

## Victorian offshore CO<sub>2</sub> storage potential significant

Addressing the inaugural 2008 Victoria Resources Conference in Melbourne, CO2CRC Chief Executive, Dr Peter Cook, said that, whilst there were clearly access issues to be addressed given that the area was an important oil and gas province, a study of the Gippsland Basin by his organisation had shown the potential for it to initially store two thousand million tonnes (two gigatonnes) of compressed carbon dioxide.

This was equivalent to taking out 50 million tonnes of carbon dioxide emissions from Victoria's LaTrobe Valley power stations per year, for the next 40 years. Dr Cook said that the capture capability from the pilot plants now being established in the Valley will provide a basis for future scaling up.

Dr Cook also announced steady progress on CO2CRC's Otway Project near Warrnambool – Australia's first carbon storage project. "We commenced carbon injection in April, have about 20,000 tonnes in place – or about a fifth of our 100,000 tonne objective," Dr Cook said.

[» Online article](#)

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## Alliance attacks Australian Government "clean coal" laws

An alliance of the coal industry, the miners' union and parts of the environmental lobby have attacked the Australian Federal Government's proposed world-first laws to regulate "clean coal" projects.

The Clean Coal Alliance — the Australian Coal Association, the CFMEU, the Climate Institute and the World Wildlife Fund — says draft legislation gives priority to the oil and gas industries and fails to adequately recognise the importance of storing carbon dioxide underground as a means of combating climate change.

[» The Age](#)

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## Praxair's oxy-coal technology for Vattenfall's German plant

Praxair Deutschland GmbH & Co. KG, has signed an agreement with Vattenfall AB of Sweden, one of Europe's leading energy companies, to provide technology and engineering in the joint development of advanced power-generation technology that would reduce carbon dioxide emissions from coal-fired electricity generating power plants.

The project involves a conceptual study for a possible 500-megawatt combined heat and power plant in Germany that would incorporate Praxair's oxy-coal technology. This technology will enable the capture of more than 90% of the carbon dioxide generated by coal-fired boilers.

This is Praxair's third clean-coal project. The company is participating in demonstration projects in Jamestown, New York, and in El Bierzo, Spain. Praxair also has a multi-year agreement with Foster Wheeler North America Corp. to jointly pursue specific clean-coal demonstration projects that will integrate oxy-coal technology with the combustion systems of new and existing coal-fired electric generating plants.

[» Reuters article](#)

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## US coal to liquids plant with CO<sub>2</sub> storage planned

The construction of an \$800M coal-to-liquids fuel plant by Consol Energy and Synthesis Energy Systems will include technologies to sequester carbon emissions.

The plant would use coal from the Shoemaker mine in Benwood, Marshall County, USA, to produce methanol for the chemical industry.

The CO<sub>2</sub> emissions from the plant will be pumped underground and sequestered beneath the West Virginia coal mine.

[» Online article](#)

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## Japan to begin trial carbon trading scheme

Japan approved an October start for the trial trading of carbon dioxide.

"We'll set down rules in September on how to take part (in a trial carbon trading scheme) and in October we'd like to get started," said Hiroshi Kamagata, director for the cabinet secretariat at the Cabinet Office.

[» Reuters article](#)

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## Gorgon plans brought forward

A domestic gas plant for one of Western Australia's biggest energy projects could now be built earlier than expected.

The Gorgon joint venture has announced it will incorporate the plant as part of its liquified natural gas project on Barrow Island, off the North West coast of Australia.

The Gorgon project's ambitious geosequestration component would be advanced with a seismic baseline survey in the next 12 months.

» [WAtoday article](#)

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## DOE's latest round of CCPI funding announced

The US Department of Energy (DOE) has announced the latest round of funding as part of its Clean Coal Power Initiative (CCPI), launched back in 2002. The initiative is looking to fund industry teams to demonstrate, at the commercial scale, new technologies that can capture CO<sub>2</sub> emissions from coal-fired power plants and either sequester it or put it to use.

The carbon capture technologies must operate at 90% and must be able to capture and store (or use) at least 300,000 tons of CO<sub>2</sub> annually. Only projects that can show progress toward carbon capture and storage (CCS) while adding less than 10% to electricity costs will be considered.

» [Energy Efficiency news article](#)

» [Link to DOE website](#)

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## US states to introduce "cap and trade" program

Connecticut, Delaware, Maine, Maryland, Massachusetts, New Jersey, New Hampshire, New York, Rhode Island, and Vermont have agreed to issue regulations to enact a regional "cap and trade" program to reduce greenhouse gas emissions from power plants. Power plant companies will have to buy carbon dioxide emission allowances at quarterly auctions or on the secondary market to cover the volume they release into the air. They may also acquire some allowances by offsetting emissions through tree-planting, energy-efficiency programs or other approved methods. The first auction is scheduled for September 25.

