



News Release

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Waste treatment costs could limit UK fracking plans, study finds

A lack of specialist waste treatment facilities could limit the development of fracking in the UK, research suggests.

Safe treatment and disposal of the wastewaters arising from fracking could cost more than £1 million over the lifetime of each well, researchers at the University of Edinburgh say.

Scientists studied wastewaters from wells in the US to better understand the volume and make-up of wastewater that would be generated by a UK shale gas industry.

They reviewed the methods used to treat waste from the fracking process, in which gas is extracted from shale rock by injecting water and sand at high pressure.

Although the chemical make-up of UK wastewater is not well known – as only one shale gas well has produced such waste to date – the water can be several times saltier than seawater and contains naturally occurring radioactive material.

They found that treating the salinity and other chemicals in wastewater at existing facilities could cost between £100,000 and £1 million per well under current treatment regulations. This would require between 2 and 26 per cent respectively of the expected total revenue from each well, researchers say.

More than £160,000 per well could also be needed to treat and dispose of the naturally occurring radioactive material – known as NORM – present in wastewater, the team says. They found that the capacity for this treatment is currently limited and could restrict fracking operations if not addressed.

The research, published in *Environmental Science: Water Research and Technology*, was supported by the European Union's Horizon 2020 funding programme.

Megan O'Donnell, a PhD candidate at the University of Edinburgh's School of GeoSciences, who undertook the study, said: "Treating wastewater could require a large outlay of the expected revenue from each well, affecting industry profitability. The UK's capacity to treat the radioactive material in wastewater is currently limited, which could pose serious waste management issues if the shale gas industry expands at a faster rate than the increase in treatment facilities."

Dr Stuart Gilfillan, of the University of Edinburgh's School of GeoSciences, who co-ordinated the study, said: "We suggest that industry, wastewater treatment plant operators and

UK regulatory bodies work together to produce a coherent strategy for managing wastewater. This would serve to assure the public of its safety and prepare for the expansion of treatment capacity required should a shale gas industry develop in the UK.”

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