

Post-combustion capture at Munmorah

CSIRO's Energy Transformed Flagship has been working with Delta Electricity to set up a post-combustion capture (PCC) pilot plant at the Munmorah Power Station on the NSW Central Coast.

The pilot plant is designed to capture up to 3000 tonnes per annum of carbon dioxide (CO₂) from the power station and began operation in 2008.

The \$5 million project is a joint initiative by Delta Electricity and the CSIRO, with CSIRO's involvement supported by the Australian Government.

The Munmorah trial is focussing on assessing the performance of an ammonia-based PCC pilot plant. The Munmorah power plant uses black coal. The trial is expected to be completed by the end of 2010.

The installation of the PCC pilot plant at Munmorah is a CSIRO Energy Transformed Flagship research project and forms part of the Asia Pacific Partnership on Clean Development and Climate initiative (APP).



The \$25 million APP program for PCC also includes a pilot plant at the Huaneng Beijing Cogeneration Plant in Beijing and a pilot plant to be established Tarong Power Station in Queensland.

In addition to these pilot plant projects the Energy Transformed National Research Flagship is undertaking PCC research outside the scope of the APP program with a \$5.6 million project in the Latrobe Valley supported by the Victorian Government. This project focuses on flue gases from brown coal.

The PCC trials are supported by CSIRO's comprehensive post combustion capture laboratories and research facilities at CSIRO Energy Centre at Newcastle.

The Flagship goal in all of these projects is to provide proof of the PCC concept, evaluation of various absorbents, assist in the scale up to demonstration and commercial size plants, demonstrate further development potential and provide the science underpinnings for future policy options for CO₂ capture.

It is hoped the lessons from the Munmorah PCC trials will provide support for a large-scale \$150 million post combustion capture and storage demonstration project in NSW, which should be operational by 2013, capturing more than 50,000 tonnes of CO₂ each year.

NB: Post combustion capture (PCC) is a process that uses a liquid to capture carbon dioxide (CO₂) from power station flue gases and is a key technology that can potentially reduce carbon dioxide emissions from existing and future coal-fired power stations by more than 85 per cent.

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