

The Hidden Climate Threat That Gas Companies Noticed, But Rarely Fixed

Rebecca Bowe, KQED Radio News, 12-14-15

World leaders left Paris over the weekend with an aggressive agreement to cut methane emissions and other so-called short-lived climate pollutants. Methane doesn't last as long in the atmosphere as carbon dioxide, but it's much more potent. That's one reason the city of Los Angeles is suing over the methane leak from a natural gas well north of L.A., and it's why state leaders are concerned about a long-hidden source of methane emissions: leaking natural gas pipelines.

For decades, utilities in California have logged, but not repaired, thousands of pinprick leaks in pipelines criss-crossing the state. These leaks are considered non-hazardous because they don't pose a health or safety risk. But they do pose an environmental risk. Tim O'Connor, an attorney with the Environmental Defense Fund (EDF), says not many people, from utilities to state leaders, have been thinking about it.

"It is this hidden environmental issue which is quite significant," O'Connor says.

'Certain situations—not all, I want to be very clear on this—you'd find some leaks that would go unrepaired for literally years.' *Eric Hofmann, Utility Workers Union of America*

If you add up the greenhouse gas emissions coming from all pipeline leaks statewide, he says, it's as if we're putting 700,000 more cars on the roads.

Most Californians who care about climate change understand that carbon dioxide emissions are a key part of the problem, but methane – which can seep from landfills, oil and gas infrastructure, wastewater ponds or agricultural facilities – is an important piece of the puzzle when it comes to combating climate change.

"It has a stronger global warming potential," explains Riley Duren, a climate scientist who has been tracking atmospheric methane with NASA's Jet Propulsion Laboratory. "On a 20-year timeline, methane is about 80 times more efficient at trapping heat than an equivalent amount of carbon dioxide."

Right now, the biggest single source of methane emissions in the state is in a hilly territory north of Los Angeles, where a massive natural gas leak from Southern California Gas Company's underground Aliso Canyon storage field has permeated the nearby community of Porter Ranch with a foul smell, sickening some residents and prompting hundreds to relocate.

"When I moved here, I didn't know about the gas facility," said Matt Pakucko, who lives near the leaking gas well and started a grassroots organization called Save Porter Ranch. Even before the leak started, he said, he'd notice the smell of gas sometimes. "Late night or early morning, it

smells like natural gas, like my stove is on,” he explained. “I’d call the gas company, they would come out, and nothing in my house was leaking.”

But when the leak started Oct. 23, he said the fumes grew to an extreme level – and started to affect residents’ health. “It was hard to breathe,” he said. “It’s the kind of thing where you call the emergency number. It’s that strong all over the neighborhood.”

Three weeks after the rupture began, the Los Angeles Department of Public Health issued a fact sheet noting that exposure to the methane gas wasn’t expected to cause long-term health impacts, but an additive called mercaptans is known to cause dizziness, respiratory issues, headaches and other short-term health issues. SoCalGas made several unsuccessful attempts to plug the leak, and it’s now drilling a relief well to contain it—a process that could take up to four months.

SoCalGas now faces a class-action lawsuit from residents of Porter Ranch, charging the company showed a “willful disregard for public health,” and a lawsuit from the city of Los Angeles charging that the utility failed to notify residents of the health hazard in a timely manner and didn’t have a sufficient plan in place to repair the breach. The company has also drawn heat from environmentalists.

“At a calculated rate per hour of about 50,000 kilograms of methane emissions, this single leak is likely responsible for over 25 percent of the state’s daily total methane emissions from all sources, including landfills and agriculture,” O’Connor wrote in a recent blog post. “Depending on when it is fixed, this one leak is also likely to single-handedly double the methane emissions associated with natural gas use in California this year.”

While the Aliso Canyon leak has released a staggering amount of heat-trapping gases, leaking natural gas pipelines are a more insidious problem that has persisted for years.

Hidden Source of Climate Change

Non-hazardous pipeline leaks are graded differently from ruptures that cause gas explosions – under state law, utilities must respond immediately if a detected leak is deemed hazardous. But leaks that vent outdoors, or emit only a small amount of gas, are classified as Grade 3 and have historically ranked as utilities’ lowest priority for repair. Usually the amount of gas they leak is so minuscule you can’t smell it, and if they’re venting outdoors, there’s no danger of a gas build-up that could lead to explosion.

“If there are really high levels that could be dangerous, flammable, [utilities] come out immediately,” explains Francesca Hopkins, who works with Duren on the NASA carbon monitoring team. “What we’re talking about is worrying about methane leaks because of their impact on climate, not finding leaks because they’re a public safety hazard. We care because it’s those smaller, long-term leaks that affect global warming.”

The California Air Resources Board estimates gas pipeline leaks will account for 12 percent of the state’s methane emissions by 2030—a problem that will translate to higher utility bills in the long run, since customers pay for that wasted fuel. Policymakers have only recently started taking action to require utilities to fix them.

In 2014, Governor Jerry Brown signed legislation requiring utilities to seal non-hazardous pipeline leaks that don't pose a threat to public safety. Before this policy, it was common practice to simply allow them to vent.

“Certain situations — not all, I want to be very clear on this — you'd find some leaks that would go unrepaired for literally years,” said Eric Hofmann, business agent with the SoCalGas utility workers' union. He said leaks from plastic pipes were more likely to be repaired, but leaks from steel pipes could persist for years.

Partly because the deadly 2010 explosion in San Bruno drew attention to leaky pipelines, and partly because of the new state law, utilities are paying more attention to these small, non-hazardous leaks.

Across the industry, Hofmann said, “there's definitely been a sense of a more aggressive approach.”

Utilities are currently working with state regulators to formulate long-term plans for complying with the new legislation. In the meantime, Hofmann and others say the gas companies have started adopting new practices, with the recognition that addressing environmentally hazardous leaks is now mandated under state law.

Around the time of this paradigm shift, PG&E adopted new air-monitoring technology that's 1,000 times more sensitive than the devices it used to rely on. Now they're finding leaks they couldn't detect before. In 2014, PG&E reported to regulators that crews found more than 18,800 new, non-hazardous pipeline leaks.

Methane has drawn a lot of attention from policymakers lately. Speaking at a press conference in Paris, Democratic Senator Ricardo Lara of Los Angeles County issued a proposal to slash methane emissions in California to 40 percent below current rates by 2030.

“The scientific evidence is really quite clear,” O'Connor said. “Methane, actual methane into the air, is responsible for 20 to 30 percent of the temperature increases we're feeling today.”