



Science behind the image

## **PRESS RELEASE**

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Offshore Hydrocarbon Mapping plc

### **OHM, BP, and the University of Southampton to investigate CSEM for appraisal and production**

Offshore Hydrocarbon Mapping plc (OHM), BP and the University of Southampton are to pioneer new applications of controlled source electromagnetic (CSEM) imaging by developing the technique for hydrocarbon reservoir appraisal and monitoring.

OHM is to undertake a two-year project in conjunction with BP and the National Oceanography Centre at the University of Southampton, to develop the CSEM technique for use in appraisal activities including monitoring and optimising production and well planning.

CSEM uses electromagnetic waves to search for oil and gas below the seabed. The technique is mostly used by oil and gas companies in exploration but this project aims to develop its application so that companies can use it to make more accurate decisions about how to develop oil and gas fields and maximise production most efficiently.

The project will develop the CSEM method to identify small additional or incremental hydrocarbon reserves in mature oilfields; detect changes in reservoirs during production to optimise recovery and integrate CSEM survey results with seismic data to offer more complete information about reservoir content and its changes over time than CSEM or seismic alone can offer. The project will also investigate how CSEM techniques can be applied to evaluate, monitor and quantify geological carbon dioxide sequestration.

The work is due to start in December and is being funded by the UK's Department of Trade and Industry's technology programme, in collaboration with the Engineering and Physical Sciences Research Council (EPSRC).

Welcoming the new partnership, Science and Innovation Minister, Malcolm Wicks, said: "This initiative provides a real opportunity to harness the world class expertise that we possess in the UK and direct it towards the task of wealth creation.

"It's exciting that this technology could be applied in the North Sea to help exploit our indigenous oil and gas reserves. There is record interest in exploration on the UK Continental Shelf and it's encouraging therefore that UK-developed technology could play a role in opening up new wells. The potential for carbon sequestration could also be significant in our fight against climate change.

"By providing a focus for collaboration and delivery, this partnership should establish British industry as the world leader in this area and, an attractive proposition for investors."

Offshore Hydrocarbon Mapping will be undertaking the technical work and research in conjunction with the University whilst BP will provide information on field development, monitoring and reservoir engineering.

OHM Chief Scientific Officer, Dr Lucy MacGregor, said: "This project represents the next step for CSEM. The technique is being increasingly adopted by the industry as an exploration tool. This next stage of developing the technique for reservoir appraisal and monitoring will open a whole new market for the technology, which is potentially significantly larger than the exploration market. It will also potentially increase reserves and extend the life of the UK's onshore oil and gas resources."

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## **Notes to Editors**

Controlled Source Electro-Magnetic imaging (CSEM) is potentially the most important new technology in the field of offshore oil & gas exploration since the advent of 3D seismic some twenty years ago. CSEM is an innovative offshore geophysical technique, employing electromagnetic remote-sensing technology to detect the presence and extent of hydrocarbon accumulations below the seabed.

The CSEM survey uses a dipole source that is towed just above the seafloor to transmit an electromagnetic field into the earth. This field is modified by the presence of subsurface resistive layers and these changes are detected and logged by an array of receivers placed on the seabed. Because hydrocarbon-bearing formations are highly resistive compared with surrounding formations, a CSEM survey can indicate the presence of oil and gas in offshore situations. CSEM imaging can significantly reduce the risk of drilling dry exploration wells creating considerable value for oil & gas explorers.

The technique was first used offshore Angola in 2000 and has since become a key deepwater exploration tool for the major oil companies. Very high success rates have been quoted by these companies, particularly when the results of a CSEM survey have been integrated with seismic interpretation.

Offshore Hydrocarbon Mapping plc listed on London's Alternative Investment Market in March 2004.

## **Technology Programme**

The DTI-led Technology Programme, launched in 2004, is investing directly in new and emerging technologies, and has been designed to help businesses work collaboratively with each other or with academic partners to develop technologies that will underpin products and services of the future. The Technology Programme provides funding using two of the DTI's business support products: Collaborative Research & Development and Knowledge Transfer Networks.

The Technology Programme is backed with real money. Over the period 2005-2008, £370 million is available to businesses in the form of grants to support research and development in technology areas identified by the Technology Strategy Board.

To date the Technology Programme has allocated over £430m to Collaborative R&D competitions, awarding grants ranging from £30,000 to £2.2 million. Over 600 projects have been funded worth around £900m spread over 40 technology areas. Twenty (20) Knowledge Transfer Networks have also been established with funding of around £40m over 3 years.

Further information can be found at: <http://www.dti.gov.uk/innovation/technologystategy>