



2012 U.S. ENERGY SECTOR OUTLOOK

Majority of Executives See Energy Independence Achievable Within 15 Years, With Nearly Half Citing Natural Gas as the Most Crucial Fuel

Many see another oil shock by the end of 2013, while natural gas boom is threatened by fracking worries

Regulation is a significant concern among a majority of energy executives

Energy industry executives see the potential for great strides toward American energy independence in the coming years, but are concerned that the regulatory environment, along with trouble in the financial world and opposition to fracking (hydraulic fracturing)—which has grown louder since the earthquake outside Youngstown, Ohio—could dash that promise. This could be a significant issue for the country, with a large percentage of executives predicting that another oil shock looms by the end of 2013. Overall, however, significant new domestic discoveries in natural gas and oil have executives heartened. In addition, the study showed some surprising openness among executives toward renewable energy when considering the country's future energy mix.

For this study, Forbes Insights, in association with small business and middle market lender CIT, surveyed 107 executive-level financial decision makers at middle market energy companies. Executives surveyed were leaders at a U.S.-based firm or performed a comparable function at a U.S. division of a foreign-headquartered company. The goal of the study was to assess energy executives' views on the industry and their outlook for their companies, energy prices and trends in the coming years. These companies were generally evenly distributed throughout the U.S., with some overweighted representation from the South, home to the Gulf of Mexico and Texas oil and gas regions. Various industry segments were well represented as well, with numerous executives

from oil and gas equipment services, production, oil and gas storage and transmission, energy generation/transmission and renewable energy participating. (See Methodology, page 6.) Key findings from the study are presented in this report.

A PATH TO ENERGY INDEPENDENCE—OR CLOSER TO IT

Given the size of the country's estimated natural gas deposits (proven deposits are equal to 12 years of annual U.S. demand now), executives seem more open to seeing a path toward U.S. independence from foreign energy imports—or at least a high level of independence. Asked for their opinion of the feasibility of achieving energy independence, 27% of executives said it was either somewhat feasible (21%) or very feasible (6%) (Fig. 1). In a related question, just 3% of respondents said energy independence was not achievable, with 70% believing that such independence could be achieved within 15 years (Fig. 2).

Among the factors that could further help the U.S. achieve that independence, highly cited by executives (who could choose more than one factor) were conservation, expansion of nuclear power, yet-to-be-discovered

FIGURE 1: How feasible do you believe it is that the U.S. will achieve energy independence, or something very close to it?

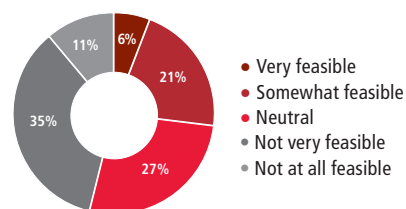
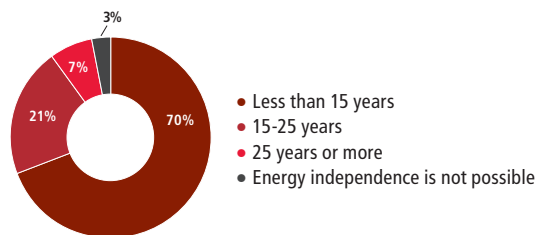


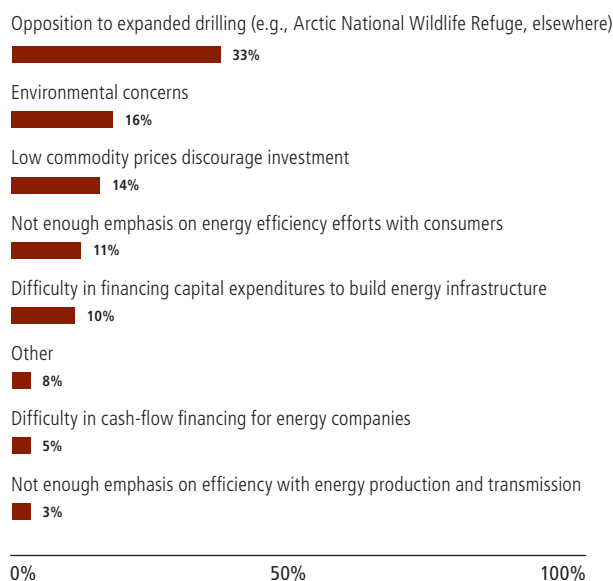
FIGURE 2: What time frame do you believe it would take to achieve a high level of energy independence without a demand shock, provided a true national commitment was forthcoming?



