and remains the largest shareholder with 31%, has promised \$25M more capital beyond next January should Pike River need it.

The company "reaffirms its commitment to Pike River to ensure it realises its full value by completing the development of the Pike River Mine and achieving coal production on schedule".

The mine's first coal production is expected in the first quarter of next year.

### **Amendments to Crown Minerals Regulations**

The Crown Minerals (Minerals Fees) Amendment Regulations 2007 and the Crown Minerals (Petroleum Fees) Amendment Regulations 2007 were enacted on 14 May 2007. The amendments were required to correct the omission of fees for some types of application from the schedules in the substantive regulations.

The Amendment Regulations prescribe a fee of \$2,500 for any application made under section 36 of the Crown Minerals Act 1991, and amend the wording of the fee for an application for the Minister of Energy's consent under section 41 of the Act to ensure that the fee will apply to all applications for Ministerial consent made under that section.

The Amendment Regulations were notified in the New Zealand Gazette on 17 May 2007 and will come into force on 15 June 2007. A link will be provided on the Crown Minerals website to the electronic version of the Amendment Regulations when they are posted on the Regulations of New Zealand website. [www.crownminerals.govt.nz/cms/coal/permits](http://www.crownminerals.govt.nz/cms/coal/permits) has a good summary of current permits, recent applications received & granted and procedures for permit applications and fees/royalties payment.

## **INTERNATIONAL NEWS**

### **Coal project updates (Australia)**

Thirteen coal projects — six in New South Wales and seven in Queensland — were completed in the six months to April 2007, with a total capital expenditure of \$1.6 billion.

The largest of these projects is Wesfarmers' \$360M Curragh North project, which will produce around 2.5 million tonnes (Mt) a year of coking coal.

Another large Queensland coal project that was recently completed was the 3Mt BHP Billiton and Mitsui Poitrel mine. The Poitrel mine and Millennium mine, completed in July 2006, will share the Red Mountain Joint Venture's coal handling and preparation plant that was commissioned in October 2006.

Other black coal projects to be completed in Queensland for the period ended April 2007 include two new mines, Isaac Plains and Kogan Creek. Isaac Plains, located north east of Moranbah, will produce around 1.6Mt of thermal and pulverised coal injection coal, while the Kogan Creek mine will supply 2.8Mt a year of thermal coal to the Kogan Creek power station, which itself is in the final stages of construction.



The New Acland and Wilkie Creek mines were expanded, which resulted in increased thermal coal production capacity of 1.5 and 0.6Mt respectively.

At Ensham, 40 kilometres north east of Emerald, construction was completed on a \$100M dragline. The new dragline will not add significantly to productive capacity; however, it will enhance Ensham's cost competitiveness.

In New South Wales, the largest project completed, in terms of capital expenditure, was the expansion of the Kooragang Terminal at the Port of Newcastle. The \$170M expansion will increase coal loading capacity at the port by 13Mt to 77Mt.

The operators of Kooragang Terminal recently received state government approval to expand the Terminal's capacity by a further 43Mt a year.

Production capacity of the New South Wales coal industry will increase following the completion of the Wilpinjong (3Mt thermal coal), Boggabri (1.5Mt thermal coal) and Tarawonga (1.3Mt thermal and semisoft coking coal) opencut mines and the Ashton (3Mt thermal and semisoft coking coal) and Newpac (4Mt coking coal) longwalls. All five mines will export coal via the expanded Port of Newcastle.

### **Port Waratah to expand Newcastle coal export capacity (Australia)**

Port Waratah Coal Services Ltd, operator of the two coal-loading terminals at Newcastle port, said that it is preparing to expand capacity at the harbour to meet forecast demand by mining companies.

The proposed expansion will boost coal-export capacity at Newcastle to 113 Mt/y in the fourth quarter of 2009 from 102 Mt/y and will cost A\$458M (US\$388M).

Bottlenecks and bad weather at Newcastle, combined with rising demand for coal from users in Asia, have contributed to a rise in the number of bulk carriers waiting to load coal outside the New South Wales port. The delays have contributed to a jump in Asia's benchmark price for power-station coal to the highest in almost three years.

