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Carbon tax leads to burial at sea

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NORWAY is about to begin burying a million tonnes of carbon dioxide a year in rocks a kilometre beneath the North Sea. The CO_2 is a waste component of the natural gas being tapped from the country's Sleipner gas field.

The project, run by Statoil, the Norwegian state oil and gas company, begins later this month. It will be the world's largest engineering effort to prevent the release into the atmosphere of CO_2, the main cause of global warming.

Gas from the field contains 10 per cent of CO_2 -- an unusually high proportion. The release of CO_2 from Sleipner West, a new area of the field now coming into operation, would be enough to increase Norway's CO_2 emissions by 3 per cent. And as Norway has imposed a carbon tax, it would cost Statoil about £35 million a year.

So instead, the company will strip CO_2 from the gas by passing it through an amine solvent in an absorption tower installed on a production platform in the gas field. The CO_2 will then be released from the solvent by heating, compressed into a supercritical fluid and pumped into pores in sandstone rocks left empty by past gas abstraction.

No one is yet quite sure what will happen to the buried CO_2, says Sam Holloway of the British Geological Survey in Keyworth, who is bidding for a contract to monitor its fate in the Sleipner seabed. "It may react with water in the rock pores or directly with the rock itself, locking it away permanently," he says.