

Oil and gas production a major source of Dallas-Fort Worth smog

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The first comprehensive analysis of air emissions associated with natural gas and oil production in the Barnett Shale area finds that emissions can be a significant contributor to Dallas-Fort Worth smog formation, comparable to the combined emissions from all Metroplex cars and trucks.

"Emissions from Natural Gas Production in the Barnett Shale Area and Opportunities for Cost-Effective Improvements," was written by Dr. Al Armendariz of Southern Methodist University and is now available online at www.edf.org/documents/9235_Bar...ett_Shale_Report.pdf.

In addition to emissions of smog-forming compounds, such as nitrogen oxides and volatile organic compounds (VOC), the report also considers air toxic chemicals and greenhouse gases. Emissions of carbon dioxide and two other major greenhouse gases underlying climate change were estimated to be roughly equivalent to the impact from two 750 MW coal-fired power plants.

"It's true that Barnett Shale oil and gas activities are producing significant air emissions, but there's good news as well," Armendariz said. "There are off-the-shelf technologies that can greatly reduce these emissions and improve DFW Metroplex air quality."

Cost-effective control strategies are readily available and can substantially reduce emissions, according to experts. "These controls can in many cases, reduce costs for oil and gas operators after short payback

periods," said Dr. Ramon Alvarez, senior scientist with Environmental Defense Fund, which commissioned the study. "Such controls are already used by some producers, but not universally."

The City of Fort Worth recently adopted an ordinance requiring the use of "green completions" to capture methane and VOC compounds during well completions, one of the controls recommended in the report.

Natural gas production in the Barnett Shale region of Texas has increased rapidly since 1999, with more than 10,000 wells currently installed. Twenty-one percent of natural gas production last year in Texas was from the Barnett Shale alone. Unlike most historical drilling for oil in Texas, this activity is taking place in and around a heavily developed and populated area, even in the shadow of downtown Fort Worth high-rise buildings.

Natural gas is a critical feedstock to many chemical production processes, and it has many environmental benefits over coal as a fuel for electricity generation, including lower emissions of sulfur, metal compounds, and carbon dioxide. Nevertheless, oil and gas production from the Barnett Shale area can impact local air quality and release greenhouse gases into the atmosphere, according to the Armendariz study.

The report examines each step of the gas production process, from well drilling and completion, to gas processing and transmission. It concludes that peak summertime emissions of smog-forming emissions from production activities in the Barnett Shale are about the same as the emissions from all the cars and trucks in the DFW Metroplex (307 tons per day vs. 273 tons per day, respectively).

Source: Southern Methodist University

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