

Cutting methane emissions is quickest way to slow global heating – UN report

Fossil fuels, cattle and rotting waste produce greenhouse gas responsible for 30% of global heating



A cattle feedlot in Colorado: 42% of human-caused methane emissions come from agriculture, including burping livestock and manure. Photograph: Jim West/Alamy

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Slashing methane emissions is vital to tackling the climate crisis and rapidly curbing the extreme weather already hitting people across the world today, according to a new UN report.

In 2020 there was a record rise in the amount of the powerful **greenhouse gas** emitted by the fossil fuel industry, **cattle** and rotting waste. Cutting it is the strongest action available to slow global heating in the near term, Inger Andersen, the UN's environment chief, said.

The report found that methane emissions could be almost halved by 2030 using existing technology and at reasonable cost. A significant proportion of the

actions would actually make money, such as capturing methane gas leaks at fossil fuel sites.

Achieving the cuts would avoid nearly 0.3C of global heating by 2045 and keep the world on track for the **Paris climate agreement's goal of limiting global temperature rise to 1.5C**. Methane cuts also immediately reduce air pollution and would prevent many premature deaths and lost crops.

Methane is 84 times more powerful in trapping heat than carbon dioxide over a 20-year period and has caused about 30% of global heating to date. But it breaks down in the atmosphere within about a decade, unlike CO₂, which remains in the air for centuries.

Cutting carbon emissions remains essential in ending the climate emergency, but some experts liken reducing CO₂ in the air to the slow process of stopping a supertanker, whereas lowering methane is like cutting the engine on a speedboat and bringing it to a rapid halt.

Prof Drew Shindell, at Duke University, who led the UN report, said: “We’re seeing so many aspects of climate change manifest themselves in the real world faster than our projections,” such as increasing heatwaves, wildfires, droughts and intense storms. “We don’t have a lot we can do about that, other than this powerful lever on near-term climate of reducing methane. We should do this for the wellbeing of everybody on the planet over the next 20 to 30 years.”

“**Methane emissions are increasing faster** now than at any time in nearly 40 years of the observational record,” he said. “Despite Covid ... methane shot upwards – it’s going in the wrong direction very, very rapidly.”



Intentional and unintentional leaks of methane from fossil fuel drilling sites has contributed to the rise in greenhouse gas emissions. Photograph: Charles Rex Arbogast/AP

The surge is partly due to the increased use of fossil fuels, **especially gas produced by fracking**, Shindell said, and probably more emissions from wetlands as they heat up.

“It’s vital to reduce methane for the sake of near-term climate change,” Shindell said “But it’s also vital to reduce CO₂ for the sake of long-term climate change. The good news is that most of the required actions [to cut methane] also bring health and financial benefits.”

Andersen said: “Cutting methane is the strongest lever we have to slow climate change over the next 25 years. We need international cooperation to urgently reduce methane emissions as much as possible this decade.”

The **report produced by the UN and the Climate and Clean Air Coalition** found that 42% of human-caused methane emissions come from agriculture, mostly from burping livestock, its manure, and paddy fields. Intentional and unintentional leaks of methane from fossil fuel drilling sites, coalmines and pipelines produce 36% of the total and waste dumps cause another 18%.



Oil and gas firms 'have had far worse climate impact than thought'

The report found feasible and cost-effective methane cuts of 60% could be made from fossil fuel operations by stopping the venting of unwanted gas and properly sealing equipment. Waste sites could cut about 35% by reducing the organic waste sent to landfill sites and through better sewage treatment.

The estimated methane cuts from agriculture by 2030 were lower at 25%. “You can change the feed to cows and the way you manage the herds, but these things are fairly small,” said Shindell. “You could make very great inroads into methane emissions by dietary change [eating less meat], but we are just not that sure how quickly that will happen.”

Other measures not specifically targeting methane can still cut emissions of the gas, the report said, such as reducing the demand for fossil gas by increasing renewable energy and energy efficiency, and wasting less food.

The report is the first to include the health and other benefits of cutting methane. The gas causes ground-level ozone pollution and a cut of 45% by 2030 would prevent 260,000 early deaths a year, the report said. More than **13,000 of those would be in the US** and 4,200 in the UK. Ozone also damages crops and

the methane cut would prevent 25m tonnes of wheat, rice, maize and soy being lost annually.

“Seldom in the world of climate change action is there a solution so stuffed with win-wins,” said Prof Dave Reay, at the University of Edinburgh, who was not part of the report team. A **recent scientific study** concluded that methane cuts can also “reduce the likelihood of passing climate tipping points”.

World leaders including **Emmanuel Macron**, Vladimir Putin, Alberto Fernández of Argentina and Nguyen Xuan Phuc of Vietnam all called for cuts in methane emissions at the **Leaders Summit on Climate** hosted by the US in April. Shortly after, Joe Biden moved to **reinstate limits on emissions from oil and gas fields** that had been cancelled by Donald Trump.

Jonathan Banks, at the US-based **Clean Air Task Force**, said: “We desperately need a win on climate change and methane abatement provides an opportunity for a real near-term win. Lately all we’ve been doing is slamming our heads against the wall – society can’t keep doing that for forever.”