

Researcher explores benefits, costs of hydraulic fracturing

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Hydraulic fracturing and horizontal drilling have had a transformative, positive effect on the U.S. economy, producing societal gains that likely outweigh negative impacts to the environment and human health from an economic perspective, according to a new paper co-written by a University of Wyoming faculty member.

Chuck Mason, UW's H.A. "Dave" True Jr. Chair in Petroleum and Natural Gas Economics, is one of the authors of "The Economics of Shale Gas Development," which has been accepted for publication in the *Annual Review of Resource Economics*.

The paper notes that innovations in [hydraulic fracturing](#) and horizontal drilling in the past decade have fueled a boom in the production of natural gas, as well as oil, from geological formations including deep shales in which hydrocarbon production was previously unprofitable. The authors analyze direct and indirect economic benefits from this boom, such as reduced prices for consumers, job creation and decreased U.S. reliance on fossil fuel imports. The paper concludes that the benefits run into the billions of dollars for both consumers and producers.

The paper also summarizes current science and economics research on [negative effects](#) linked to hydraulic fracturing, including impacts to air, water and quality of life in producing regions. Those negative impacts are difficult to quantify and warrant further study, but they're mainly local in nature, while benefits are local, national and global, the authors

say.

"... (D)espite the presence of negative externalities, the magnitude of benefits described above suggests a very high 'burden of proof' for those who would support forgoing, or very significantly constraining, shale gas production on economic grounds," the paper says.

"The bottom line is that the likely scope of [economic benefits](#) is extraordinarily large, and that continued research on the magnitude of negative externalities is necessary to inform risk-mitigating policies," the authors conclude.

For example, they suggest research into the benefits and costs of local and state-level prohibitions on hydraulic fracturing. By describing "the distribution of [benefits](#) and costs from such policies," economists could "make the resulting tradeoffs more transparent, and thus more salient," the paper says.

More information: The paper is available at www.rff.org/RFF/Documents/RFF-DP-14-42.pdf

Provided by University of Wyoming

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