Arctic oil fields and a significant percentage of the nation’s energy mix coming from clean energy.

On the other hand, executives cited a range of reasons that the nation is having difficulty reducing its imported oil dependency, including restrictions on drilling (33%), environmental concerns (16%) and a lack of investment in energy due to low commodity prices (14%) (Fig. 3).

FIGURE 3: What is the biggest current impediment to reducing America’s dependence on foreign oil?



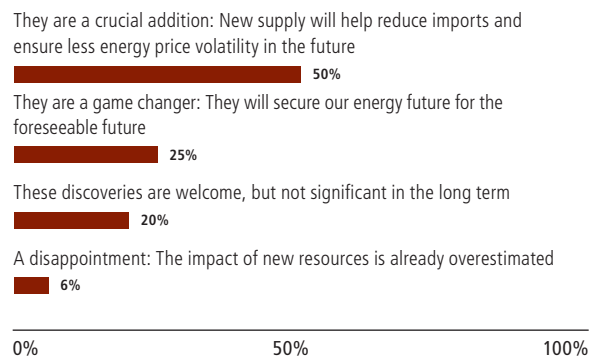
THE GREAT DOMESTIC HOPE: NATURAL GAS

Part of the reason for relatively low and stable natural gas prices in recent years has been the boom in domestic natural gas resources in the U.S. As recently as 2007, natural gas was expected to become, like oil, a commodity that needed a high level of foreign imports to fulfill U.S. demand and sustain growth. About that time, however, improving industry technology and understanding of the vast potential of natural gas deposits, such as the Marcellus Shale in New York and Pennsylvania and the Eagle Ford deposit of Texas, have eliminated the need to import natural gas.

Such new discoveries, along with the multibillion-barrel oil deposits in the Williston Basin of the Dakotas and Montana, have executives heartened about the state of the industry. Fully half of the respondents characterized these recent discoveries as a “crucial addition” to the U.S. energy mix, while fully 25% agreed with the statement: “They are a game changer: They will secure our energy future for the foreseeable future.” Just 6% believed the importance of the Williston, Marcellus and Eagle Ford resources is overblown (Fig. 4).

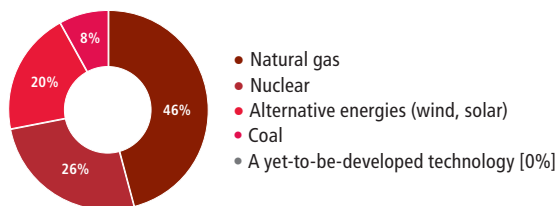
Industry insiders expect that natural gas will continue to rise in importance in the U.S. Nearly half of executives (46%) cited natural gas as the most crucial fuel for expanding the nation’s electric generation capacity in the next

FIGURE 4: What impact have new energy discoveries in the U.S. had on your sector of the industry?



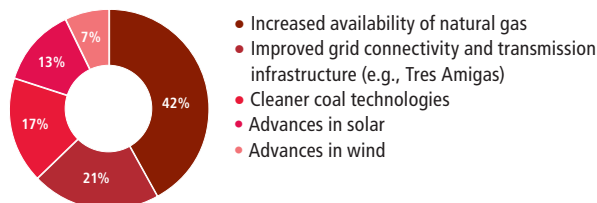
decade, followed by nuclear (26%), and renewable energies such as wind and solar (20%). Surprisingly, coal was tagged by just 8% of energy industry executives as the most important fuel source of the coming decade, suggesting that less costly and cleaner-burning natural gas is supplanting coal in industry planning (Fig. 5).

FIGURE 5: What do you see as the most crucial fuel for expanding the nation's electricity generation in the next decade?



The expanded availability of natural gas, by virtue of recent technologies that allow superior gas extraction, was noted by 42% of executives as the technological advancement that will have the greatest impact on American power-generation capacity. Transmission infrastructure improvement, such as the rollout of highly conductive wire and the Tres Amigas project in New Mexico to better interlink the country's three primary electrical grids, was cited by 21%. This was followed by cleaner coal

FIGURE 6: What technological advancements do you see as having the greatest impact on U.S. electricity generation?



technologies (17%), and by advances in solar (13%) and in wind (7%) (Fig. 6).

