

Can pipelines fight climate change? Report says yes

Carlos Anchondo, E&E News reporter Published: Monday, April 26, 2021



A natural gas pipeline runs across the prairie near Sidney, Mont., in this 2014 photo. Kevin G. Hall/MCT/Newscom

To combat climate change, the United States should take the counterintuitive step of boosting investment in existing natural gas pipelines.

That's according to a [paper](#) released yesterday from the Center on Global Energy Policy at Columbia University's School of International and Public Affairs, which argues that upgrades to natural gas infrastructure could help the country meet its net-zero greenhouse gas emissions goals faster than otherwise possible.

The report listed a host of policy recommendations aimed at curbing methane leaks across the existing U.S. gas pipeline network and called for retrofitting the system "for future transport of cleaner fuels" like hydrogen and biogas.

The paper said it's "understandable" to be concerned about investment in pipeline infrastructure, given that fossil fuels contribute to climate change, but it said a failure to update the country's 2.5 million miles of gas pipelines would ignore "some critical US energy realities," including that natural gas is likely to be part of the energy mix for decades.

"Investments in existing infrastructure can support a pathway toward wider storage and delivery of cleaner and increasingly low-carbon gases while lowering the overall cost of the transition and ensuring reliability across the energy system," the report concluded.

By 2050, the gas grid "could ultimately be transporting 100 percent carbon-free fuels" through a mix of natural gas with carbon capture and storage, biomethane and zero-carbon hydrogen, it added.

Jared Margolis, a senior attorney with the Center for Biological Diversity, said that while tackling pipeline leaks is important, the report seems to gloss over other methane emissions that happen during gas exploration, production and use.

"I don't think the report makes it clear that we're not going to resolve the issue of methane leaks from gas extraction by cleaning up the leaks on pipelines, because a lot of it is in the beginning and the end of the process and not the pipeline itself," Margolis said.

Margolis said that if additional investments in existing natural gas infrastructure are to happen, there needs to be a plan in place that ensures a transition to zero-carbon fuels.

"The overall concept that the report is talking about, in terms of reducing pipeline emissions and leaks and updating the system so that we can move to non-fossil fuel resources in that same infrastructure ... I think that's positive," Margolis said.

But he emphasized the need to do so strategically so that any investment isn't just "another handout to the fossil fuel industry."

The report acknowledged the challenge of "weaning industry and end users off of natural gas and toward these zero-carbon or lower-carbon fuels despite the availability of cheap natural gas."

"Getting end users to opt for zero-carbon fuels is therefore expected to require significant policy support," the paper said.

Margolis said there needs to be a "more long-term policy plan in place to actually push that transition."

The report recommended replacing the country's remaining cast-iron pipelines, which it said make up an outsize share of emissions despite accounting for about 3% of natural gas distribution pipelines.

The other 97% of natural gas distribution pipelines in the country were made of plastic or steel at the end of 2019, the report said — but cast-iron pipe was behind 10% of all U.S. distribution leaks.

"This means that relatively small volumes of replacement could yield substantial reductions in emissions," the report said.

Another recommendation said federal pipeline standards should be updated to require annual inspections for transmission and distribution lines, as well as mandating the "prompt repair" of discovered leaks to enhance the "environmental integrity of the US pipeline network."

A spokesperson for the Interstate Natural Gas Association of America said it's still reviewing the Center on Global Energy Policy's findings.

"We have previously supported, and continue to support, updates to [federal] leak detection and repair and class location change regulations to enhance public safety while minimizing methane emissions," the INGAA spokesperson said in a statement.

In addition, the report recommended replacing aging pipeline infrastructure, noting that roughly 35% of the U.S. distribution system is over 50 years old. It also urged states to adopt methane reduction targets for gas utilities, pointing out that California is currently the only state to have such a target in place.

Further, the paper said, states could perform an inventory of their pipeline infrastructure to see what parts could become "more compatible with increased hydrogen usage." For example, cast-iron pipelines are incompatible with transporting hydrogen, the report said.

The INGAA spokesperson said "significant" additional research, design and development work on lower-carbon fuels is "warranted, and we are encouraged by the results of the work that has been done to-date exploring the potential to deliver lower-carbon fuels through existing, repurposed or new delivery systems."