Energy Security Equation
Energy Industry Overview

Barry K. Worthington
Executive Director
United States Energy Association

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Summary Remarks to the World Environment Center
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Good morning and thank you to the World Environment Center for inviting me to address this important gathering. I have not been here at the Renaissance Center in Detroit since 2002, when USEA helped organize the G-8 Energy Ministers Dialogue. Then, as now, energy security was a topic of critical importance.

Our industry has taken energy security incredibly serious, considering both the geopolitical aspects of the security equation as well as the infrastructure aspects. This includes the domestic infrastructure of the United States, as well as energy systems located in other nations.

We noted with surprise, January 1, 2006, when Russia shut off natural gas supplies to Ukraine, with repercussions felt throughout Europe. Russia had historically been viewed as a reliable supplier, and this action caught many off-guard. Equally troubling was the cut-off by Russia of power supplies to Moldova in December 2005, for 17 days. The irony of these disruptions is that this year, in assuming the Presidency of the G-8, Russia put forth "energy security" as the G-8's 2006 theme. Energy security apparently can mean different things to different people at different times and places.

USEA stresses the notion of energy security in an interdependent world. This in fact is the theme of the Rome World Energy Congress in November 2007. [USEA is the U.S. member of the World Energy Council.] Let us look at a few of facts that exemplify our interdependency:

- U.S. reliance on oil imports has doubled over the past 30 years
- Japan imports 100% of its petroleum and huge volumes of natural gas, including gas for power generation
- Indonesia has become a net petroleum importer
- The U.S. will be a significant natural gas importer
- Europe will be increasingly reliant on Mid East oil and Russian gas
- All these trends have been decades in the making and will take decades to alter
- U.S. energy security cannot be achieved by closing our borders to energy imports any more than we can close our doors to other vital imports and exports
- The world is energy interdependent

Anyone observing daily news reports is aware of several areas of political and security concern, including nations that are providing sizable resources to global energy markets.

For example, instability in the Middle East is perhaps the greatest immediate concern. Iraq and Iran are the most prominent, but the rest of the region continues to have an atmosphere of uncertainty. Regional stability is unlikely to be achieved for some time, if ever. This is simply a reality that energy importing countries must face.

Venezuela, through President Chavez, is clearly forcing a climate of uncertainty vis-à-vis its relationship with the United States. It is the fourth largest supplier of petroleum to the U.S., and any disruption in that supply will be problematic to say the least. Nigeria, the fifth largest supplier to U.S. markets, has serious domestic strife, with oil production and export facilities targeted by rebels. Saudi Arabia, another huge exporter, has long-term domestic issues and both short and long-term issues of regional stability. And Russia, while not a major current U.S. supplier, could become a significant supplier of both crude oil and natural gas to U.S. markets in years to come. Uncertain treatment of U.S. investments and how the Russian political landscape will evolve in a post–Putin world gives experts pause when considering Russia's place in the interdependent energy world.

Of the five major petroleum exporters, Saudi Arabia, Russia, Nigeria and Iran give cause for short-term and for long-term concern. Only Norway, the third largest exporter, does not.

World oil demand has and will continue to increase. The International Energy Agency projects demand to grow from 79.3 million barrels a day in 2003 to 86.4 million in 2007. This nine percent increase compares with roughly a six percent increase in the integrated U.S./Canadian market.

We in the United States currently import about 15 percent of our natural gas from Canada, and a small percentage by way of liquefied natural gas, primarily from Trinidad and Tobago. Economies as varied as the U.S., Germany, Japan, Italy and Ukraine are sizable gas importers. Currently, the largest gas exporters include Russia, Canada, Norway, Algeria and the Netherlands. In the future, increased global supplies will originate in Iran and Qatar, as well as other Middle East countries.

Coal is considered to be a very stable and secure energy supply, particularly in a domestic context, as the United States and China are the two largest producers. Other large producers include India, Australia and South Africa. Coal importers include Japan, Korea, Taiwan, the United Kingdom and Germany. Uranium for nuclear power generation is generally abundant and originates from several suppliers.

After the September 11 attacks on U.S. soil, USEA completed a review of energy security issues. In accessing policies and strategies, we identified five core principals by which to judge policy proposals. These are:

- Diversity of energy supplies
- Economic efficiency
- Accelerated innovations and R&D
- Contingency planning and energy preparedness

- Balancing energy security, economic and environmental objectives

The USEA study concluded that the most effective way to improve U.S. energy security is to increase both energy efficiency efforts in tandem with increased discovery and production of domestic energy.

Three specific strategies were identified: 1) Accelerate the development and deployment of innovation and technologies; 2) remove financial barriers that may slow investment; and 3) obtain the most productivity possible from every unit of energy. The report concluded that U.S. energy security cannot be achieved by closing our borders to energy imports.

Instead, actions that can have a meaningful influence on energy security include both geopolitical and domestic actions. Examples are:

Geopolitical Actions

- Stabilize the Middle East
- Continue to embrace China and Russia
- Increase U.S. technology transfer to developing countries
- Support globablism and the World Trade Organization
- Expand diplomatic tools, including energy-related trade incentives

Domestic Actions

- Increase efficiency and conservation
- Expand domestic supply
  - Alaska
  - Outer Continental Shelf
  - Federal lands in the West
- Diversify Domestic Supply
  - Biofuels
  - Gas to liquids
  - Coal to gas and coal to liquids
  - All renewables
- Invest in Technology
  - Renewables
  - Fuel cells
  - Plug-in hybrids
  - Oil shale

Policy makers will be wise to consider the strength of market forces when evaluating regulatory energy market concerns. In December 2005, the value of natural gas contracts, according to the Wall Street Journal, was $15.38 per thousand cubic feet (tcf). In October of 2006, the Journal quoted the same contracts valued at $4.89 per tcf. According to the U.S. Energy Information Administration, gasoline prices averaged $3.08 per gallon on August 7, 2006; five weeks later, the price on September 11, 2006 was $2.67 per gallon. Markets are not perfect, and in some circumstances government

policy adjustments will be needed to assure security. But proven over time, energy markets self-correct, both by consumers reducing consumption based on pricing, additional suppliers/resources entering the market, or normally both happening simultaneously to bring supply and demand into balance.

Thank you for having me here today to talk about energy security.