Executives see the demand for natural gas being driven by electricity demand growth, with notable segments of respondents citing clean air requirements driving natural gas adoption and the still nascent but fast-growing use of liquefied and/or compressed natural gas (LNG, CNG) as a vehicle fuel for tractor-trailers, industrial equipment and light-duty trucks.

In an interesting wrinkle on how fast natural gas has changed the landscape in the often slow-moving energy industry, 15% of executives expected exports of natural gas to also be a major driver of demand by 2017. Much of that will likely occur through converted offshore natural gas import terminals built just in the middle of the last decade to handle projected *imports* of natural gas.

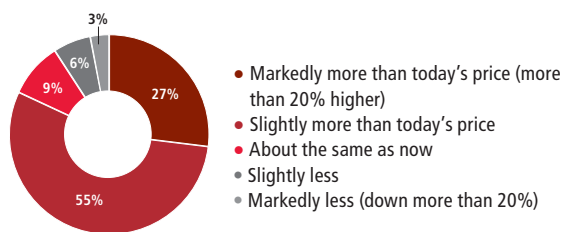
ENERGY PRICE SHOCKS AHEAD

Since the financial crisis bottomed out in March 2009, oil prices have been relatively steady (albeit rising), and there was a steep drop in what had been very high natural gas prices. Looking ahead, over a third of respondents surveyed (36%) believed that in the next two years the country will suffer another oil shock. Less than a quarter (17%) saw natural gas, a key component of home heating and electricity generation, temporarily spiking over \$10 per million BTUs (British Thermal Units; prices refer to the exchange-traded wholesale price) from the recent sub-\$4 per million BTUs level.

Price shocks, with the potential to be extremely disruptive, can cause little lasting damage to the economy if they are brief. Usually more troublesome for the economy are consistently high prices. To determine insiders' expectations for consistently higher prices, we asked executives where they foresaw the average annual price for oil and natural gas to be in two years' time.

With regards to oil, more than one-quarter (27%) of executives predicted oil would be significantly higher (meaning 20% or greater than 2011's average price of around \$95 per barrel). Another 55% expected oil to be

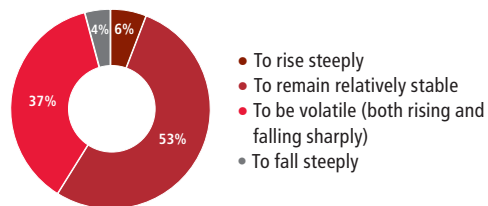
FIGURE 7: Two years from now, where do you expect oil prices to be averaging on an annual basis?



slightly higher than today's price, while just 3% foresaw conditions in which oil could be significantly cheaper than today (down 20% or more) (Fig. 7).

Natural gas, which is domestically produced and has remained unusually evenly priced the past three years, was seen by the majority (53%) as continuing to trend relatively stable (Fig. 8).

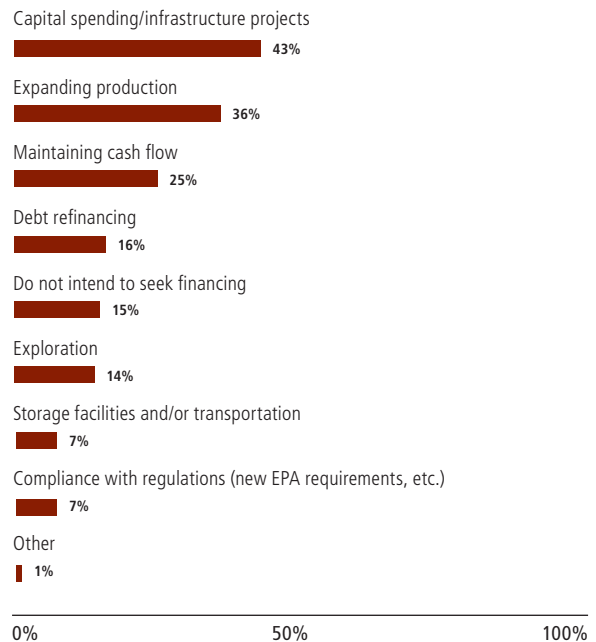
FIGURE 8: What is your outlook for natural gas prices over the next two years?



