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News Release

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CO2 pipelines do not need artificial smell to be safe, study finds

Industrial pipeline supplies of carbon dioxide need not have artificial odours added to ensure that gas leaks are easily detected, according to a study.

Scientists examined whether adding a scent to CO2 gas – which has no natural smell – would be beneficial in helping to identify any leaks from pipelines transporting the gas.

They recommend that an artificial smell is not needed in long-distance pipelines, as existing methods of monitoring and inspection pre-empt the need for odour as another safety measure.

However, researchers say it may be helpful to add an artificial odour to CO2 pipelines that are close to populations, to reassure the public that any leak would be identified easily.

Their findings will help ensure the safety of an emerging technology known as Carbon Capture and Storage (CCS), in which CO2 gas emissions from industry are collected and transported for underground storage. The method prevents release of the greenhouse gas into the atmosphere and so helps curb climate warming.

Carbon dioxide is harmless at low concentrations in the air, but at high levels it can affect the respiratory and central nervous systems and poses the risk of injury and death.

Industry proposals of adding a smell to CO2 supplies follow the use of an artificial scent in natural gas supplies for domestic use, enabling people to detect gas leaks easily. However, this approach is not used in industrial natural gas pipes away from people's homes.

University of Edinburgh researchers studied existing practices for natural gas and CO2 pipelines before making their recommendations. Their study, published in the *International Journal of Greenhouse Gas Control*, was supported by the Scottish Power Academic Alliance and the Scottish Energy Technology Partnership.

Rachel Kilgallon, of the University of Edinburgh's School of GeoSciences, who led the study, said: "Pipeline leaks can be problematic, especially when transporting gas that has no colour nor smell. Being able to demonstrate that gas is carried safely is important for public perception, and this could be a valuable approach close to centres of population."

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