Duke study offers 7 safeguards for hydraulic fracturing

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A new report by Duke University researchers offers several health and environmental measures for North Carolina lawmakers to consider as they debate legalizing horizontal drilling and hydraulic fracturing for natural gas.

The study, which has been accepted for publication in the Duke Environmental Law and Policy Forum journal, looks at potential environmental hazards and how lawmakers in other states are factoring health and environmental risks into regulatory approaches targeting the natural gas extraction method.

"If North Carolina legalizes shale gas extraction, we need to consider what's worked best in other states and avoid what hasn't," said Rob Jackson, Nicholas professor of global environmental change at the Nicholas School of the Environment. "That's the only way to get it right."

Legislation passed earlier this year has moved North Carolina closer to producing shale gas, and is directing the Department of Environment and Natural Resources to complete a study on the effects of hydraulic fracturing, often called "fracking," by May, 2012.

The authors of Duke's own study say if North Carolina legislators allow natural gas production through hydraulic fracturing, they should consider seven measures to help avoid and mitigate any possible negative effects. These include:

- Securing baseline data on groundwater prior to shale gas production and at each stage of the drilling process
- Funding for regulatory programs and an agency to carry them out
- Planning for withdrawals from area water supplies related to the production
- Minimizing the risks of spills and contamination caused by equipment failure and human error by implementing safety requirements
- Thinking through options for the disposal and treatment of wastewater resulting from the hydraulic fracturing process
- Assessing the impacts on air quality and assuring attainment of federal ground-level ozone standards
- Requiring some degree of disclosure regarding the chemicals used in fracturing fluid

"Lawmakers have the unique opportunity to decide whether or not hydraulic fracturing is appropriate for the state," said Jonas Monast, director of the climate and energy program for the Nicholas Institute for Environmental Policy Solutions. "Before making a decision, we need to understand the full range of potential economic, environmental and health impacts."

More information: The paper "Considering Shale Gas Extraction in North Carolina: Lessons Learned in Other States," is written by Sarah Plikunas, Brooks Rainey Pearson and Jonas Monast of Duke's Nicholas Institute for Environmental Policy Solutions and Rob Jackson and Avner Vengosh of the Nicholas School of the Environment.

Provided by Duke University