EXPANSION AND REFINANCING IN PLANS FOR 2012

As part of the optimism about the country's energy potential, 85% of executives intend to seek financing in 2012. Of those, 43% plan to use it for infrastructure and capital expenditures, 36% to expand production and 14% for exploration (respondents could choose multiple answers). Such spending should create significantly more jobs in 2012 throughout the U.S., especially in the Northeast and Great Plains regions, which are seeing high levels of industry investment (Fig. 9).

FIGURE 9: If you are seeking financing in 2012, how do you foresee using it?

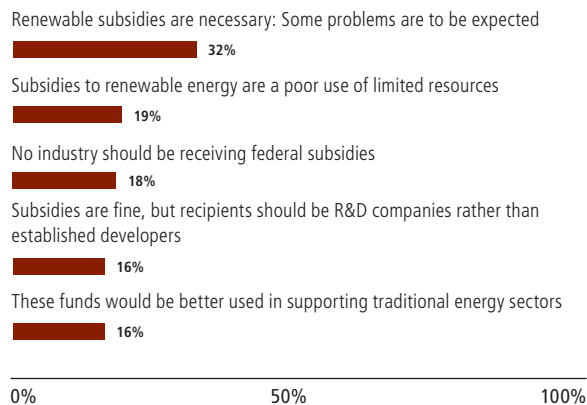


RENEWABLES SEEN AS A VIABLE PART OF THE AMERICAN ENERGY MIX

Given that the fossil fuel industry and the renewable energy industries are often portrayed as opposing parties in national energy policy, the study results may come as a surprise. Executive respondents, most of whom come from what would be characterized as the fossil fuel side of the industry, generally showed a belief that renewable energy can and should be a part of the U.S. energy mix moving forward. But executives were less understanding about subsidizing renewable energy companies, being perhaps mindful of the high-profile, controversial failures in 2011 of subsidized, renewable energy companies, such as Solyndra and Evergreen Solar. However, nearly one-third of executives (32%) agreed with the statement: "Renewable subsidies are necessary: Some problems are inevitable." The remaining respondents were of differing

opinions about the utility of subsidies as currently directed, with 18% saying, “No industry should be receiving federal subsidies” (Fig. 10).

FIGURE 10: Subsidies to the renewable energy industry have garnered a lot of negative headlines this year. What statement most closely reflects your view on the issue?



THE INDUSTRY WEIGHS IN ON CURRENT NEWS

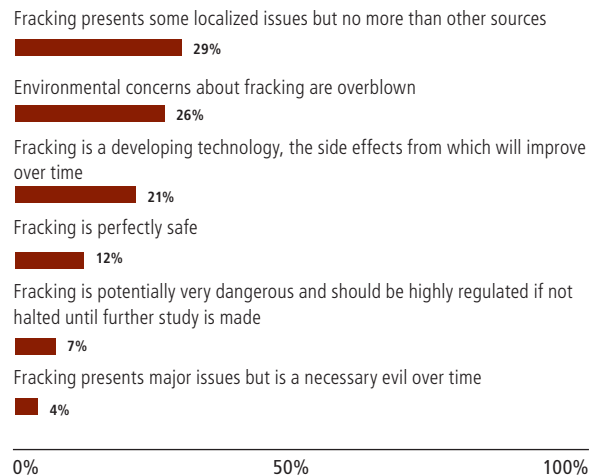
Fracking: Controversial and Essential

The boom in domestic natural gas hasn’t come without controversy.

Fracking, the hydraulic fracturing of subterranean rock to facilitate the flow of gas and oil deposits, has become a lightning rod for criticism among many people who fear environmental consequences, including unintended effects from a combination of chemicals that are used to help facilitate the extraction of gas and oil.

The majority of energy industry executives surveyed can be characterized as cautiously optimistic about fracking, with 26% believing concerns are overblown and 29% feeling there are legitimate localized issues about fracking, but nothing that can’t be overcome. Fully 88% supported fracking as either a safe technology or, at worst, agreed that it is a developing technology, but that side effects will decrease over time (Fig. 11).

FIGURE 11: With the new energy plays, the use of hydraulic fracturing has increased. With that, fracking has become a controversial topic of late. What statement reflects your view on fracking most closely?