A rival group, Newcastle Coal Infrastructure Group, or NCIG, expects to start up a separate terminal in the second half of 2009. The group, comprising BHP Billiton Ltd and other Australian coal producers, said in April the cost estimate for building the new terminal had risen by more than three quarters to A\$992M.

### **Sojitz buys stake in Australian coal project for A\$90M (Australia)**

Sojitz Corp., a Japanese trading house, bought a 10% stake in the planned A\$350M Moolarben coal mine from Australian mining company Felix Resources Ltd.

Sojitz paid A\$90M for the stake in the project near Mudgee in New South Wales. The Japanese company also obtained the marketing rights for coal produced at the mine.

The mine, which could produce 8.5Mt of coal a year over its 25- to 30-year life, will more than double Felix's managed output of 6Mt. Felix will use the funds from the sale to help complete financing for the project.

Felix is in talks to sell a 10% stake in the project in New South Wales state to Asian power generators. Korea Electric Power Corp., which supplies almost all the power in Asia's third-largest economy, recently said it was leading investors seeking to buy the stake.

### **Xstrata backs coal terminal scheme (Australia)**

Xstrata said it was prepared to join with other coal miners to build a planned coal loading terminal at Gladstone in Queensland to ensure it has sufficient infrastructure to support its new \$1 billion-plus Wandoan coal mine development in the Surat Basin.

The state-owned Gladstone port authority and Queensland rail are proposing to build the new Wiggins Island terminal at Gladstone, which could be completed by late 2010.

Xstrata recently approved a pre-feasibility study to develop Wandoan into what would be its largest coal mine in Australia. Wandoan is envisaged as a 30-year operation capable of producing 20 to 30Mt of thermal coal a year. If approved, it is expected to come into production in 2011.

Xstrata said the coal at Wandoan appears to be suitable for use in Integrated Gasification Combined Cycle (IGCC) power technologies that involve gasifying the coal and capturing carbon dioxide emissions that could be injected deep



underground for permanent storage. Xstrata owns 75% of Wandoan, with Japanese traders Itochu and Sumisho each holding 12.5%.

### **ACCC backs plan to cut coal queue at Newcastle (Australia)**

A NSW coal moving company has been granted an authorisation that will cut the long queue of ships off Newcastle and save the coal industry around A\$175M.

The Australian Competition and Consumer Commission (ACCC) has given the final tick of approval for Port Waratah Coal Services (PWCS) to reinstate the counter balancing system (CBS) for getting coal onto ships.

Producers are charged fees - known as demurrage - when vessels endure an unduly long wait for cargo. The queue off Newcastle is currently as much as 70 vessels per day.

ACCC said PWCS estimated it would take several weeks to cut the queue to a more workable level using the reinstated, amended CBS.

### **Asian demand a boost for African coal (Botswana)**

Surging coal demands from China, India and southern Africa have bolstered Botswana's mining potential, said Akanyang Tombale, permanent secretary at the minerals and energy ministry during a recent international conference on coal mining in Botswana.

Tombale said that increasing power demands in the Southern Africa Development Community (SADC) region "offers this country an opportunity to transform from a net importer of power to a net exporter leveraging on its coal resources".

The planned expansion of the Morupule coal-fired Power Station Project and evaluation of coal-bed methane gas in several parts of Botswana are expected to increase the country's coal production more than ten fold by 2012.

### **Coal reserve proposed to ensure energy security (China)**

China will set up a strategic coal reserve to ensure energy security, according to a legislative amendment being drafted. Building a strategic coal reserve is on the top of a list of 10 articles proposed to be added to the current coal law, according to the president of the China Coal Information Institute (CCII) affiliated to the State Administration of Work Safety.

The amended law will address such issues as the number of reserve sites and the scale of the reserve. The country has so far mapped out plans only for oil reserves.

Another amendment to improve safety is proposed to raise the threshold for mining license applications. Other amendments on coal product processing and industry planning will be proposed to serve the goal of sustainable development.

The country's annual coal output reached 2300Mt last year. Exports were 63Mt and imports 38Mt. Coal currently accounts for 70% of the country's energy consumption.

### **Halting coal-to-oil projects due to energy, expense worries (China)**

China is considering halting efforts to make oil from coal due to concerns about the expense and energy demands.

