

**Testimony**

**before**

**Subcommittee on the Energy and Power  
U.S. House of Representatives Committee on Energy and Commerce**

**Hearing**

**on**

**The American Energy Initiative**

*Oil supplies, Gasoline prices, and Jobs in the Gulf of Mexico*

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Chairman Whitfield, Ranking Member Rush, and members of the subcommittee on the Energy and Power, on behalf of myself and EPRINC we welcome this opportunity to testify on this topic so important for expanding American employment, growing the economy, and delivering adequate supplies of gasoline at affordable prices.

The Energy Policy Research Foundation, Inc. (EPRINC) is a not-for-profit organization that studies energy economics with special emphasis on petroleum and the downstream product markets. EPRINC has been researching and publishing reports on all aspects of the petroleum industry since 1944. Our reports are made available free of charge to interested organizations and individuals. We are known internationally for providing objective analysis of energy issues. We recently published reports on Iraq's potential to expand world oil supplies, the Macondo oil spill, and the role of ethanol in the American gasoline market, the Keystone XL pipeline expansion and the value of Canadian oil sands to the United States.

My testimony will examine two important considerations that EPRINC believes the committee members should address as the Congress examines policies for the development of domestic oil and gas development: (1) Prices of transportation fuels today reflect not only what is happening in the physical market, but more importantly what buyers and sellers believe about future supplies. Expectations about the future can affect prices today, and this includes expectations on government policies. (2) Government policies related to oil and gas (as well as alternative transportation fuels) that do not hold up well under uncertainty, are likely to fail and will almost certainly impose high costs on the American economy, its consumers, and harm U.S. energy security.

We live in a global market for both crude oil and petroleum products. In this global market, prices are determined by not only what is happening now but on the expectations held by both buyers and sellers regarding future production. We are often told, every time we face a period of rising gasoline prices, that many common sense measures, such as expanding access to the Canadian oil sands (such as would be possible with the Keystone XL pipeline), opening up drilling in

onshore Alaska, permitting drilling in arctic waters, expanding oil and gas leasing in new provinces in the lower 48, and even deepwater drilling in the Gulf of Mexico will bring new supplies into the market too far in the future to help us with the current crisis – or that the supplies will be too small to make a difference.

Putting aside that we say this every time there is a crisis in world oil markets, this is a much too simplified view of the oil market. If we open up our resources for development, we can open up the opportunity to shift long-term expectations on domestic supply and receive the benefits of lower prices even before the supplies come to market. We may even get some pleasant surprises such as we recently experienced with the shale gas revolution. The application of new technology and techniques in horizontal drilling and hydraulic fracturing learned in producing natural gas is now supporting rising onshore crude oil production in the Bakken formation in North Dakota.

Ultimately, prices in the world oil market are set by the fundamentals of supply and demand. However, crude oil prices at any given moment reflect a wide range of considerations that go well beyond immediate conditions in the market. Important among these considerations are expectations about future events including world demand, technological advances, availability of skilled workers, availability of supplies, replacement cost of new supplies, technical and political risk, war, terrorism, and government policies. In many cases, the immediate loss in output from any number of unexpected events has much less effect on the world market than the resulting shift in expectations about the ability to expand output over the next 5-10 years.

Major and sustained shifts in the price of crude oil since the early 1970s can be explained by changes in expectations about future output. For example, the important consequence of the 1973-74 Arab oil embargo was the structural shift in the ownership and control of the vast resources of the Persian Gulf region. The embargo, by changing expectations about future production levels from the major Middle East oil producers, brought about a sustained increase in the value of oil immediately.

The second oil price shock, in 1979, can be seen in a similar light as the Iranian revolution also sent a signal that the region was in for a period of instability and that the prior view that future output from Iran and Iraq would expand substantially was no longer likely. In both cases, prices in the initial days of the Iranian revolution were affected by changing expectations about future production levels. The subsequent fall in oil prices in the mid-1980s can be linked to a fundamental shift in medium-term expectations about supply and demand as consuming countries engaged in fuel substitution, conservation, and expanded output of conventional oil production throughout the OECD. Even the increases in oil prices in 2008 follow a similar pattern. This analysis is explained in some detail in an article published in the *Oil and Gas Journal*, by myself and Ben Montalbano on July 7, 2008. If possible, we would like to submit it for the committee record.

