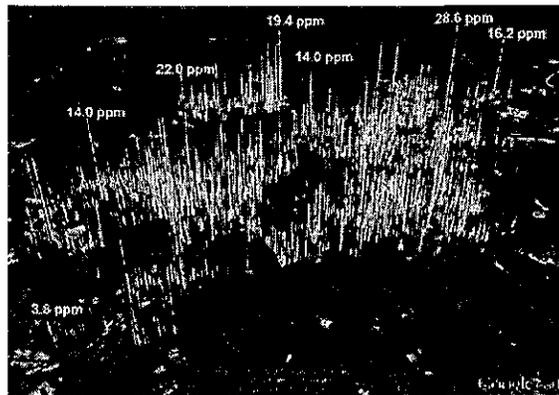


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More Bad News For Fracking: IPCC Warns Methane Traps Much More Heat Than We Thought

BY JOE ROMM ON OCTOBER 2, 2013 AT 11:56 AM



Methane leaks in Boston area. Yellow indicates methane levels above 2.5 parts per million. Via [NY Times](#).

The Intergovernmental Panel on Climate Change (IPCC) reports that methane (CH₄) is far more potent a greenhouse gas than we had previously realized.

This matters to the fracking debate because methane leaks throughout the lifecycle of unconventional gas. Natural gas is, after all, mostly methane (CH₄).

We learned last month that the best fracked wells appear to have low emissions of methane, but that study likely missed the high-emitting wells that result in the vast majority of methane leakage. Back in August, a NOAA-led study measured a stunning 6% to 12% methane leakage over one of the country's largest gas fields — which would gut the climate benefits of switching from coal to gas.

We've known for a long time that methane is a far more potent greenhouse gas than carbon dioxide (CO₂), which is released when any hydrocarbon, like natural gas, is burned.

But the IPCC's latest report, released Monday ([big PDF here](#)), reports that methane is 34 times stronger a heat-trapping gas than CO₂ over a 100-year time scale, so its global-warming potential (GWP) is 34. That is a nearly 40% increase from the IPCC's previous estimate of 25.

| | Lifetime (year) | | GWP ₂₀ | GWP ₁₀₀ |
|-----------------|-------------------|------------|-------------------|--------------------|
| CH ₄ | 12.4 ^a | No cc fb | 84 | 28 |
| | | With cc fb | 86 | 34 |

The global-warming potential (GWP) of methane over 20 years and 100 years, with and without climate-carbon feedbacks (cc fb). Via IPCC.

Amazingly, the EPA has been using a GWP of 21 for its estimate of how methane compares to carbon dioxide — a figure that is nearly twenty years out of date. That means methane is a whopping 60% stronger than EPA calculates in its GHG inventory. Back in April, EPA finally said it was thinking about raising the GWP — to 25!

EnergyWire ([subs. req'd](#)) reports:

“The IPCC presents the scientific consensus, so its conclusions are inherently conservative,” said Hugh MacMillan, senior researcher with Food and Water Watch. “It’s bizarre that the EPA is just now moving to adopt the GWPs from 2005. Is the agency going to wait until 2025 to use these new GWPs?”

If a new GWP of 34 were adopted, the contribution of methane to U.S. emissions would significantly increase.

The revised number means fracking is worse for the climate than we thought and the benefit of replacing coal with fracked gas is lower than we thought. “There is a very real sense in which using dated numbers downplays the problem [from the] oil and gas industry,” MacMillan said.

Significantly, although the 100-year GWP is by far the most widely used, the IPCC drops this mini-bombshell 86 pages into the report:

There is no scientific argument for selecting 100 years compared with other choices (Fuglestedt et al., 2003; Shine, 2009). **The choice of time horizon is a value judgement** since it depends on the relative weight assigned to effects at different times.

The IPCC reports that, over a 20-year time frame, methane has a global warming potential of 86 compared to CO₂, up from its previous estimate of 72. Given that we are approaching real, irreversible tipping points in the climate system, climate studies should, at the very least, include

analyses that use this 20-year time horizon.

Finally, it bears repeating that natural gas from even the best fracked wells is still a climate-destroying fossil fuel. If we are to avoid catastrophic warming, our natural gas consumption has to peak sometime in the next 10 to 15 years, according to studies by both the Center for American Progress and the Union of Concerned Scientists.

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