






October 26, 2011

ICYMI: Cornell GHG Shale Paper Debunked Yet Again

Conclusions of Howarth/Ingraffea are 'largely unjustified' according to new Univ. of Maryland study

WASHINGTON – Six months removed from the release of the paper from researcher-activists at Cornell attempting to argue that the production and consumption of coal was better for the environment than natural gas from shale, new data and research rebutting and correcting those unsubstantiated claims continues to roll in.

The latest shoe to drop? A [detailed analysis](#) from researchers at the University of Maryland that takes a closer look at the GHG profile of natural gas derived from shale when used in the electricity sector. Key take-aways from that report are included below, along with a quick round-up of some of the other important research published in this area since April.

<p>Studies continue to pile up eviscerating Cornell GHG paper ...</p>	<p>... While Cornell researchers continue to deny "intense" criticism even exists.</p>
 <p>"[W]e have demonstrated that the fugitive emissions from the [shale] drilling process are very likely not substantially higher than for conventional gas."</p> <p>"[A]rguments that shale gas is more polluting than coal are largely unjustified." (Univ. of Maryland, published Oct. 25, 2011)</p>  <p>"We don't think [Cornell] is using credible data and some of the assumptions they're making are biased. And the comparison they make at the end, my biggest problem, is wrong." (Lead researcher Paula Jaramillo, Aug. 2011; CMU study available here.)</p>	 <p>"[We] have not received any of what we would consider intense peer criticism." (Anthony Ingraffea, Syracuse Post-Standard web chat, Sept. 21, 2011)</p>



"[The Cornell study] found a large fraction of produced gas from unconventional wells never made it to end users, assumed that all of that gas was vented as methane, and thus concluded that the global warming impacts were huge. As the [Dept. of Energy] work explains, though, **62 percent of that gas isn't lost at all – it's 'used to power equipment.'**" (CFR blog, [May 20, 2011](#); Dept. of Energy PPT available [here](#).)



"Alas, [the Cornell] analysis is **based on extremely weak data**, and also has a severe methodological flaw (plus some other questionable decisions), all of which means that his bottom line conclusions shouldn't carry weight." (CFR's Michael Levi, [April 15, 2011](#))



"Our analysis indicates that the Cornell study **overestimated** the average volume of natural gas vented during the completion and flowback stages **by 60-65 percent**. We conclude that the Cornell study overestimated the impact of emissions during well completions **by up to 90 percent**." (May 2011)



"The Howarth estimates assume that daily methane emissions throughout the flowback period actually exceed the wells' IP at completion. **This is a fundamental error**, since the gas stream builds up slowly during flowback. Compounding this error is the assumption that all flowback methane is vented, when industry practice is to capture and market as much as possible, flaring much of the rest. Vented emissions of the magnitudes estimated by Howarth would be extremely

dangerous and subject to ignition.” (Mismeasuring Methane, IHS Cera, [Aug. 2011](#))

NAVIGANT

“The [Cornell] report concludes that the average [Haynesville] well spits 250 million cubic feet of methane into the sky. That’s about a million and a half dollars’ worth of gas at today’s prices. ... I have to wonder **whether the authors have ever seen a working drilling / fracturing operation.**” (NGMarket Notes, [May 2011](#))



“Some of the major flaws include ... use of data that the authors note is **limited and questionable**; failure to adequately consider industry control technologies; and misinterpretation of industry terms and data such as ‘lost and unaccounted for’ gas.” (AGA energy analysis, [May 3, 2011](#))

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“One thing that disturbed me and some of the scientists I consulted was the big gap in the definitiveness of [Cornell’s] abstract summary and the actual paper. ... **I find that they are more value judgments than scientific judgments.**” (Andrew Revkin, [April 23, 2011](#))



“This paper is selective in its use of some very questionable data and **too readily ignores or dismisses available data** that would change its conclusions.” (Dave McCabe, [April 13, 2011](#))



“We argue here that their analysis is **seriously flawed** in that they significantly overestimate the fugitive emissions associated with unconventional gas extraction, undervalue the impact of ‘green technologies’ to reduce those emissions to a level approaching that of conventional gas, base their comparison between gas and coal on the wrong metric, and **assume an inappropriate time interval** over which to compute the relative climate impact of gas vs coal.” (Cornell professor Lawrence M Cathles III, et al; paper submitted June 2011)

“You can get any answer you want based on modeling and assumptions.” (Ingraffea, quoted by POLITICO, [Aug. 24, 2011](#))

“We did not look as carefully at coal. ... We didn’t put anywhere near the amount of effort into [coal numbers], but I’m sure they are lower than natural gas.” (Howarth, [March 15, 2011](#); 39:10 – 40:08)

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- **EID Blog:** [New Study Debunks Cornell GHG Paper. Again.](#)
- **E&E News:** [“Shale emissions better than coal – study”](#) (subs. req'd)
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