Why is a highly aggressive program for domestic oil and gas development so important? How should we respond to those that say the U.S. resource base is too small to make a difference? Here is a brief history is worth mentioning. If you go back just five years, the conventional wisdom among both government and many industry experts was based on the following assumptions:

1. *The U.S. is running short on natural gas and we are facing a future of high natural gas prices and massive imports of LNG. The utility sector will not have access to plentiful and low priced natural gas.* Nearly everyone believed this and since humility is not a strong feature among government forecasters, this was the central message received by Congress. Fortunate for us, independent oil and gas drillers do not pay attention to government forecasts or the conventional wisdom. The August 2016 futures price for natural gas is now less than \$6/mcf, but was trading as high as \$8/mcf at the end of 2009. It is moving lower because buyers and sellers "expect" substantial supplies well into the future.

Surprises like the surge in unconventional gas supplies provided immediate relief to the economy. In 2010, the U.S. consumed 24 tcf of gas at a wellhead price of approximately \$4.16/mcf compared to \$7.97/mcf in 2008 and \$6.25/mcf in 2007 despite record high U.S. gas consumption. This

lower price was due mainly to a supply expansion caused by the shale gas boom. Without these additional supplies, prices would likely have been at least \$2/mcf higher, and probably somewhat more as the U.S. would have had to compete on the international LNG market and driven prices higher. The \$2/mcf reduction in natural gas prices provided U.S. gas consumers (private residents for home heating, power plants, industrial users, CNG vehicle fleets, etc.) with a savings of at least \$48 billion in 2010. These savings translated into higher employment and greater revenue for federal, state, and local governments. A 2009 study by Penn State estimated employment for Pennsylvania alone for shale gas production at nearly 50,000 and nearly \$4 billion in value added to the state. The numbers have risen substantially since then.

2. *Latin America is fully explored with little opportunity for additional discoveries.* The deepwater discoveries off the coast of Brazil suggest otherwise. Whether Brazil is a game changer remains to be seen, but our view of the offshore prospects in Latin America have clearly changed to a more positive outlook.
3. *We are running out of oil and the long run price of oil is likely to be very high, perhaps in the range of \$200/bbl or more.* Although world oil markets are subject to considerable turmoil, the prospects for a much lower price path to the fuels of the future are gaining momentum. For example, between new production in Iraq and continued development of the oil sands in Canada, the world oil market could see production expand by 10 million barrels/day over the next ten years.
4. *U.S. gasoline demand was expected to grow at high and sustained rates. Mandated use of ethanol was viewed as essential and expected to bring relief to gasoline prices.* This is a classic case of a policy that failed to consider a range of outcomes. Corn prices doubled between June 2010 and March 2011 following the Russian wheat fires and world commodity rally. USDA has repeatedly revised downwards its estimates for this year's corn harvest, yield per acre, and inventories. Gasoline demand has not grown and

instead is likely to remain relatively flat. However, volumetric targets for ethanol are mandated by law and cannot be adjusted to shifts in market conditions. We are now reaching the point where these mandated volumes are likely to add to gasoline prices rather than provide much needed relief.

If we move forward with an aggressive oil and gas development program in the U.S., there are no guarantees that it will deliver substantially lower oil prices. However, we can certainly guarantee that outcome if we fail to act. An aggressive oil and gas development program is a strategy that holds up well under uncertainty. It allows risk taking by a broad range of investors throughout the American economy with different approaches and new and unique technologies. It will signal buyers and sellers that the U.S. is serious about bringing domestic supplies to market and opens up the resource base to American technology and ingenuity.

I will leave you with a statistic worth thinking about, if we can alter the long-term price of crude oil by \$20/bbl, over any base forecast price (say \$80/bbl instead of \$100/bbl), the present value savings in our import bill alone would be \$1 trillion and it would easily be twice that for the national economy. This means the jobs, return on capital, corporate and personal income taxes, government revenues from bonus bids, and royalties would also grow substantially. All of this can take place without taking on any government debt, will deliver sustainable economic growth, and at the same time put thousands of men and women back to work.