

## UQ Researchers Almost Halve Cost of CO<sub>2</sub> Capture And Storage

University of Queensland (UQ) researchers are discovering the commercial benefits of burying environmentally harmful carbon dioxide (CO<sub>2</sub>) gases underground.

Using the process of geosequestration – where CO<sub>2</sub> gas produced from industry is captured and stored in deep coal seams rather than released into the atmosphere – researchers from UQ's Energy and Environment Engineering Group have almost halved the cost of capture and storage.

Group leader, Professor Victor Rudolph, said the reductions in cost were due to the commercial value of the methane that was extracted from the coal seam, and which the CO<sub>2</sub> replaced.

"Geosequestration of CO<sub>2</sub> into deep coal seams can reduce the net cost of capture and storage in Queensland by some 46%", Rudolph said. "The process reduces the costs down to \$25 t of CO<sub>2</sub> avoided, when applied to a large-scale 1400 MW coal-fired power plant." Principal researcher, Doctor Paul Massarotto, said the cost reduction technology was part of a research project nearing completion and supported by an ARC-Linkage grant and six Australian and international organisations. He said the group is now proposing a joint project



Dr Massarotto (left) and Professor Rudolph.

with Germany's leading research organisation into CO<sub>2</sub> adsorption in coal, the RWTH Aachen University of North Rhine-Westfalia. "The aim is to investigate further technology improvements by injection of the whole flue

gas stream, composed of some 13% CO<sub>2</sub> and 87% N<sub>2</sub>, into deep coal seams in Queensland and North Germany, and abandoned underground coal mines of North Rhine-Westfalia", Massarotto said. ■