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Scientists develop technology to detect leaks from underwater gas pipelines

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Southampton, UK — A new ultra-sensitive technology which can monitor leaks from underwater gas pipelines has been developed by scientists at the University of Southampton.

The research has shown that potentially costly and environmentally damaging gas leaks from pipelines, and methane - a potent greenhouse gas - naturally leaking from the seabed, could in future be detected using changes in acoustic signals.

Using a simple set of underwater microphones to monitor these changes could provide a cost-effective detection system, according to the research team, which is headed by professor Tim Leighton and professor Paul White.

The technology, they estimate, would be 100 times more sensitive than current monitors used by the oil & gas industry for remote detection along deep sea pipelines.

"This new technology could save gas extraction and distribution companies millions in lost revenue. Severe leaks can also be dangerous to nearby oil rigs, shipping and for shore-based gas distribution facilities," said Leighton of the University's Institute of Sound and Vibration Research.

"The technology would allow us remotely to monitor and potentially reduce the release into the atmosphere of gases from the seabed," he added. "This applies both to gas extracted by the petrochemical industries and to the methane which is naturally released from the seabed."

The acoustic technology, which is in early development, could also be used in future to monitor the structural integrity of carbon capture and storage facilities which are being developed globally. These facilities will trap carbon emissions, which scientists believe may be contributing to global warming.

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