




# 2014 Oil & Gas Survey

## The Next Chapter of the Energy Renaissance



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## Introduction

- Since 2012, the United States has experienced the largest two-year increase in oil production in its history. Deloitte's 2014 oil and gas survey reveals not only the underlying positivity of the industry, but also quantifies how this sense of optimism has grown since our 2012 survey – [Surveying Energy Attitudes: Industry insiders and the public's outlook on the future of U.S. oil and gas.](#)
- Deloitte, with strategy and market research firm Harrison Group, a YouGov Company, conducted a survey of 252 U.S. oil and gas professionals via online interviews in early October 2014. These professionals were in a managerial or other qualifying role and had an average of 21 years' experience in the industry.
- Respondents were asked to provide their views on a range of topics including expectations for energy self-sufficiency, price and industry profitability, capital outlays and mergers and acquisition activity, regulatory issues, and the broadening of the North American Energy Renaissance.

# Oil and gas industry professionals surveyed

## Respondent Profile

Age	2012	2014
21 to 34	14%	11%
35 to 44	20%	19%
45 to 54	31%	31%
55 to 64	30%	35%
65+	5%	4%
Average Age	48.2	49.3

Gender	2012	2014
Male	72%	75%
Female	28%	25%

Income	2012	2014
\$100,000 to \$124,999	30%	31%
\$125,000 to \$149,999	22%	23%
\$150,000 to \$249,999	41%	37%
\$250,000 or more	7%	9%
Average Income	\$164K/yr	\$163K/yr

Political Affiliation	2012	2014
Republican	55%	52%
Democrat	14%	10%
Independent/Other	31%	38%

Industry Experience	2012	2014
5 to 9 Years	28%	25%
10 to 19 Years	21%	20%
20 to 24 Years	12%	11%
25+ Years	39%	44%
Average Years' Experience	19.8	21.3

Education	2012	2014
High school or less	-	9%
Technical/vocational school	-	13%
College/University	60%	42%
Graduate degree	40%	35%

Industry Sector	2012	2014
Exploration and Production	50%	49%
Midstream	24%	29%
Oilfield Equipment and Services	18%	18%
Refining and Marketing	26%	30%
Other	12%	9%

Number of Employees	2012	2014
Under 5,000	48%	48%
5,000 or more	52%	52%

# Prevailing Industry Sentiment

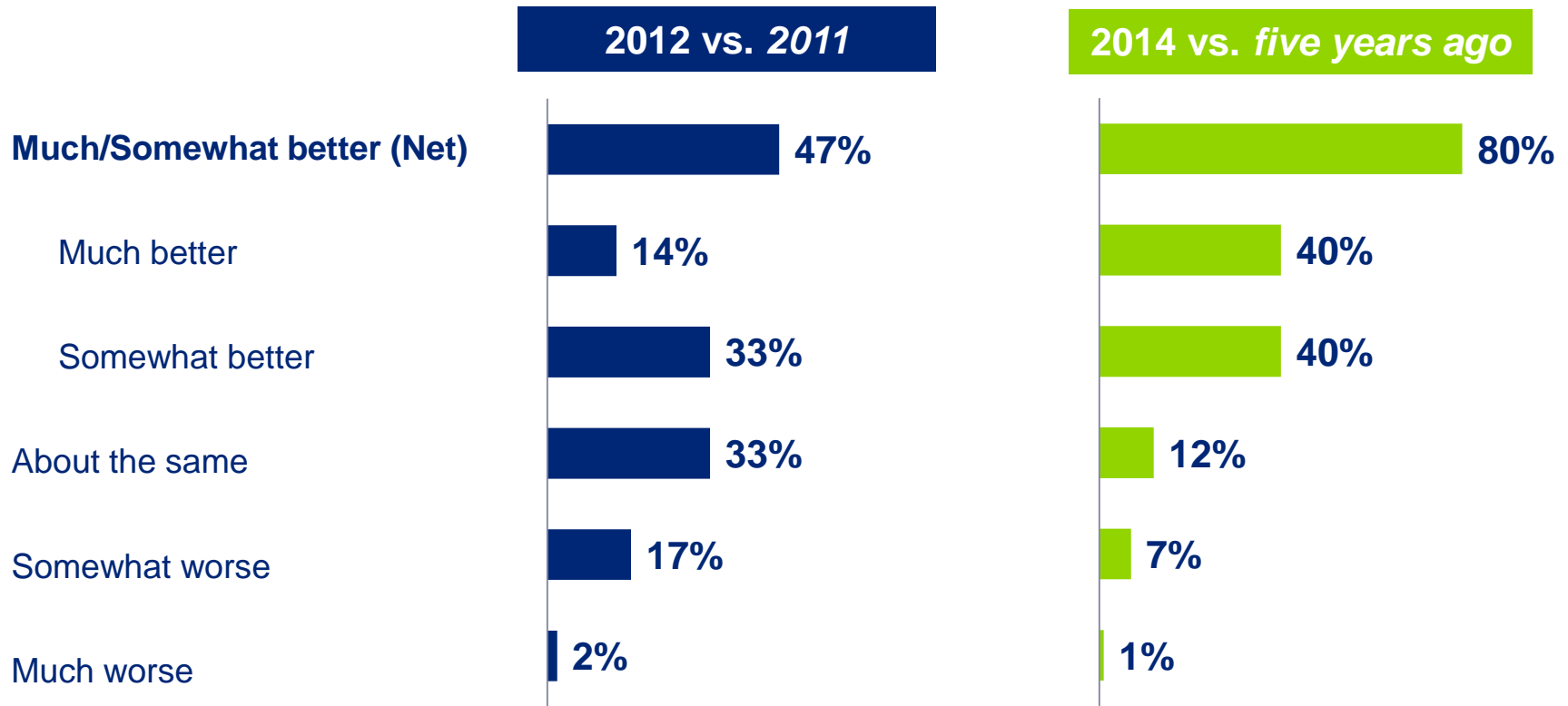
## Industry professionals believe the state of the industry is good