The Chinese government has previously stated its hope to ease China's rising dependence on imported oil by promoting alternative energy sources such as oil from coal and solar, wind and nuclear power. It announced plans in March to invest 100 billion yuan (US\$13 billion) to build Asia's largest facility to make diesel fuel from coal.

If it proceeds, the facility in the northwestern region of Ningxia would be due to start operation in 2020 and be capable of producing 75 million barrels of diesel fuel a year.

### **Japan, South Korea asked to pay more for coal (China)**

Chinese coal exporters are demanding buyers in Japan and South Korea pay as much as 44% more for the fuel this year as output fails to keep pace with power station demand.

Sellers led by China National Coal Group want to raise prices as much as US\$23 to \$75 per tonne, excluding freight. Japanese and Korean importers said \$65 is their maximum offer. Talks recently entered a second round after deadlock in late March.



The average price at Qinhuangdao, China's biggest coal port, rose 27% in the first quarter to \$63 per tonne. Japan paid \$53 a tonne under contracts that expired recently. South Korean buyers are paying \$52 a tonne for annual shipments ending in July.

### ***Increase in inferred tonnage for major metallurgical coal deposit (China)***

East Energy Corp. announced an expanded mineral resource estimate for its highly promising Jiangcang metallurgical coal project, in Qinghai Province, which is covered by the East Energy-China Minmetals joint venture agreement. Current in-place coking coal resources (independently prepared by Norwest Corporation) now include 312Mt of inferred resources suitable for surface mining. East Energy's 12.74% share of the updated inferred resource is 40Mt of metallurgical coal.

The 312Mt estimate is based on 138 drill holes and on two of 20 coal seams in the area, the #16 and #20. These two seams have an average thickness of 3.7m and 13.6m respectively, and contain medium volatile bituminous coking coals, which are used in China's steel industry.

This represents an increase of 80% over the original Zhong'ao resource estimate, which covered only three of the four blocks and calculated 172.7Mt of inferred coking coal resources suitable for surface mining. The new resource estimate now includes the block contributed to the joint venture by Qinghai Sinomine Resources Development Ltd. This block contains 138.8Mt of inferred coking coal resources suitable for surface mining (estimated on 24 drill holes).

### ***Power firms asked to opt for coal (India)***

India has asked its power industry to adopt coal-based projects so the fertiliser sector can get priority in gas allocation. The power sector will be encouraged to rely more on coal for new capacity, which may lead to some reduction in the demand for natural gas.

India's Power Ministry set a target of capacity addition of 78,577 MW in the 11th five-year plan that began this April. The states of Maharashtra, Gujarat and Andhra Pradesh have together planned 10,000 MW gas-based power projects in the next five years. India's power and fertiliser sectors are the worst affected by the gas shortage.

### ***ArcelorMittal seeks coal blocks in Jharkhand (India)***

ArcelorMittal has applied for two coal blocks in Jharkhand, where it plans to build a 12Mt per year steel plant. The interest in blocks suggests the steel major is still serious about its project in the state.

Delay in allocating iron ore mines had prompted ArcelorMittal to announce a steel project of similar size in Orissa. However, it is believed that Jharkhand may have given fresh assurance to ArcelorMittal on ore supply, prompting it to boost its efforts for the next key ingredient, coal.

Like the Jharkhand steel project, ArcelorMittal is also planning a 12Mt plant in Orissa. The company also plans to build 1,500 MW coal fired power plants both states.

### ***Coal companies asked to introduce Zero Harm concept (India)***

Concerned over increasing accidents in the state-run and Tata Steel's coal mines, the Indian government asked them to immediately replace outdated machinery and introduce the concept of Zero Harm in their mines. Safety statistics reveal that the number of fatalities in Indian coal mines have increased in 2006 compared to 2005, so there is a need for better analysis to understand and address the root causes of such accidents.

Expressing concern on increasing accidents in opencast mines due to dumper movements, coal companies were asked to introduce the concept of Zero Harm in their mines by applying good safety systems. The companies were told to follow best practices in the mining industry besides adopting the concept of risk management to minimise accidents.

Officials said operating managers have to clearly understand the "precious value of lives of workers" deployed in the mines. Safety issues should not be left only to safety officers or under-managers of collieries. It requires involvement at the highest level.