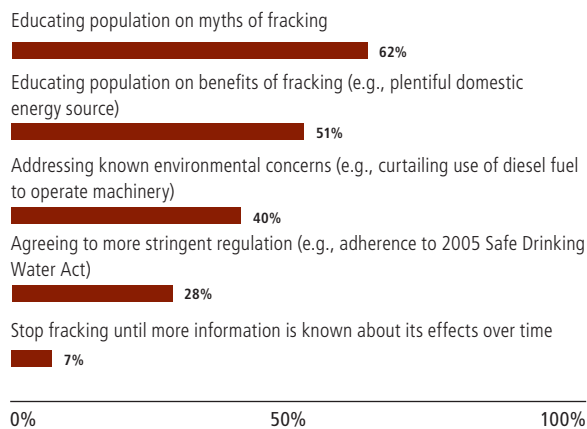
The two main trains of thought about fracking that emerge from the study relate to education. Almost two-thirds of respondents (62%) believe that the industry should be educating the population on myths about fracking. More than half (51%) are of the opinion that the benefits of fracking and its role as a domestic energy source should be communicated by the industry as part of education about fracking. Only 7% of respondents feel that fracking should be stopped until major concerns are addressed, with most seeing a need for education and/or compromise to keep fracking going (Fig. 12).

Regulatory Environment Sharply Criticized

While energy industry executives appeared highly optimistic about their business in general, many hotly criticized the regulatory environment. The intensity of the dislike was seen in the opinion of a sizable minority (40%) who favor the abolishment of the Department of Energy (DOE), while 60% do not favor this.

Abolishment of the DOE is often seen as an indirect way of expressing support for unfettered fossil fuel

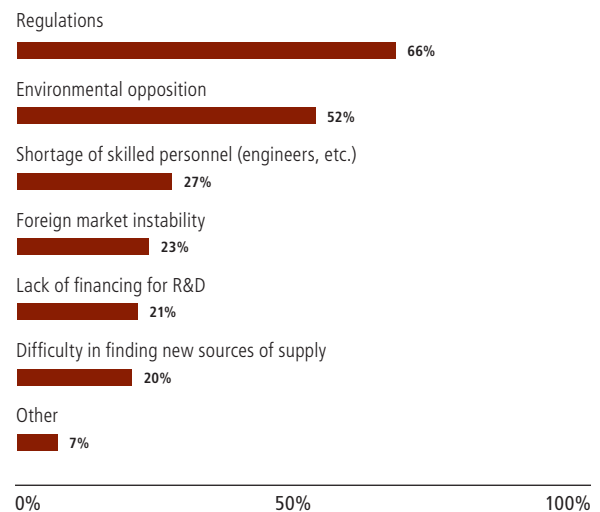
FIGURE 12: What should the industry be doing regarding fracking?



drilling, but it appears the animus for the agency is a little more complex than generally believed. For instance, those who would like to abolish the DOE are not unanimous in their attitudes toward subsidies for renewable energy companies. At the core of the anti-DOE sentiment appears to be the divide on how to handle new climate change and air quality standards issued by the Environmental Protection Agency, cap-and-trade of carbon emissions credits and national clean energy standards. All these reasons were specified by executives, both in support of the DOE as well as against it.

Fully 55% of executives expect to be affected in a negative way by federal and state legislation in the next year or two. Reflecting industry wariness of regulators, in a related question, 66% of energy industry respondents say a long-term concern facing the industry is regulation (Fig. 13).

FIGURE 13: What do you believe are the biggest concerns facing the industry in the long term (5-10 years)?



CONCLUSIONS

With over two-thirds of respondents believing that some level of energy independence is achievable within 15 years by the U.S., the study points to a bullish view among energy executives from middle market companies. This will be accomplished through a combination of approaches such as expanding the use of natural gas, increasing domestic production of oil and the use of renewable natural resources.

METHODOLOGY

Survey respondents included 107 financial decision makers from the energy industry, the majority of them (72) in finance and general management. Six executives came from companies with revenues ranging from \$1 billion to \$5 billion, the rest from companies with revenues between \$10 million and \$1 billion. Most companies (71) were privately held, either by families or by private equity investors. Some charts may not add to 100% due to rounding.