- As result of the shale revolution, over the past five years U.S. oil production has boomed from 5.4 MMbbl/d in 2009 to 8.6 MMbbl/d at present.
- The result in natural gas production has also been remarkable soaring from 59.3 Bcf/d in 2009 to over 75 Bcf/d today.
- Current Energy Information Administration projections are that the U.S. is on track to produce over 9.5 MMbbl/d of crude by 2016 nearing the United States' previous peak production of 10 MMbbl/d in 1971.
- With results like this, it is no wonder that 80% of industry professionals believe that the U.S.'s energy situation is better than it was five years ago.
- Six out of ten industry professionals now believe that the U.S. oil and gas industry is headed in the right direction, up from just four out of ten two years ago.

# Majority of oil and gas professionals believe the U.S. energy situation has improved versus five years ago

- Four-in-ten believe the energy situation is much better than 5 years
- Fewer than one-in-ten perceive that the energy situation has worsened

## Energy situation today compared to five years\* ago



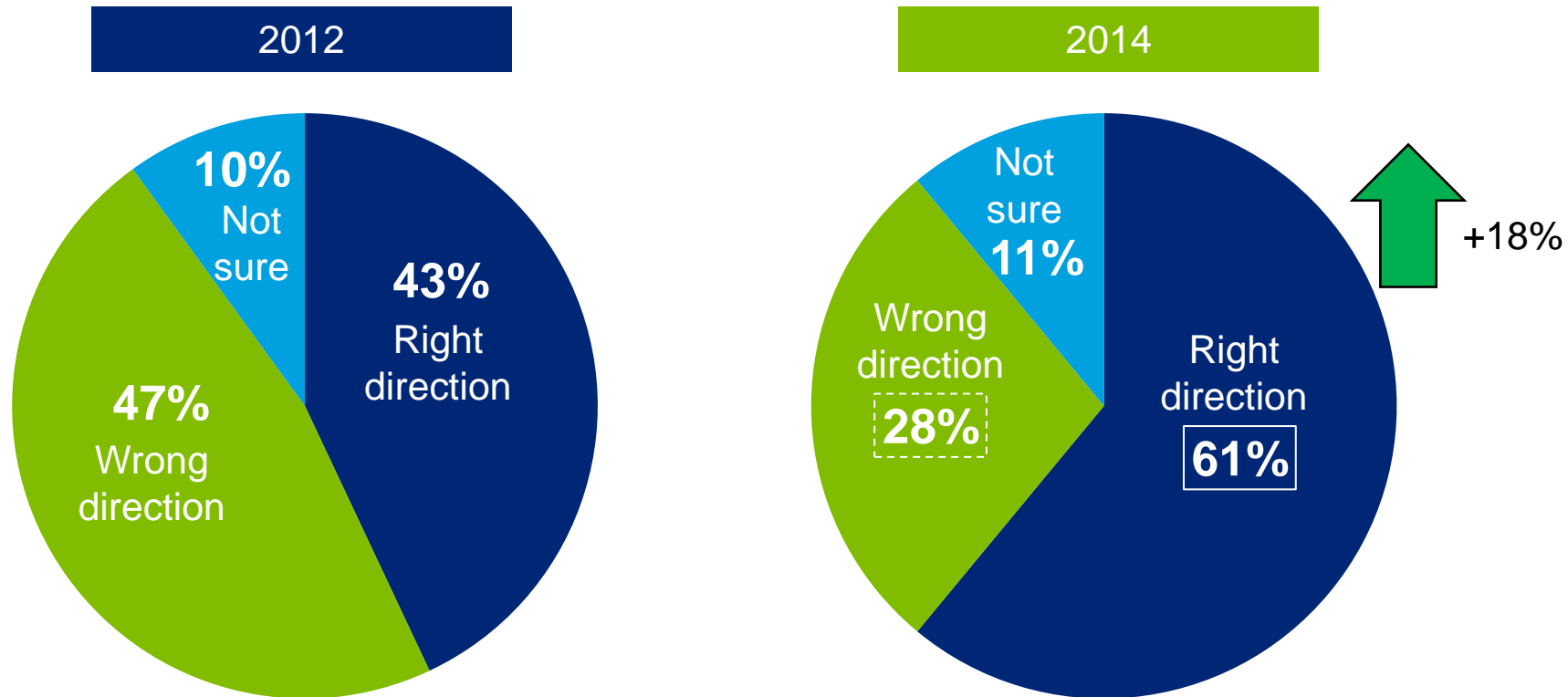
Q: In your opinion, how does the U.S. energy situation today compare to the U.S. energy situation five years ago?

\* In 2012 asked relative to 2011