### ***Holding coal exports steady to keep up with domestic demand (Indonesia)***

Indonesia will maintain annual coal exports at 150Mt between 2009 and 2025 as domestic demand rises. Coal production will reach 370Mt by 2009 and the country's demand will increase to 220Mt.

The Indonesian government wants state utility Perusahaan Listrik Negara and private power producers to add 20,000MW of generating capacity by 2010, mostly fired by cheaper coal, to cut electricity costs and meet demand.



Japan, India and South Korea have sought more coal from Indonesia to meet increased consumption fueled by economic growth in Asia.

Indonesia has 61,300Mt of coal resources with reserves that can be mined estimated at 6700Mt. Exports will rise from 145Mt in 2006 to 148 Mt in 2008.

### **Government agrees on coal contract (Mozambique)**

The Mozambican government hopes that large scale exploitation of the huge coal reserves at Moatize, in the western province of Tete, will begin in the next three years. The government has agreed the terms of the contract that will be signed with Rio Doce Mocambique Ltd, the Mozambican subsidiary of the Brazilian mining giant, Companhia Vale do Rio Doce (CVRD).

Under the terms of the contract, the area granted to this company will be exploited for a period of 25 years. The company has guaranteed that the training of technical staff, the mobilisation of equipment and the construction of infrastructures will be completed in 36 months. This will mean that the exploitation of the Moatize coal will begin in 2010.

The investment planned is over US\$1.5 billion. \$135M will be spent on training Mozambican staff, while \$35M will be spent on housing, education, health care and other social areas. CVRD is putting up \$170M of its own money, while the rest of the investment will be financed from bank loans.

The government has agreed that, in the first five years, 30% of the work force at the Moatize mines can be foreigners (much more than the 5% allowed under the labour law passed by the Mozambican parliament earlier this year). After the first five years, this proportion will be reduced to 20% and later on it will be authorised to no more than 10%. This means that Mozambicans will participate in this project by "occupying positions at all levels".

### **Exxaro buys coal export entitlement from BHP (South Africa)**

Exxaro Resources Ltd has agreed to buy the rights to export 1Mt of coal from South Africa's Richards Bay Coal Terminal from BHP Billiton. The rights are in addition to the 2.5Mt a year Exxaro was recently awarded by the coal terminal and 0.8Mt Exxaro acquired with its purchase of Eyesizwe Coal.

Exxaro plans to buy a further 2Mt a year in export rights when the coal terminal, which is north of Durban on South Africa's east coast, completes its "Phase V" expansion scheduled for the second quarter of 2009. This will result in Exxaro's total export entitlement increasing to 6.3Mt.

### **Eskom, Exxaro close to inking 17m ton coal deal (South Africa)**

Eskom could conclude the second half of the Medupi power station's coal contract with Exxaro Resources in the third quarter of this year. This would bring total annual supply to as much as 17Mt.

In late March, the power utility and Exxaro concluded an agreement on the supply of coal for the first phase of the Medupi power station. Exxaro will supply the Medupi station with 7.3Mt of coal from its Grootegeluk mine in Limpopo's Waterberg area.

Eskom had made mention of the possibility of increasing the size of the Medupi station from 4500 to 5000 MW. Concluding the second contract at Medupi would help Exxaro achieve its goal of growing its annual coal output to 63Mt by 2014 from 43Mt last year.

### **EGAT weighing local lignite and imported coal (Thailand)**

The Electricity Generating Authority of Thailand (EGAT) plans to conduct economic viability and comparative studies of locally mined lignite and imported coal to be used as fuel in future electricity production.

The studies, to be conducted by Thammasat University, would focus on analysing the cost of lignite mined in Mae Mo, Lamphang, to determine whether it is commercially feasible for electricity production since EGAT is preparing to import coal from many overseas sources such as Indonesia, Australia and Vietnam.

The study would compare the costs of using Mae Mo lignite and imported coal based on the data at BLCP power plant, which started operation late last year.

The Mae Moh lignite mine originally had a reserve of 814Mt of which 286Mt have been used. With only 20 years left in its lifespan, its mining cost would become higher, as deeper mining is required.



The cabinet has allowed EGAT to build four coal-fired power plants with a combined capacity of 2,800 MW. EGAT also plans to sign agreements to import coal over the next 10 years.

EGAT might enter joint ventures with overseas miners to produce coal which would then be sold to EGAT.

