

THE DANGERS OF METHANE
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Greenhouse gas emissions trap heat in the atmosphere, warming the planet. Methane (CH₄) is the second most prevalent greenhouse gas emitted in the US from human activities (after CO₂), accounting for about 10% of all such US greenhouse gas emissions (EPA). Methane emissions come from natural sources such as wetlands and melting permafrost, and from human activities, such as raising livestock and leakage from natural gas systems. Methane is the primary component of natural gas. Methane's existence in the atmosphere is far shorter than CO₂, but its impact on climate change ranges from 25x (EPA) to 84x (Environmental Defense Fund) that of CO₂. Methane is more abundant in Earth's atmosphere now than at any time in the past 650,000 years (EDF).

According to the *Food and Agriculture Organization of the United Nations (FAO)*, agriculture is responsible for 18% of the total release of greenhouse gases world-wide (more than the whole transportation sector). Livestock now use 30% of the Earth's entire land surface. With the Earth's human population expected to rise from the current 7 billion to 9.6 billion by 2050, a proportionate increase in human meat and dairy consumption will likely devastate the environment.

Large quantities of methane are stored in the Arctic. Global warming accelerates its release, increasing greenhouse gas emissions. Scientists are increasingly concerned about the possibility of "abrupt climate change" due to rapid melting of the Arctic permafrost. The "Great Dying" extinction event of 250 million years ago is thought to have been caused, at least in large part, by "runaway greenhouse effect triggered by sudden release of methane from the sea floor." ("Permian-Triassic Extinction Event" – Wikipedia)

In early 2015, the Obama Administration rolled out first ever rules for regulating methane emissions from the oil and gas sector, effective in mid-2016. The rules apply only to future operations, and not to existing wells. The oil and gas industry criticized the proposed new rules as discouraging innovation and increasing costs.

In October, disaster struck in the form of a gigantic methane leak from a natural gas storage tank owned by Southern California Gas Company. The leak sickened residents of the upscale Porter Ranch neighborhood, many of whom have been temporarily relocated. The broken well has released at least 77k metric tons of methane. The leak is viewed as the climate equivalent of the BP disaster, and likely won't be fixed until February or March. The climate impact of the original leak equaled emissions from 7 million cars. The well did not have a working safety valve, which is not required by existing law.

Doing What We Can.org is an Idaho-based organization focused on addressing climate change. The group encourages individual action to reduce carbon emissions, and seeks action from business and government leaders. Our members are available for speaking engagements on the causes and effects of climate change, and the action needed to combat it. Contact us at 208-484-3241. View our website at doingwhatwecan.org.