

BERKELEY, Calif, Sept. 16, 2013 /PRNewswire/ -- Today, a new study, "Measurements of Methane Emissions at Natural Gas Production Sites in the United States

" by

David T. Allen

and colleagues, will be published in the journal,

Proceedings of the National Academy of Sciences

at

3pm ET

. The Environmental Defense Fund (EDF) together with many oil and gas companies funded and supported this research effort.

Physicians Scientists & Engineers for Healthy Energy (PSE) has reviewed this study of methane leakage and has concluded that it appears fatally flawed. This important research bears directly on the powerful GHG/global warming effects of methane and thus the implications for regulation and continued widespread development of shale gas. But the study has concluded that methane leakage at well sites, selected in time and location by industry participants, is so low as to be nearly trivial. This is a finding at odds with other researchers' work that shows much higher rates.

Allen and colleagues conclude that upstream methane emissions from the natural gas industry amount to just 0.42% of gross annual domestic production of associated (oil wells) and non-associated (gas wells) natural gas. However, the study – much like its widely-criticized predecessor, EPA/GRI 1996 – is based on a small sampling of hydraulically fractured wells which may not adequately represent national oil and gas activity and the variability within and across production basins. Furthermore, the fugitive losses reported by Allen and colleagues are 10 to 20 times lower than those calculated from more complete measurements. Allen and colleagues do not address this large discrepancy or even reference these other studies.

"Policy-makers and society in general are in great need of robust scientific measurements of methane emissions from modern gas development," said PSE Executive Director Seth B. Shonkoff

. "It is disappointing that Allen and colleagues seem to have failed to employ basic scientific rules including transparent criteria for the selection of study sites to measure, sufficient sample sizes, and the attempt to place their results in the context of other scientific studies to date. This study falls short in its attempt to help answer questions about methane emissions from modern gas

development beyond the small number of gas industry-selected wells where measures were taken."

Based on the study's text (supplemental information was not available at the time of this press release), PSE identified a number of methodological issues that render this study incomplete and problematic in terms of it being representative of well site methane emissions in the real world:

1. The study sites selected are not likely representative of typical gas development

A very small sample size The study measured emissions from just 489 gas wells and only 27 hydraulic fracturing events. These measurements represent just 0.1% of the total gas wells in the United States

Non-random choice of sites

The study's results are based on evaluations of sites and times selected by the oil and gas industry rather than a random sampling of sites. Thus, this study must be viewed as a best-case scenario, based upon wells selected by industry, a party undoubtedly interested in a particular outcome.

2. The study only takes upstream emissions into account: it is not a complete life-cycle emissions study

By design, only upstream emissions, measured at the well pad, were included in this study. However, methane is emitted throughout the full life-cycle, including compression, processing, storage and distribution. Emissions reported by Allen and colleagues in this paper only account for a single stage of a multi-stage industrial process and do not reflect the true methane emissions for the complete life-cycle of gas development.

3. The study ignores conflicting results in the literature and estimates methane emissions are substantially lower than measurements taken by independent scientists

Other published emission studies have used techniques that measure field-level emissions and do not require industry permission to sample. These studies, conducted by credible organizations and academic institutions, including the National Oceanic and Atmospheric Administration (NOAA) report field-level emissions from natural gas production that are 10 to 20-times higher than what Allen and colleagues estimate. See a summary of all methane emission studies on modern gas development to date at: http://psehealthyenergy.org/data/PSE_ClimatImpactsSummaryUPDATED_12Sep20132.pdf

Written by Australian Business

ABOUT PHYSICIANS SCIENTISTS & ENGINEERSPSE, comprised of physicians, scientists, and engineers, aims to bring scientific transparency and clarity to important energy policy issues. With offices in New York and California, PSE generates, translates, and disseminates sound scientific information to enable more responsible decisionmaking surrounding energy choices.

SOURCE Physicians Scientists & Engineers for Healthy Energy