### ***Increase in regular grade coal output (Ukraine)***

Ukraine plans to increase annual production of regular grades of coal in the next few years.

Ukrainian coal production increased 2.8% to 80.3Mt in 2006. Coal companies cut production of coking coal 8.2% last year to 30.1Mt, while increasing power generating coal output 10.9% to 50.1Mt.

### ***Senate rejects coal-to-liquids proposal (USA)***

The Senate recently rejected a measure (that was supported by the US Air Force) to provide incentives for revival of an 80-year-old technology that could convert coal into aviation fuel.

With political unrest in far-flung locales able to disrupt world oil supplies and hurricanes capable of knocking out Gulf Coast refineries, the Senate considered the proposal to spur production of diesel and jet fuel from an abundant domestic and inland resource.

The Democratic amendment to an energy conservation bill under debate would have authorised up to \$10 billion in loans to develop coal-to-liquids plants. Proponents argued that the incentive could capitalise on the US position as the "Saudi Arabia of coal."

Senators also rejected a rival Republican plan that would have required that 6 billion gallons of coal-to-liquids fuel be used between 2016 and 2022.

## **TECHNOLOGY & OTHER NEWS**

### ***Australian coal industry to invest in clean coal***

The NSW coal industry has agreed to invest an expected \$400M over 10 years into clean coal technology. The Australian Coal Association (ACA) said the money would be raised through a voluntary levy of 20 cents per tonne of coal produced. A total of 95% of coal producers had already signed up, with the rest to follow, according to ACA.

The uncapped fund would allow investment in existing NSW projects, such as a geosequestration project in Munmorah on the Central Coast and an ultraclean coal demonstration plant planned for Cessnock in the Hunter Valley. The ACA expected the \$400M fund would encourage a rash of new research projects.

NSW Premier Morris Iemma welcomed the move and said the government was committed to developing low emission coal technology. Developing clean coal was therefore the key to tackling climate change while maintaining the NSW economy, the premier said. "It would be a disaster, a national disaster, if the coal industry was shut," Mr Iemma told reporters.

### ***Workshop to develop consistent CO<sub>2</sub> storage capacity methodologies***

A three day workshop was conducted by CO<sub>2</sub>CRC in early July to help develop methodologies for the characterisation of CO<sub>2</sub> storage sites and determining storage capacity. The workshop reviewed existing schemes and addressed where it was necessary to adapt them to suit the need of developing a consistent and readily useable methodology to deliver the basis for bankable storage projects in an economical, credible, and timely fashion throughout Australia, New Zealand, and beyond.

The 40 people who attended the first day included a range of stakeholders, with scene setting presentations from invited experts who outlined storage schemes or relevant resource assessment methodologies in use or proposed. Presenters included experts from CSIRO, Geoscience Australia, FrogTech, NSW Geological Survey, Queensland Geological Survey, Victorian Department of Primary Industries, Stanwell, and Geological and Nuclear Sciences Ltd from New Zealand.

Separate breakout sessions focused on scales of characterisation and data needs in saline aquifers and depleted fields, coal systems and low permeability reservoirs, as well as decision making processes for site selection. Over the following two days a smaller group of 19 CO<sub>2</sub>CRC researchers met to incorporate the outcomes of the stakeholder workshop and turn them into a scheme that CO<sub>2</sub>CRC researchers and others could apply on a consistent basis, using



the US Department of Energy and Carbon Sequestration Leadership Forum system as platforms. The draft scheme will be presented to stakeholders in September.

### **Study of geosequestration potential in Western Australia**

A new study by CO2CRC has identified Harvey Ridge, an area south of Lake Clifton, as having the best potential for future CO<sub>2</sub> geosequestration in south-west Western Australia. The study, commissioned by the State Government's Coal Futures Group as part of its push towards clean coal technology, assessed the potential for geosequestration in the Collie and Perth Basins. The Western Australian Resources and Energy Minister said consideration would now be given to further investigations of the area.

### **Clean coal may rule out nuclear power, according to Australian Minister**

The federal Environment Minister Malcolm Turnbull says Australia may never need a nuclear power plant, if the development of clean coal technology is successful. At a conference in Sydney for business economists, Mr Turnbull spoke about the financial challenges posed by climate change. He says a move to nuclear power may be unnecessary if clean coal works out to be cheaper in the long run.

