CO2 storage and enhanced oil recovery can aid economy

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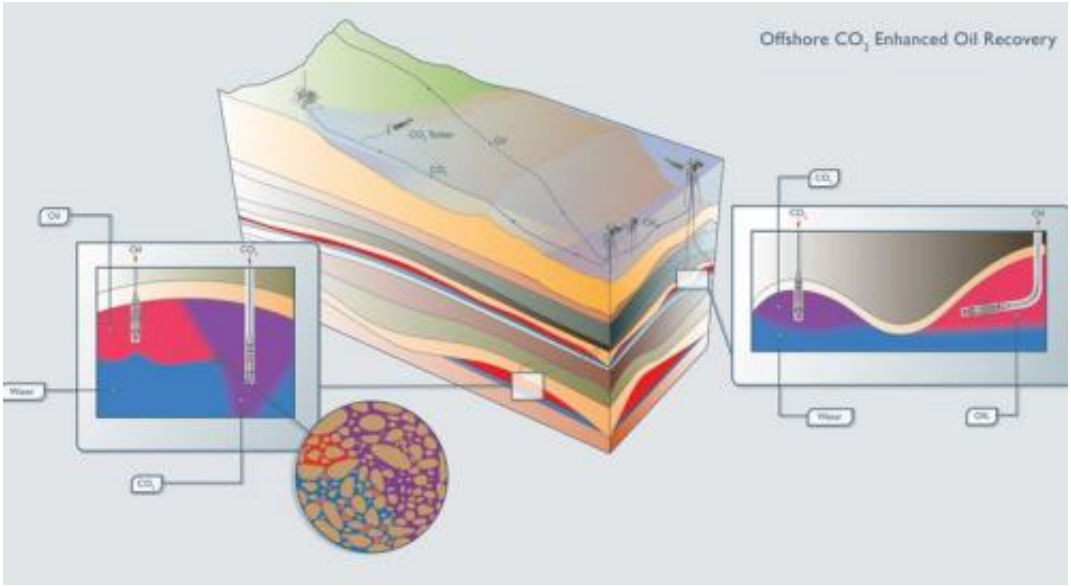

Combining carbon storage with enhanced oil recovery techniques in key fields could generate up to £2.7bn in extra economic output, a report has claimed.

The report was produced for Scottish Enterprise by Element Energy with Dundas Consulting and the Institute of Petroleum Engineering (IPE) at Heriot-Watt University.

It proposed that a combination of carbon storage and enhanced recovery

techniques could generate between £300m and £2.7bn in additional gross value added for the economy, which could help to create and sustain hundreds of jobs. If fully exploited, it estimated that 19 potentially suitable oil fields on the UK Continental Shelf (UKCS) could contribute 15% of all UKCS oil production by 2030.

Support for carbon capture storage technology

The report suggested extra tax receipts generated by additional extraction could be used to offset initial financial support for carbon capture storage (CCS), and help it compete better with other low carbon power generation technologies. The national government is supportive of developments in CCS technology, which could in time lead to CO2 gas being pumped to North Sea oil fields for enhanced oil recovery. The basic concept is that by pushing carbon dioxide in to a field, more oil can be extracted.

Professor Eric MacKay, from IPE clarified: "There are challenges ahead, including ensuring a secure and stable supply of CO2 to candidate fields, and indeed in identifying which fields provide the best opportunity - and how this opportunity can be maximised. Government must play a role on the former, and researchers in industry and academia must collaborate on the latter. The Institute of Petroleum Engineering at Heriot-Watt is uniquely placed to contribute to this effort, drawing on over 30 years of research activity into Enhanced Oil Recovery techniques in general and CO2 injection in particular, and with a complement of world renowned experts in the field, backed up by state of the art experimental and modelling facilities."

Energy Minister Fergus Ewing said: "With more than half of the value of the North Sea's oil and gas reserves yet to be extracted - up to 24 billion recoverable barrels with a potential wholesale value of £1.5 trillion - oil and gas will remain an enormous economic resource for decades to

come.

Carbon capture and storage technology implemented on a commercial scale would drive a significant reduction in carbon emissions from fossil fuels, increasing our security of supply, and presenting enormous opportunities for Scotland."

He added: "Maximising oil recovery will lead to huge gains for Scotland - recovering just 1% more oil could lead to an increase of £22bn in the total oil recovered."

David Rennie, director of CCS at Scottish Enterprise, said: "This report provides strong evidence of the significant economic potential in developing carbon capture and storage on the UK Continental Shelf, particularly when combined with enhanced oil recovery techniques."

Provided by Heriot-Watt University

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