

*Event Summary: Secretary Energy Advisory Board: Shale Gas Subcommittee Report*

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By: Alexander Cocavessis

On September 19, 2011 the CSIS Energy and National Security Program hosted a discussion on the Secretary of Energy Advisory Board Shale Gas Subcommittee Report. Dr. John Deutch, Chair of the Shale Gas Subcommittee and emeritus Institute Professor at the Massachusetts Institute of Technology, presented the main findings of the committee. The report, which sought insights from the public, industry, regulators, and academics and experts, provided recommendations to keep all actors engaged on all levels while continuing development of the shale gas resources.

Dr. Deutch began by stressing that the committee's work was not a net assessment of the benefits of shale gas production and the environmental costs. It was tasked with studying the environmental impacts over the entirety of the shale gas production and identifying the measures that could be taken to lower environmental burdens of shale gas production over time. The group was not asked to examine or extend its recommendations to the existing regulatory structure in place for the gas production; however, it came to the conclusion that robust federal and state regulations are a necessary requirement to assure the public that shale gas is and will be produced responsibly. Dr. Deutch noted that while cheaper acquisition costs of this plentiful supply of natural gas will create hundreds of thousands of jobs, reduce the trade deficit, and potentially displace liquid fuels in the long run, these benefits will only be realized if the public gains confidence that industry and government are successfully managing the environmental impacts of shale gas production.

Dr. Deutch emphasized four basic findings:

- Public concerns on shale gas production are widespread across the country;
- Various regional shale gas plays have very different characteristics with regards to liquid content, depth, and water content, and need to be produced and regulated differently;
- The advent of modern shale gas fracturing technology is a recent activity, and the technology is advancing quickly, with attendant environmental improvements anticipated; and,
- There is an urgent need for measured data from the field.

Dr. Deutch underscored the basic message underlying the entire report. Industry should pursue best practices based on measurement and disclosure. This involves taking measurements in the field, disclosing the results, and showing that there are improvements in the environmental impact of shale gas production. Dr. Deutch claimed that better measurements will aid all parties of shale gas production concern. Regulators will have a better set of data to base regulations on, while better data will help

industry improve their operations, and the public will gain confidence that there are continuous and measurable improvements being made in shale gas development.

Dr. Deutch concluded by highlighting a few of the twenty four recommendations proposed by the subcommittee:

- There should be more public information about shale gas production operations today;
- More public support should be given to regional arrangements such as the State Review of Oil & Natural Gas Environmental Regulation (STRONGER) made between different stakeholders that improve the management of operations and management across the country;
- In addition to the EPA, there must be a subset of producers in the various basins who show a willingness to undertake the creation of measurement systems that collect information on criteria pollutants, especially methane emissions to the atmosphere (both from production and from surface activity);
- There should be a comprehensive study by the Office of Science and Technology Policy on the greenhouse gas footprint of both conventional and shale gas operations in the US;
- There must be a cradle-to-grave discussion on the management of water quality and composition, especially with regard to methane leakage occurring due to improper and incomplete casing and cementing operations; and,
- There should be an acceleration of the disclosure of the composition of the suite of chemicals in fracturing fluid.

Dr. Deutch's overarching theme was the Subcommittee's view that industry should adopt the policy of taking field measurements, disclosing the results, and improving the outcomes. Businesses must adopt a more aggressive stance on best engineering and environmental practices in field operations based on this philosophy to meet the approval of the American public.