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The Smart Path for the Shale Gas Revolution

Reassuring the public on environmental concerns is crucial.

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By FRED KRUPP

If there's one thing America doesn't need right now, it's more acrimony and gridlock. That's where the debate over natural gas development in the U.S. has been heading—but it's not too late to change direction.

To be blunt, the natural gas industry has a credibility problem. Natural gas is a growing and increasingly significant part of our nation's energy economy, but many Americans don't believe that this resource can be tapped safely.

In the past two years, one state and several municipalities have effectively banned (some permanently, others temporarily) the development of unconventional natural gas. Restoring trust will take time, strong oversight by government, and transparency and hard work by the industry. It won't be easy, but it can be done. A new report by a Department of Energy advisory panel points to some crucial first steps that can help jump-start the process.

The natural gas drilling technique of hydraulic fracturing, or "fracking," has opened up vast deposits of gas trapped in shale rock formations—deposits that were previously too difficult or expensive to reach. One example is the Marcellus Shale, which covers a good portion of New York and Pennsylvania, states not previously known for their natural gas reserves.

In 2000, shale gas accounted for 1% of America's natural gas supply. Today, that figure is around 25% and climbing. From an environmental perspective, that should be good news, since natural gas burns cleaner than coal, emitting less greenhouse gas pollution during combustion and avoiding mercury, sulfur dioxide and other dangerous air pollutants that come from coal.

If only it were so straightforward. Natural gas development has come under intense scrutiny due to widespread concern about impacts on air and groundwater quality, and fears about unsafe management and disposal of the million or so gallons of wastewater that each well produces. Recent studies have also questioned natural gas's carbon advantage—an advantage that is undermined by methane leaks from wellheads, pipelines and other equipment. All of this is troubling. As President Obama recently warned, "We've got to make sure that we're extracting natural gas safely, without polluting our water supply."

In March, the president directed Energy Secretary Steven Chu to appoint a group of energy and environmental experts to study the issue. As an environmentalist and a member of Mr. Chu's panel, I'm committed to making sure that shale gas operations don't degrade the air or water quality of local communities.

During 90 days of intensive investigation and deliberation, the panel, chaired by MIT professor John Deutch, held a series of public hearings. We heard from industry officials, environmental leaders, federal and state regulators, scientists and others. We visited well sites to see drilling and production firsthand. We held a public meeting in southern Pennsylvania to hear directly from people who are living with intensive shale gas development—both the good and the bad.

Supporters and opponents packed the auditorium and told stories about how the shale gas boom had affected them. For some, it had provided an economic lifeline. For others, it had made life a nightmare. I was struck by the story of one woman who was forced to leave her family farm and was living out of her car. Ever since the drilling started, she said, her young son had become increasingly ill.



Mark Ovaska

I understand why this mother and so many people like her think shale gas development is just too dangerous. And while no report by itself can restore public trust, I believe that the panel's recommendations—if put into place by state and federal regulators and the natural gas industry—could help lead the way forward.

The report calls for greater oversight of the industry and makes it clear that "effective and capable regulation is essential to protect the public interest." Moreover, the "challenges of protecting human health and the environment in light of the anticipated rapid expansion

of shale gas production require the joint efforts of federal and state regulators. This means that resources dedicated to oversight of the industry must be sufficient to do the job and there is adequate regulatory staff at the state and federal level with the technical expertise to issue, inspect and enforce regulations."

The industry's failure to disclose the chemicals used to fracture shale formations is one reason public trust has been so badly eroded. That's why the panel emphasized the need for comprehensive fracking chemical disclosure, as well as new standards for well construction and wastewater management. Equally important, regulators must be provided with the resources they need for timely and thorough reviews of permit applications.

Disclosure is needed in other areas. The industry must provide more data on overall operations—including methane leaks, which undermine the carbon advantage of natural gas over coal. The report calls for the assessment of baseline water quality conditions before drilling starts, disclosure of the composition of drilling wastewater, and careful measurement of air emissions associated with the drilling process. The report also calls for the creation of a national database of public information on shale gas operations, so that all interested parties have easy access to key information.

Finally, the report calls on the natural gas industry to help create a national organization, with external stakeholders, dedicated to continuous improvement of best practices for extracting shale gas. This much-needed new organization would work to reduce the environmental risks of shale gas operations, with a relentless focus on protecting air and water quality.

It's no simple task to strike a balance between public safety and the development of this growing energy resource, but it is essential that we do so. As a starting point, we must all agree that everyone—no matter where they live—has a right to clean air and clean water. The advisory committee's report is tough and balanced—and implementing its recommendations will require government, industry and environmentalists to work together to safeguard air and water quality. Anything less will only lead to more acrimony and gridlock—and no one is hungry for that.

—Mr. Krupp is president of the Environmental Defense Fund and co-author of "Earth: The Sequel" (W.W. Norton, 2008).