

Research finds long term effect of natural gas leakage

December 2 2015

As natural gas production increases around the nation, new research from the University of Colorado Denver shows that it can have a similar impact on climate change as coal if it's allowed to leak while producing electricity.

"Reducing [greenhouse gas emissions](#) is one of the grand challenges of our time," said David Mays, PE, PhD, associate professor of civil engineering at CU Denver, the premier research institution in Denver. "A large fraction of greenhouse gas emissions come from electrical generating plants, which are largely fueled by [coal](#). Natural gas has the potential to produce electricity with about half the greenhouse gas emissions of coal."

Recent advances in hydraulic fracturing and drilling have increased [natural gas production](#). But between 70 and 90 percent of that gas is methane, a [potent greenhouse gas](#). So any leakage severely undermines its potential as a bridge fuel to help the country move away from coal.

The study examined the rate of natural gas leakage that rendered its greenhouse gas footprint equivalent to that of coal when it comes to producing electricity.

The results show that over a 20 year period, it only takes a leakage rate of 3.9 percent to render natural gas as damaging as coal when it comes to climate change. Over a hundred years, leakage is less critical, but with a leakage rate of 9.1 percent, natural gas has the same impact as coal.

However, if there is no leakage, electricity made from natural gas has about half the [greenhouse gas](#) footprint as electricity produced from coal. Still, any gas leak will swiftly increase that carbon footprint and must be controlled if it's to offer any significant advantage over coal, Mays said.

"This study is important because it shows that controlling [natural gas](#) leakage is crucial at every step of the supply chain, from drilling to residential distribution," he said.

Provided by University of Colorado Denver

Citation: Research finds long term effect of natural gas leakage (2015, December 2) retrieved 27 April 2024 from <https://phys.org/news/2015-12-term-effect-natural-gas-leakage.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--