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## Can the Fracking Industry Self-Regulate?

By Ben W. Heineman Jr.

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*A new report from the Department of Energy calls for the creation of a shale gas production organization -- a private sector agency that would set safety standards and address environmental concerns*



The boom in natural gas extracted from shale rock through new technology holds out great transformative promise for the future: for consumers in lowering energy costs, for workers in creating domestic jobs, for the environment as a substitute for coal, for balance of trade as we may export more than we import and for energy security as we become less dependent on foreign oil and gas and reduce the influence of nations like Iran, Russia and Venezuela.

But today shale gas production faces important environmental and safety issues which must be addressed through both voluntary corporate action and appropriate regulation, with business leaders playing a key role in both spheres.

This is a central conclusion in an important, interim report from a panel of experts constituted by the Department of Energy to assess environmental and safety implications of the new technologies of horizontal drilling and hydraulic fracturing which have made the shale gas boom possible.

The report was issued on August 11th, but it was lost amidst stock market gyrations and global economic uncertainty. Yet, the long-term implications of dramatically increasing supplies of natural gas from shale are of first-order significance to the global economic future. And the report -- from the shale gas subcommittee of the Secretary of Energy Advisory Board -- [provides incisive perspective](#) on how to balance economic and environmental issues and on the central part enlightened business leaders must play.

The remarkable story of extracting gas from shale through new technology has become widely known in recent years. Natural gas provides about 25 percent of U.S. total energy. Production of gas from shale formations has gone [from virtually zero a few years ago to 30 percent of total U.S. gas production today](#) and is projected to be in the vicinity of 45 percent by the middle of the next decade. (Shale gas recovery -- from an "unconventional deposit" -- is in contrast to gas recovery from "conventional" deposits in porous rocks which need only to be tapped by a well to rise to the surface through existing pressure.) The size of U.S. shale gas reserves continues to grow as exploration occurs around the country -- today they are about 30 percent of all natural gas reserves.

Proponents tout the many benefits of shale gas. Opening new fields all across the U.S. creates new jobs (200,000 associated jobs in recent years). Production of shale gas can be less than half the cost of conventional production, lowering prices for consumers. Increasing availability creates the possibility of substituting gas for coal as a source of energy, reducing carbon dioxide emissions, and positively affecting climate change problems (although cheap gas may slow development of even more environmentally friendly but more expensive renewable resources). Such availability also can turn the U.S. from an importing to an exporting nation, which aids energy security (a trend which will become even more significant if, over time, there is substitution of gas for oil, especially in areas like transportation). And, if shale gas is developed in other nations around the world, a single global market for natural gas may emerge (there are three regional markets today) and some of the nations now powerful because of energy supplies (e.g. Iran, Russia, Saudi Arabia, Venezuela) may be disadvantaged in a major geopolitical shift.

As drilling and "fracking" technologies change, gas supplies increase and debates ensue about the nature, degree, and timing of the benefits of this "revolution," so, too, significant debates have emerged about the environmental impact and safety of shale gas production, especially the impact of high pressure water fracturing of shale on air and water quality.

The shale gas subcommittee charts a course between the predictable extremes of the debate (no regulation v. no fracking). Chaired by John Deutch (MIT professor and former deputy secretary of energy and director of the CIA) and comprised of business people, former regulators, environmentalists, academics, and noted energy consultants, the subcommittee clearly identifies a range of environmental and safety issues that must be addressed to maintain the momentum and credibility of shale gas development. Said the report: "An industry response that hydraulic fracturing has been performed safely for decades rather than engaging in the range of issues concerning the public will not succeed." (Environmental concerns have led to a moratorium on shale gas production in France.)

The subcommittee looked at "all steps in shale gas production, not just hydraulic fracturing." And the essence of the report is reflected in the following:

*"As with all energy use, shale gas must be produced in a manner that prevents, minimizes and mitigates environmental damage and the risk of accidents and protects public health and safety. Public concern and debate about the production of shale gas has grown as shale gas output has expanded.*

*The Subcommittee identifies four major areas of concern: (1) Possible pollution of drinking water from methane and chemicals used in fracturing fluids; (2) Air pollution [e.g. ozone precursors, methane and other pollutants from the production life cycle]; (3) Community disruption during shale gas production; and (4) Cumulative adverse impacts that intensive shale production can have on communities and ecosystems.*