"If clean coal is going to be cost effective in Australia, it may be that when a utility is looking at low emission options, clean coal will be cheaper than nuclear energy," he said. "In that case, there may be no nuclear power stations in Australia at all."

### **US public support 'critical to energy security'**

Technologies to Reduce or Capture and Store Carbon Dioxide Emissions, a report from the US National Coal Council, says that public and private support for technologies to reduce or capture and store CO<sub>2</sub> is critical to the US energy independence and energy security interests. The study recommends efficiency upgrades at existing plants, development of new, higher-efficiency supercritical, ultrasupercritical and IGCC plants, and development of promising CCS technologies. It calls on significant additional private-public partnerships to accelerate the commercialisation of these technologies.

### **Germany focuses on clean coal technology**

A German energy programme will focus on four important targets including clean coal technology (coal generation with low CO<sub>2</sub> emissions) and CCS when it is drawn up by the country's environment and economics ministries after the summer break. The report will also highlight a firm presence for base load electricity sources in the future energy mix, more energy efficiency including cogenerated heat and power, as well as the further expansion of renewable energies.

The "integrated energy programme" will set the focus for energy and climate policy up to 2020 and will be based on results from three energy summits. A study setting out three possible energy scenarios to 2020 by consultancy Prognos and the energy institute at Koln University also fed into the debate. The first energy scenario is based on the coalition government's post-election agreement not to alter the nuclear phase-out law, to double energy productivity by 2020, to increase the use of renewable energies and continue to develop emissions trading.

### **Treaty amended to allow CO<sub>2</sub> burial off Europe**

European nations have amended a maritime treaty to permit burial of greenhouse gases beneath the Atlantic as part of a long term plan on global warming. Governments changed the 1992 OSPAR Convention at a meeting in Ostend, Belgium, so that a ban on "dumping" at sea will not apply to greenhouse gases captured from power plants or factories and then pumped into porous rocks below the seabed. OSPAR covers the north-east Atlantic from the North Pole south to Portugal and stretching east to Denmark and west to Greenland. A separate convention governing dumping in the world's oceans, the London Convention, was similarly amended last year. Many oil companies, including Statoil, BP and Shell, have been pushing for changes to OSPAR.

"The convention changes are an important milestone," the Norwegian Environment Minister said. "Storage of CO<sub>2</sub> in geological formations beneath the seabed will be an extremely important tool in the fight against climate change."

Norway proposed the changes with backing from France, the Netherlands and Britain. OSPAR groups 16 coastal states and the European Commission. The revision will enter into force after ratification by seven nations, expected to take between one and five years.

### **Building of first industrial underground coal gasification project**

Construction began in May on China's first industrial-pilot underground coal gasification (UCG) project in the Inner Mongolia Autonomous Region. Seven ignition and production wells reached the coalbed 200m below ground in the project's US\$112M first phase. The project consists of underground drilling and ignition, above ground coal-gasification power generation, and chemical production.



The plant is located at the Gonggou Coal Mine in Wulanchabu City and by 2010 will produce 1.5M cubic metres per day of syngas, 100,000 tonnes per year of methanol and methane and generate 32.4 GWh/y of power. The city is developing a coal-chemical industry with its more than 15 billion tonnes in coal reserves. Methane isolated from the syngas will be used to produce town gas and generate electricity.

The project is a joint venture between China University of Mining and Technology and Hebei Xin'ao Group, which was founded in 1989 and has now become an energy distribution/equipment manufacturing conglomerate (including chemical and biochemistry businesses). The group has a total asset of US\$2.35 billion and offices in over 60 Chinese cities and the UK, USA and Australia.

China will also obtain six patents and two initial patent packages. The patents include: well-less UCG mining; ignition of an underground gasifier furnace; and parameter control in the oxygen-steam continuous gasification process. During the oxygen-steam continuous gasification process, syngas with over 40% hydrogen content will be generated and used to produce methanol.

### **ActiveMine approved by West Virginia coal mine safety regulator (Canada)**

Active Control Technology Inc. (ACT) recently announced that ActiveMine(TM), a two-way voice communications and tracking system that operates on a 100% wireless Wi-Fi network, has been approved by West Virginia's Office of Miners' Health, Safety and Training.

