Listening to leaks

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A new acoustic technology to monitor leaks from underwater gas pipelines has been developed by scientists at the University of Southampton. The university said on 12 October 2011 it believes a simple set of underwater microphones can cost-effectively monitor changes in acoustic signals that indicate gas leaks in pipelines and methane naturally leaking from the seabed.

According to the university, the microphones would be 100 times more sensitive than current monitors used by the oil and gas industry for remote detection with long deep sea pipelines.

Professor Tim Leighton of the University’s Institute of Sound and Vibration Research led the research. ‘The technology would allow us remotely to monitor and potentially reduce the release into the atmosphere of gases from the seabed,’ he said. ‘This applies both to gas extracted by the petrochemical industries and to the methane which is naturally released from the seabed.’

The university further believes the nascent acoustic technology could also be used to monitor the structural integrity of carbon capture and storage facilities being developed globally.

The Proceedings of the Royal Society A published the research by Professor Leighton and Professor Paul White. The study itself is called ‘Quantification of undersea gas leaks from carbon capture and storage facilities, from pipelines and from methane seeps, by their acoustic emissions.’