



Energy Resources UPDATE

Energy Industry Optimism Abounds at Ceraweek 2012

The 2012 CERAWeek showcased a tremendous sense of optimism within the U.S. and global energy industry, largely due to the potential for vast new oil and natural gas reserves. Industry leaders also exhibited a sincere appreciation for public concern over the technologies used to extract these resources; and specifically noted that concerns related to hydraulic fracturing or “fracking” are legitimate ones that must be addressed responsibly and with transparency.

CERA’s pre-conference symposium focused on studies by two federally appointed task forces, the National Petroleum Council (NPC) and the U.S. Shale Gas Advisory Board. The NPC’s study, “Prudent Development: Realizing the Potential of North America’s Abundant Natural Gas and Oil Reserves” had four main findings:

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- The potential of North America’s natural gas reserves is much, much larger than was previously thought.
- North America’s oil reserves are also growing very quickly.
- America cannot meet its projected 2035 energy needs without a continued, very strong emphasis on fossil fuels. In 2035 sustainable resources like wind and solar power will only contribute 17 percent towards America’s energy supply whereas oil, natural gas and coal collectively will meet 78 percent of our energy needs.
- To realize its potential, North America’s energy development must be environmentally responsible.

The various NPC panelists had some compelling statistics at their fingertips. On the supply side, projections for the natural gas supply in 2035 show that the U.S. can meet even the highest potential, projected demand for natural gas from consumers and industry. An MIT study shows that the addition of unconventional oil to the resource mix, primarily from tight oil and the Canadian oil sands, can double the current level of North American oil production to 22.5 million barrels per day by 2035. The sheer scale of North America’s unconventional oil reserves is vast. North America’s potential recoverable reserves of unconventional oil total 3.5 trillion barrels which, almost unbelievably, is twice that of the world’s total reserves of conventional oil.

However, it will take decades to safely develop some of these unconventional resources, like the Kerogen heavy shale oil. The oil sands alone have potential recoverable reserves of 1.8 trillion barrels and tight oil production is expected to reach 3 million barrels per day by 2020, or almost 30 percent of the current North American total for oil production.

Environmental Defense Fund member and NPC panelist Mark Brownstein was overwhelmingly supportive of the oil and natural gas industry, commending the incredible technological innovation that has become prevalent throughout the industry. Brownstein credits this innovation for the abundance of oil and gas resources that we presently enjoy in North America noting that the industry is going to the ends of the Earth to explore for oil in the Arctic and various deep-water formations; and to, quite literally, our own backyards with some of the development of shale reserves taking place deep below residential areas. Both methods of fuel extraction, Brownstein said, place a huge responsibility on the oil and gas industry to protect the environment through prudent development.

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Warming to his theme, he viewed environmental safety as an essential “core competency” for the industry going forward. Brownstein stated that this could be accomplished by a combination of reasonable government regulations and transparency in drilling and fracking practices on the part of the industry.

The panel from the government-appointed, U.S. Shale Gas Advisory Board covered much of the same ground as NPC, with perhaps a keener focus on the public opinion concerns surrounding fracking and well construction, as well as some proposed solutions to the oil and gas industry’s problems in this area. Fracking has raised public concerns with questions surrounding the vast water usage involved in the process, contamination of ground water from the chemicals used in fracking, and the fluid injection-triggered earthquakes that occurred this past year. Panelists Patrick Schorn of Schlumberger and John Deutch of MIT addressed each of these concerns:

- New technology introduced in the past two years revises the conductivity during fracking, thereby reducing water usage by 30 percent – 40 percent, and greater savings may be attainable.
- Many of the problems associated with fracking, in the public’s mind, actually result from less than optimal well construction, a problem which the industry is working to address.
- Fluid injection-triggered earthquakes can be prevented by avoiding injection into active faults, reducing changes in fluid pressures when fracking at greater depths, and the introduction of sensible government regulations.

Many of the ideas for prudent development of the various U.S. shale formations voiced by the two government-appointed panels were echoed during CERAWEEK by energy industry leaders such as ExxonMobil’s Chairman and CEO Rex Tillerson, Statoil’s Helge Lund, and Total’s Yves-Louis Darricarrere. Industry leaders enthused about the enormous and varied benefits that could accrue to America from responsible development of unconventional oil and gas resources. These benefits include:

- Renewed energy security for America, whereby we will no longer be so dependent on foreign producers; many of whom are openly hostile to the United States
- Vastly reduced unemployment through the creation of approximately 600,000 highly skilled and well-paid jobs for Americans over the next eight years
- A much stronger balance of payments position, as greatly reduced imports of foreign oil and exports of some hydrocarbon products such as LNG, diminish the hard currency payments we make to foreign companies and governments
- A cleaner environment and lower GHG emissions when we switch more electric power generation from heavily polluting coal fired power stations to much cleaner ones using America’s abundant natural gas

While shale development and other unconventional resources were the leading theme of this year’s conference, there were many additional areas of mostly positive news from around the world:

- Juan Jose Suarez Coppel, director general of Pemex, the Mexican National Oil Company, made a compelling presentation of Pemex’s transformation into a more commercially

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focused company, and the production increases that Pemex expects to see as a result.

- We heard from Mauricio Cardenas of the Colombian Ministry of Mines, about much improved annual production from the Colombian onshore and offshore fields which has almost doubled from 500,000 barrels per day in 2005 to over 900,000 in 2011.
- The world's largest national oil company, Saudi Aramco of Saudi Arabia, has quietly been diversifying itself into a fully integrated energy and chemical company. Saudi Aramco has also been able to increase its production capacity to 12 million barrels per day to deal with global demand surges that occur during times of geopolitical crisis.
- Iraq's oil production capacity, particularly in the Kurdistan region, has slowly been getting back on its feet. Kurdistan alone expects to have oil production of 1 million barrels per day by 2015.

Discussions at CERAWEEK were not only positive on the heels of industry success, but exuded great confidence when looking to the future of unconventional resource development. Throughout the remainder of 2012, we can expect to see strong efforts by the industry to invest in these unconventional resource plays and strive to gain the public's approval through more environmentally friendly and transparent practices. The future of the oil and gas industry is now, and initiatives undertaken by companies today will set the tone for longevity and success over the years and decades to come.

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