» [Online article](#)

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## US DOE to spend \$36 million to advance carbon capture

The US Department of Energy has announced \$36 million in funding to develop new and cost-effective technologies of carbon capture from existing coal-fired power plants.

The 15 projects will focus on five key areas: membranes, solvents, oxycombustion (flue gas purification and boiler development) and chemical looping. These include:

- Membrane Technology and Research will develop commercial-scale membranes, while the Research Triangle Institute will research novel fluorinated polymer membranes.
- Georgia Tech, GE Global Research and Illinois State Geological Survey will investigate different aspects of solvent-based CO<sub>2</sub> capture from flue gases. The technology is currently used for scrubbing industrial flue and process gases, but has not been applied to large volumes of CO<sub>2</sub> until now.
- ADA-ES, SRI International and TDA Research will investigate using solid particles to capture CO<sub>2</sub> from flue gases.
- Air Products and Chemicals and Praxair will investigate oxycombustion, with Alstom Power, Foster Wheeler North America and Reaction Engineering International focusing on boiler technology.
- Alstom Power and Ohio State University Research Foundation will look at chemical looping, where a solid oxygen carrier particle is used.

[» Energy Efficiency news article](#)

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## Hydrogen Energy advances plans for Californian IGCC plant with CCS

Hydrogen Energy International LLC, a joint venture of BP Alternative Energy and Rio Tinto, announced plans to file an AFC (Application for Certification) before the California Energy Commission its proposed hydrogen fuel production facility and power plant in Kern County, California. The filing initiates a comprehensive regulatory review process and, upon approval, grants permission for the construction of the nation's first industrial-scale low-carbon power plant with carbon capture and sequestration.

The proposed facility will use Integrated Gasification Combined Cycle (IGCC) technology to manufacture hydrogen which will be used to generate nearly 400 gross megawatts of base-load low-carbon electricity - enough to power 150,000 homes in the region. Over 2 million tons of CO<sub>2</sub> is expected to be captured and stored in deep underground geological formations annually.

The project was originally planned for Carson but will now be located in close proximity to Occidental's nearby Elk Hills operations where the CO<sub>2</sub> can be injected for EOR and stored.

[» MarketWatch online article](#)

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## Norway launches carbon capture research project

Norwegian research groups and industrial company Aker ASA have agreed to invest €40 million in a research project to capture greenhouse gases.

"The project is one of the biggest of its kind to date," a joint statement said of the eight-year Aker-led project, called SOLVit, which is meant to find cheaper ways to slow global warming by capturing gases from burning fossil fuels.

SOLVit will group Aker Clean Carbon, SINTEF, which is an independent research organization, the Norwegian University of Science and Technology and Norway's state-run Gassnova.

» [Reuters article](#)

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## Irish energy group CCS scheme

Providence Resources, an Irish oil and gas group, is launching a project that could lead to the first carbon capture & storage (CCS) scheme in the British Isles. Providence Resources is working with Star Energy Group, a UK gas storage company owned by Petronas of Malaysia, on the Ulysses Project.

The scheme will evaluate the Kish Bank Basin in the Irish Sea to decide whether its underground saline reservoirs can be used for carbon sequestration and natural gas storage.

» [Power Engineering online article](#)

» [Providence press release](#)

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## New organic liquid to capture CO<sub>2</sub>

Carbon dioxide-binding organic liquids (CO<sub>2</sub>BOLs) can hold more than twice as much CO<sub>2</sub> as current capture agents, say scientists in North America. The liquids could be used in coal power plants to capture the greenhouse gas from combustion exhaust.

David Heldebrant at the Pacific Northwest National Laboratory, Richland, US, and colleagues, made CO<sub>2</sub>BOLs from mixtures of organic alcohols and strong organic bases. They found that the CO<sub>2</sub>BOLs can store up to 19 per cent of their weight in CO<sub>2</sub>, much higher than the maximum of seven per cent achievable with current aqueous amine systems. Heldebrant's team are currently modelling the system to check for any obstacles to implementation and also plan to investigate whether CO<sub>2</sub>BOLs could be used to capture CO<sub>2</sub> before the fuel is burned.

» [RSC online article](#)

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## Epcor chooses Siemens technology for Genesee IGCC project

Canada's Epcor power utility has signed an agreement to use Siemens SFG-500 coal gasifier technology for its proposed 270 MW power station.

