METHANE 101

What you need to know about methane

What is methane?

Methane is a potent greenhouse gas. It is emitted during the production and transport of fossil fuels, like natural gas, coal, and oil.[1] Methane can also be emitted from the decay of organic waste in landfills, from livestock, and from other agricultural practices, like rice production.[2,3] One of the most significant sources of methane emissions is leaks from oil and gas operations.

Methane and climate change

Methane absorbs heat especially well, and it causes warming much faster than carbon dioxide (CO_2). According to scientists, methane has more than 80 times the warming power of carbon dioxide in the first 20 years after it is released into the atmosphere.[4] This means that methane can do a lot of damage in a short amount of time by accelerating climate change.[5] When we reduce methane, we can reduce warming fast. This makes cutting methane emissions an urgent priority in slowing down the rate of climate warming.

How does methane affect our health?

Methane accelerates climate warming, which makes it a key driver of the health harms associated with climate change. But methane isn't the only thing leaking throughout oil and gas operations: many other harmful air pollutants are also emitted, like volatile organic compounds (such as benzene), nitrogen oxides, and hydrogen sulfide. These "co-pollutants" can have significant health impacts, like increasing the risk of certain forms of cancer; adverse birth outcomes, like preterm birth and low birth weight; central nervous system toxicity; and respiratory harm, such as exacerbated asthma.[6,7]

The volatile organic compounds released during oil and gas operations also contribute to the formation of ground-level ozone, also called smog. Smog is dangerous to our respiratory systems, aggravating asthma and other lung diseases. Smog exposure has also been linked to increased risk of heart attacks, hospital visits,[8] and adverse birth outcomes.[9] Communities of color are disproportionately impacted by both climate impacts[10] and air pollution[11], making this an issue of environmental justice.

Methane leaks: A major problem

During the extraction of natural gas, which is mostly methane, methane can easily leak into the atmosphere. Two common techniques used during the extraction process are venting and flaring. Venting is when methane and other harmful pollutants are released directly into the air at certain times (such as during maintenance). Routine flaring is the burning of unwanted gases and is a wasteful practice.[12] Methane leaks from venting and flaring can also happen during other phases of oil and gas operations.

Another source of methane pollution is from small oil and gas wells that have leak-prone equipment. These small wells are responsible for approximately half of the methane emitted from all well sites in the US, while contributing only 6% of the nation's oil and gas.[13] Methane leaks are wasteful, costly, and dangerous to our families and communities.

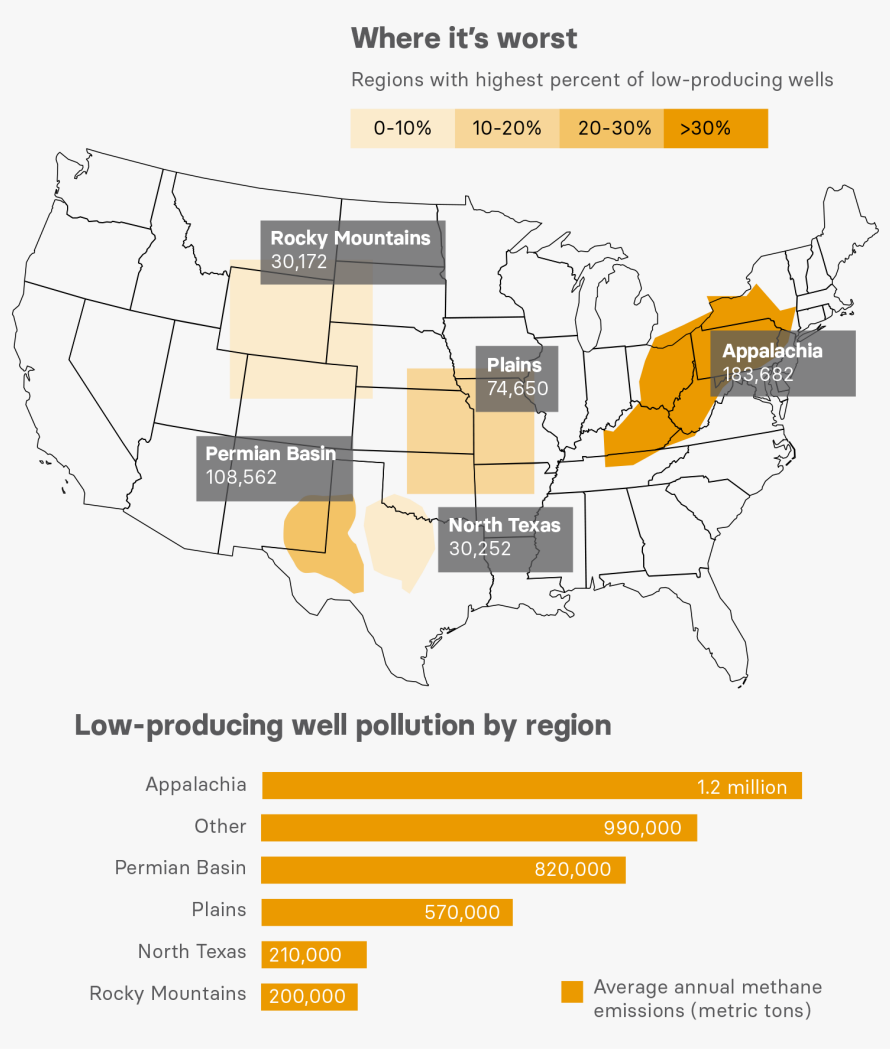
MOMS clean air FORCE

The mission of Moms Clean Air Force is to protect children from air pollution and climate change. We envision a safe, stable, and equitable future where all children breathe clean air. We fight for Justice in Every Breath, recognizing the importance of equitable solutions in addressing air pollution and climate change. www.momscleanairforce.org

Where are methane leaks happening?

Methane leaks are happening all across the oil and gas supply chain. And wherever oil and gas are being drilled, compressed, processed, or transported through pipelines, you can find other harmful air pollution. Many small, low-producing oil and gas wells are located in the Appalachian region, which stretches across states like Ohio, West Virginia, Kentucky, and Pennsylvania.

Other hot spots include Texas, New Mexico, the Great Plains, California, and the Rocky Mountains. Communities that live near oil and gas wells are especially vulnerable to the health harms of air pollutants emitted during oil and gas operations.



Source: Environmental Defense Fund

How can we fix the methane problem?

The good news is that we have the technology to reduce methane emissions now, and the solutions are straightforward and cost-effective—often as simple as fixing pipe leaks at oil and gas wells or closing lids on leaky tanks.

In 2021, EPA proposed new standards to reduce methane emissions from oil and gas wells. But the EPA proposal would exclude many smaller, low-producing well sites from regular monitoring.[14] States like Colorado and New Mexico have taken the lead on stronger methane protections that ban harmful practices like routine venting and flaring and require inspections to find and fix leaks.[15] These state standards prove that strong methane protections are both feasible and cost-effective, and they serve as models for pollution protection.

The oil and gas industry must be required to reduce methane emissions. Join Moms Clean Air Force in advocating for strong federal methane protections to protect our families and communities.

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Full list of sources:
momscleanairforce.org/sources-methane-101