Fact Sheet: Methane Emissions From Hydraulic Fracturing of Unconventional Natural Gas Wells Are Half What EPA Estimated

Please note: We are currently revising the Liquids Unloading section of this report to incorporate public comments and data revisions. An updated report will be available in the 3rd quarter of 2012.

Latest, most comprehensive study to date shows EPA needs to lower emissions estimates

- **Methane emissions from hydraulic fracturing of natural gas wells are 50 percent lower than EPA's estimates, according to a new survey of hydraulic fracturing emissions, conducted by the American Petroleum Institute (API) and America's Natural Gas Alliance (ANGA).**
    - Venting of methane into the atmosphere during liquids unloading is 86 percent lower than EPA's estimates.
        - Liquids unloading is a technique to remove water and other liquids from the wellbore to improve the flow of natural gas.
    - Emissions from well re-fracturing are 72 percent lower than EPA estimates, and well re-fracture rates are significantly lower than EPA estimated.
        - Well re-fracture, also known as a workover, is a technique done to repair or stimulate an existing production well to prolong production.
        - EPA estimated the re-fracture rate at 10 percent of active wells, but the actual rate ranged from 0.7 percent to 2.3 percent.

- **API/ANGA survey examined data on 91,000 wells distributed over a broad geographic area and operated by over 20 companies.**
    - The API/ANGA survey examined 10 times as many wells as one of the key data sources for EPA's most recent emissions estimate.

- **EPA's calculation method substantially overestimates the amount of methane emissions from hydraulic fracturing and other unconventional natural gas production activities.**
    - In 2011, EPA introduced a new calculation method that more than doubled the estimated emissions from natural gas production.
    - EPA's estimates were based on a small set of data submitted by a limited number of companies.

- **Since emissions from domestic natural gas production are lower than previously estimated, the total emissions from a life cycle perspective will be reduced as well.**
    - Studies that have erroneously claimed emissions from unconventional natural gas production are higher relied on the flawed EPA emissions data.
    - This survey will provide researchers with better quality data for life-cycle analyses of methane emissions from domestic natural gas production and use.
    - This study highlights the deficiencies in the more-limited EPA data and areas where additional data will further improve estimates of methane emissions from natural gas production.

Background points:

- **Industry is voluntarily reducing its environmental footprint and not waiting for regulatory mandates or incentives to continue to make progress.**
    - The technology and equipment being used to reduce emissions were created by the industry, and companies are already implementing it in locations where it is most effective.
    - All wells are required to include reduced emissions completions by January of 2015.

- **With increased access to shale and tight gas on government and private lands and advancements in technology—including hydraulic fracturing combined with horizontal drilling—the U.S. has dramatically expanded natural gas production.**
    - Shale gas revolution has supported more than 600,000 American jobs, increased government revenues, and lowered prices for consumers