» [Edmonton Journal article](#)

» [Epcor backgrounder](#)

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## Oklahoma to issue carbon credits for underground CO<sub>2</sub> storage

The Carbon Council of Oklahoma (CCO<sub>2</sub>) assisted the Oklahoma Conservation Commission in establishing a procedure for issuing carbon credits for underground injection of carbon dioxide and other emission reduction activities. As a result, the State of Oklahoma becomes the first state in the union to formally authorise issuance of carbon credits for underground injection of CO<sub>2</sub>.

» [Online article](#)

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## CO<sub>2</sub> sequestration trial in unmineable coal seam

An initial test of a system that sequesters carbon dioxide in a mountainous coal seam has begun. The test involves the injection of 1,000 tons of CO<sub>2</sub> into a coal seam in Russell County. The goal of the test is to prove that unmineable coal seams are suitable for sequestering carbon dioxide.

» [Online article](#)

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## Seabed CO<sub>2</sub> pipelines for North Sea

North Sea gas pipeline operator Gassco has awarded Swedish Marine Mattekniikk AB a contract to survey 636 km of seabed for potential pipelines to carry carbon dioxide to offshore burial sites, it said on Wednesday.

Norwegian Gassco is evaluating possible technical solutions for transporting captured carbon dioxide from a gas-fired power plant in Kaarstoe, near Stavanger, as part of its efforts to lower emissions of heat-trapping gasses.

The CO<sub>2</sub> would then be injected and stored in undersea reservoirs or empty fields.

» [Reuters article](#)

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## **New CO<sub>2</sub> resistant cement for injection wells**

Schlumberger announced today the release of EverCRETE\* CO<sub>2</sub>-resistant cement. This new product is specifically engineered to ensure long-term zonal isolation in wells with high concentrations of carbon dioxide in either wet or gaseous states. The cement system is highly resistant to CO<sub>2</sub> attack under wet supercritical CO<sub>2</sub> and CO<sub>2</sub>-saturated water conditions. These conditions, typically encountered in carbon geological storage projects or CO<sub>2</sub> injection well applications, cause rapid degradation of standard oilfield cements.

[» Online article](#)

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## **Mitsui Chemicals to build pilot plant to make methanol from CO<sub>2</sub>**

Mitsui Chemicals will build a pilot facility that will use carbon dioxide and hydrogen to make methanol, a material for plastics. The new facility will have an annual methanol production capacity of about 100 tons. Construction of the plant will start in October, with its operations to start by the end of March 2009.

[» Online article](#)

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## **Mitsubishi Heavy Industries to carry out FEED studies for Norwegian capture plant**

Mitsubishi Heavy Industries, Ltd. (MHI) has signed a contract to carry out the technical pre-studies (FEED studies: Front End Engineering and Design) for the planned CO<sub>2</sub> capture plant in Norway from Gassnova SF in Norway. The planned facility will capture approximately 3,000 tons of CO<sub>2</sub> from flue gas emitted from an existing 420 MW gas fired power generation plant in Kårstø, which is located on Norway's southwest coast.

[» Your Industry News article](#)

## Conferences

### 1st European Association of Geoscientists and Engineers (EAGE) CO<sub>2</sub> Geological Storage (CGS) Workshop

The 1st EAGE CO<sub>2</sub> Geological Storage (CGS) Workshop will be held at the Hungarian Academy of Sciences, Budapest, Hungary on 29-30 September 2008.

» [Further information](#)

### AAPG International Conference and Exhibition

Cape Town, South Africa, 26-29 October, 2008.

» [Further information](#)

### GHGT9 - The 9th International Conference on Greenhouse Gas Technologies

The conference will be held November 16-20, 2008 at The Omni Shoreham Hotel in Washington, DC. The Conference is organized by MIT in collaboration with the IEA Greenhouse Gas R&D Programme (IEA GHG), with major sponsorship from the US Department of Energy. International Conference and Exhibition.

» [Further information](#)

#### CO<sub>2</sub> Futures is the newsletter of the Cooperative Research Centre for Greenhouse Gas Technologies (CO<sub>2</sub>CRC).

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The CO<sub>2</sub>CRC collaborates with leading international and national carbon capture and storage experts to conduct world-class research into CO<sub>2</sub> geosequestration. Research organisations involved in CO<sub>2</sub>CRC include ACARP, the CSIRO, Foundation for Research Science and Technology (NZ), Geoscience Australia and the Universities of Adelaide, Curtin, Melbourne, Monash and NSW. Our industry partners are Anglo American, BHP Billiton, BP, Chevron, ConocoPhillips, Korea Institute of Geoscience & Mineral Resources, Mitsui, the NSW Department of Primary Industries, NZ Resource Consortium, Queensland Energy Resources Ltd., Rio Tinto, Schlumberger, Shell, Solid Energy, Stanwell, the Victorian Department of Primary Industries, Woodside and Xstrata.

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