THE TRILATERAL COMMISSION
2011 NORTH AMERICAN REGIONAL MEETING
TORONTO, ONTARIO, CANADA
OCTOBER 28-30, 2011

REGIONAL ENERGY POLICY AND CHALLENGES
James T. Hackett, Chair
John Deutch, Panelist

CHAIR JAMES HACKETT: The next speaker is John Deutch, whom many of you know well. John is Mr. Everything to me. He's a professor. He's an engineer. He's a scientist. He's a policy expert. He actually has been on the front lines of this whole issue with regard to shale gas development (to which Adrian referred) in his role as the chairman of the DOE Subcommittee on Shale Gas. He is going to speak a little bit about the integration that has occurred in the energy complex of North America, what are the implications of Keystone (to which Hal referred), as well as how industry should approach the opposition that it's getting in shale development.

JOHN DEUTCH: Thank you very much. I hope people can hear me. I thought standing up might be better for the people in the back of the room, although others may look better up here than I do.

I'm delighted to be on this panel. Adrian and Marisol are great friends of ours, and it's great fun to be here with them. The chairman I know well. I was pleased this morning to learn that there's less concern about separatism here in Canada in Quebec. If you go to the chairman's home on Nantucket, a peaceful little island, there is the largest flag of Texas you've ever seen, and many of his neighbors think he's nuts and they may be right, but they're worried about separatism.

I want to begin by saying that we should recognize that energy in North America is integrated. Over the last 30 years, the power system has become highly integrated, as has the oil and gas distribution system. This process has taken place not as a result of government action, but as a result of incremental decisions made by business firms to advance the interest of their companies and to serve consumers. This integration is important, a great achievement, and, by the way, it is irreversible. We are an integrated energy economy.

The second point is during my two days here, my earlier trip about a month ago out to Alberta, I've heard a great deal about this pipeline and the questions about its future, the Keystone XL pipeline. And I want to on the one hand reassure my Canadian friends who are very sensitive about this subject that I'm quite confident that eventually the U.S. will approve the pipeline, but it's going to be painful. You'll be in court a long time, and there will be a lot of political debate, but eventually it will be approved. Part of the reason is that the Obama administration, when confronting an energy project which involves a balance of jobs and environmental impact, basically freezes to action for a quite long period of time.

But what is the lesson that we the Trilateral Commission should learn from this debate on the pipeline? That is that it's really a debate about global warming. And no matter how much one speaks of doing better than the business-as-usual increases, we still must confront the fact that our integrated energy economy does not have a global warming policy and we are unlikely to have one in the near future. This means that eventually we're going to pay the costs of global warming. The costs may come a little later. They may be a little less. We may find ways to deal with them, but the lesson which should come from this
Keystone pipeline controversy is that for a lot of people this is an issue about global warming and they will oppose anything that will remind us of the absence of that policy.

A lot has been said about shale gas this evening which is informative and correct. The emergence of this shale gas resource is the biggest deal that has happened in the 40-plus that I've been working on energy problems. It was completely unexpected. In 2008, when the National Petroleum Council put out its Hard Truth Report, it was barely mentioned. In 2006, two percent of our natural gas came from shale. Today, this year, it will be about 20 percent and it is projected to go to 45 percent. This shale gas is everywhere in North America from Canada all the way through Mexico. The Utica deposits go from North Carolina to Quebec. There's an enormous amount of this shale available.

So it is important as to how it will be used. First of all, in the United States it will be used for power plants where it's going to compete with coal, and that explains its relatively low price in the U.S. market of $3 or $3.50 or $4 per thousand cubic feet (and heading lower).

Eventually, one hopes that, either as compressed natural gas or as gas to liquids, some use of this will be found in North America to displace oil, imported oil in our transportation system, but that will certainly take time.

Shale oil and gas production is an enormous job producer. It is the single largest job producer in the states of Pennsylvania and Ohio, and you will be hearing more about it during the next 12 months, so it is a huge deal.

I want to pause and report that God did not put shale gas only in North America, it is all over the world. It is available in the U.K. There's an enormous shale gas deposit under Paris, and there's plenty of shale gas in Germany, in Poland, in Russia, in all North Africa, in Latin America. It is everywhere. People are beginning to realize that, and this has big-time geopolitical consequences. I will mention three briefly.

First, the world's largest holder of natural gas resources, Iran, has experienced a huge negative wealth effect. Their broker called them up and said that you thought you were worth this much, divide it by a factor of three or four.

Secondly, all of the tensions that have occurred between Russian or North African suppliers of gas to European consumers about tying the price of natural gas to oil going to be reversed or at least heavily attenuated by the availability.

Third, there are all kinds of investments which are now under water, the famous Alaska natural gas pipeline which our government, not the Canadian government, voted a significant loan guarantee for is out of the money and this is true of big investments in Australia as well. So these are big geopolitical consequences.

Adrian is quite right to point out two key variables. The price of gas today, I believe, is about $3.80 in North America, but it’s expected to fall. In Europe, it hovers somewhere between $8 and $10 depending upon whom you're talking to. In Shanghai or Tokyo, it's $14 to $16 per thousand cubic feet. The question is, first of all, can that difference in gas in different international markets hold over the next 30 years or will it likely merge into a single world price? I believe that is very likely to happen.

The second is the point that we are at an absolutely historic time period where the difference between the energy cost of gas is one quarter the energy cost of oil. That means that engineers, technologists, companies are going to look for investments to substitute that gas for liquid fuels which is going to lead to a lot of change.

What can destroy this rosy picture? It is not paying attention to the environmental impacts. We might see 100,000 shale gas wells drilled in the United States over the next 20 years, 100,000. These shale gas wells when they're drilled, they're not your typical mom-and-pop well which we do on Nantucket.
They're really big time industrial operations. They involve tremendous effects on water, on air, and on communities. And if we do not start taking a systematic approach to seeing this economic development go forward with a demonstrable way of industry doing better at reducing the impacts, even if the impacts don't go to zero, if industry does not do better year by year in showing the public that there are going to be fewer water impacts, fewer air impacts, fewer community burdens, this very rosy and potentially enormously economically valuable development for North America could be delayed or stopped.

I have spent the last six months working on this issue about how you reduce the environmental impacts. I am not going to go through that this evening but I'll say the one thing that can reduce the enormous potential of this very, very unusual, happy revolution is not paying attention to managing the environmental impacts. Thank you very much.

**James T. Hackett** is chairman and CEO of Anadarko Petroleum Corporation, Houston.

**John Deutch** is chair of the Natural Gas Subcommittee of the Secretary of Energy’s Advisory Board and former Undersecretary of the U.S. Department of Energy.