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## Natural Gas: The Myth of a Clean Energy Source

By T. Nelson Thompson

When U.S. envoy John Kerry spoke last week at the U.N. Summit On Climate Change, he spoke about reducing the use of natural gas. Here's why he was right:

Climate change is like the big, low-growl dog that's about to bite you. In the case of global warming, the biggest bite is from natural gas, 95% of which is methane. Methane is 83 times more powerful than carbon dioxide to heat the atmosphere.

Unfortunately methane emissions have been rising. In 2021, methane's atmospheric levels increased to the highest levels in at least 800,000 years!

Just since 1950, the use of natural gas, and thus methane, has grown by 400%. The oil and gas industry is trying to convince us that natural gas is "the clean transition fuel, a bridge from the coal and oil of the past to the clean energy of the future." But the facts are that we face a formidable existential threat, much of it driven by methane emissions.

Despite efforts to reduce methane emissions, over 350 million tons of methane are being put into the atmosphere every year, too much of it coming from the fossil fuel industry. Methane is responsible for around 30% of the rise in global temperatures since the industrial revolution.

Methane gets into the atmosphere any time the earth's crust is opened, such as from shale gas extraction, poorly managed conventional gas and oil drilling, and coal extraction. Ruminant livestock, rice paddies, forest fires, slash-and-burn agriculture, landfills, and swamps also release methane.

Scientists have been underestimating the warming effect of methane emissions for a long time. These days we are getting better at monitoring. For example, important efforts are being made to marshal a global inventory of methane ultra-emitters to for targeting the biggest sources.

In 2021 one hundred and five countries signed *The Methane Pledge* to reduce 30 % of methane emissions by 2030. Notable absentees include Russia, India, and China, which is responsible for almost a third of global methane emissions. After last week's U.N. summit, there are now 150 signatories! That's 45% of global methane emissions.

In the U.S., The Inflation Reduction Act represents the biggest climate bill in U.S. history and a turning point in the battle against methane emissions. It imposes a fee of \$900 per metric ton of methane emissions starting in 2024, rising to \$1,500 by 2026. It is the first time the U.S. has imposed a fee or tax in any form on GHGs.

We already have hit several of the tipping points to reach global warming of the dreaded two degrees centigrade. Sir David King, formerly the Chief Science Advisor for the UK government, argues that, maintaining aggressive methane mitigating efforts is the best, and easiest, measure to contain global warming.

Secretary Kerry was sharply critical of efforts thus far to reduce the use of natural gas. We need to protect and expand forests, plant trees where ever it is possible, plug abandoned gas wells, seal pipelines, cover up landfills, and prevent crop waste. Tom Lauvaux, at Penn State University estimates that plugging wells and pipelines could add billions of dollars in otherwise lost revenue.

To get ahead of methane emissions, I've tried to think of what I can do as an individual. Methane can leak anywhere along the natural gas supply chain, from the wellhead and processing plant, through pipelines and distribution lines, all the way to my home stove for cooking. We're getting rid of the gas stove. At least that's something more than simply expressing an opinion.

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