*There are serious environmental impacts underlying these concerns and these adverse environmental impacts need to be prevented, reduced and, where possible, eliminated as soon as possible. Absent effective control, public opposition will grow, thus putting continued production at risk. Moreover, with anticipated increase in U.S. hydraulically fractured wells, if effective environmental action is not taken today, the potential environmental consequences will grow to a point that the country will be faced with a more serious problem. Effective action requires both strong regulation and a shale gas*

*industry in which all participating companies are committed to continuous improvement."*

This interim reports focuses on the importance of industry action in providing information, in setting standards and in developing best practices. Such activities, the report recommends, should be adopted by leading companies and then collected and disseminated by a new "*shale gas industry production organization*." Such an organization would identify "industry techniques or methods that have proven over time to accomplish given tasks and objectives in a manner that most acceptably balances desired outcomes and avoids undesirable consequences." The broad benefits of efforts by an industry-wide organization, the report maintains, will be to provide better information to regulators, to achieve more efficient operations and to inform the public and create public trust. Indeed, the report optimistically hopes that better economic efficiency -- waste minimization, less water usage, and reduced operating footprint -- will also have environmental benefits.

But, although it identifies important issues, the interim report, of necessity, leaves many questions and fundamental tensions unaddressed -- questions and tensions that enlightened business leaders, working with stakeholders and regulators, must resolve.

***With respect to the new shale gas industry production organization:***

- How does it relate to other existing industry organizations (e.g. American Petroleum Institute, the Independent Petroleum Association, America's Natural Gas Alliance), which , like some environmental organizations, were critical of the interim report.
- How does it fairly represent the views of both big players and small companies who may have different economic interests and capabilities, even though serious, well-publicized mistake by a little guy can affect the whole industry?
- How does it deal on a national level with the significant variation in conditions and techniques in different geographies (the report talks generally about "regional" councils).
- What kind of representation do other stakeholders have on the board (excluding them will inevitably call into question the credibility of the organization's work product, including them may lead to irreconcilable disagreement). Most directly, who decides?
- Does the organization "assess compliance" with its own developed standards and best practices, as the report suggests in some places but without addressing the enormous complexity and expense of that kind of function. Or does it just

"encourage" adherence to them. (There are a wide variety of industry self-policing mechanisms which the report did not have time or space to discuss as possible analogies.)

- Perhaps most importantly, will significant business people step forward to undertake this task by devoting time and thought leadership and by raising necessary resources for a new organization which may not see eye to eye with existing industry groups?

***With respect to regulation***, the report disavows any detailed discussion of this topic. Yet, it importantly and explicitly says that effective and capable regulation is essential to protect the public interest; that the private sector initiatives should supplement but do not supplant appropriate regulation; and that, "while many states and federal agencies regulate aspects of these operations, the efficacy of the regulations is far from clear." But, having laid down the regulatory marker, the interim report notes but does address in any detail some of the obvious issues.

- Which of the many problems identified by the interim report -- especially air and water issues -- require federal regulation, and which require state regulation?
- Is it possible for the new shale gas industry production organization to accept the need for regulation and, beyond promulgation of its own standards and best practices, to work with the relevant legislators/regulators on appropriate law and regulation and on appropriate administrative processes. As noted, major players should have a strong interest in a comprehensive regime -- that is only possible through law -- that seeks to minimize the risk of a serious mistake by an industry outlier.
- Assuming the industry group (perhaps with stakeholder participants) can work with regulators and other stakeholders to develop appropriate regulatory policy, can that group develop enough political muscle to create and enforce new law in, pardon the phrase, our fractured political culture?

That these fundamental questions exist does not detract from the distinct value of the interim report which candidly set out important private-public tasks "to reduce the environmental impact and improve the safety of shale gas production." Under its terms of reference, a second report is due in 90 days which will address key issues in greater depth. But in any event, the shale gas production subcommittee is profoundly right that environmental and safety questions must be identified and answered in a "sound fashion that meets the need of public trust."

Affected business leaders are obviously central. They must grapple in a credible way with the issues in the report, the issues noted above, and the more detailed and complex issues ranging from technology to very specific and fine grained environmental and safety problems. They must both organize a significant private sector continuous

improvement effort and contribute constructively to the shape of necessary regulation.

The stakes are high. The continued growth of shale gas production on a sound environmental and safety basis is critical, given the potential transformative benefits, not just for the gas industry but for the United States and the American people.

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