The West Virginia agency is the first government regulator to certify that ActiveMine is fully functional in accordance with new safety rules requiring emergency communications and tracking systems in underground coal mines. The agency's technical reviewers have verified that the technology, which was developed for all types of mining environments, meets West Virginia performance and safety standards.

The certification means that ActiveMine is approved for sale in West Virginia, the leading state for underground coal mining and safety. Under West Virginia rules, only approved communications and locating systems can be included in mine safety plans, which must be submitted by mine operators by the end of next month. The systems must be installed in all of the state's more than 150 underground coal mines by July 31, 2008.

ACT has also submitted applications seeking "intrinsically safe" certification by the federal Mine Safety and Health Administration (MSHA), which requires that all underground coal mine communications and tracking systems be spark-proof. ActiveMine was designed to meet all relevant federal and state mine safety regulations, including the requirement for two-way voice communications and not just text messaging, as set out by MSHA.

### **Coal-to-oil converter set to start work (China)**

Towering above the sweeping grasslands of Erdos, in North China's Inner Mongolia Autonomous Region, two 60m high cylindrical structures stand against the skyline.

The structures - reactors for liquefying coal - are part of a project to mass-produce desperately needed fuel oils from the country's rich coal resources.

More than 10,000 workers from across China are constructing the massive project, the first industrial facility in Ejin Horo Banner.

According to the Liquefied Coal Oil Company of Shenhua Group Corporation Ltd, the country's top coal producer, the project is in its final stage of construction and will be ready for production late in the year. The facility will produce mostly diesel oil, plus liquefied petroleum gas (LPG), naphtha (a volatile, flammable liquid hydrocarbon mixture) and phenol.

Before starting the project, Shenhua successfully tested the technology at a specially built converter in Shanghai. The project in Erdos is about 1,000 times the size of the Shanghai model and projected to be both environmentally friendly and lucrative.

Preliminary estimates showed 3.4 to 3.5 tonnes of coal could produce a tonne of oil, and if the price for a barrel of crude remained above US\$35, the facility would be profitable.

### **Contract for eco-friendly, cost-efficient CBM wastewater treatment**

Catalyx Fluid Solutions (CFS), a division of RG Global Lifestyles, Inc. has signed a five-year contract with one of the US top 30 natural gas production companies for RG Global to construct and operate a water treatment plant employing



RG Global's proprietary ion exchange technology that will remove contaminants from the wastewater associated with coal bed methane (CBM) production

The project will be implemented in three phases with the first phase expected to be operational in seven to eight months and all three phases expected to be completed within 18 months, resulting in a total revenue stream of \$20-22M over the length of the contract. The client will have the right to extend the term of the contract beyond the first five years when regulatory authorities extend their discharge permits.

RG Global's CFS system enables removal of sodium, barium, iron and other inorganic contaminants that can pose an environmental threat from CBM-produced water for significantly less cost per barrel than the prevailing industry rates.

Catalyx's flexibility allows energy companies to instantly adapt to changing wastewater conditions. The treated water will be totally safe for irrigation and wildlife with no hazardous byproduct. With very narrow margins in CBM production, Catalyx's lower cost makes it economically feasible to ramp up production of this plentiful form of clean-burning energy.

The CFS system removes the sodium and other contaminants, making more than 99% of the water fit for discharge or irrigation, therefore generating less than 1% as a non-hazardous waste stream primarily consisting of sodium sulphate that can be concentrated and sold as a raw material to several industries. Competing technologies produce up to 15% byproduct stream, typically sodium chloride.

Existing technologies have been unable to cost effectively treat water to meet Montana and Wyoming's stringent discharge standards, resulting in the shut down of several wells and drilling operations.

## EVENTS

**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)

7-10 Oct 2007, Capture and Geological Storage of CO<sub>2</sub>, SPE Applied Technology Workshop, Perth, Australia, Jenny Chong, SPE, Suite 23-02, Level 23, Centrepoint South, 59200 Kuala Lumpur, Malaysia, Tel: +60 3 2288 1233, Fax: +60 3 2282 1220, Email: [jchong@spe.org](mailto:jchong@spe.org), Internet: [www.spe.org](http://www.spe.org)

**17-18 Oct 2007**, Clean coal Asia 2007 conference, 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, 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)

**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

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