# Six-in-ten oil and gas professionals now feel the U.S. energy situation is headed in the right direction, up from just over four-in-ten in 2012

- Twice as many oil and gas professionals feel the energy situation is headed in the right direction than feel it is headed in the wrong direction

## Direction the U.S. energy situation is headed



Q: In general, do you think the U.S. is headed in the right direction or the wrong direction as it relates to the energy situation including oil and gas?

## U.S. energy security

- An important measure of the success of the shale revolution is its potential to increase U.S. energy security, which is defined as the ability of U.S. households and businesses to accommodate supply disruptions in the energy market.
- While domestic prices will always be subject to the price volatility of international energy markets, increased domestic production can provide an important cushion against large price swings.
- Astonishingly, in just two years, the share of respondents who believe the U.S. has achieved energy security jumped from a skeptical 12% to nearly 40%.

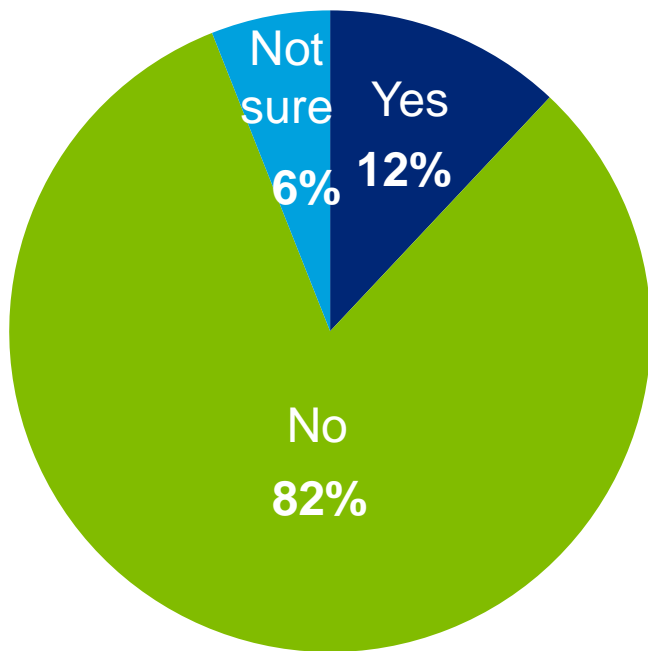


# Just under four-in-ten oil and gas professionals feel the U.S. has achieved energy security – three times as many as agreed in 2012

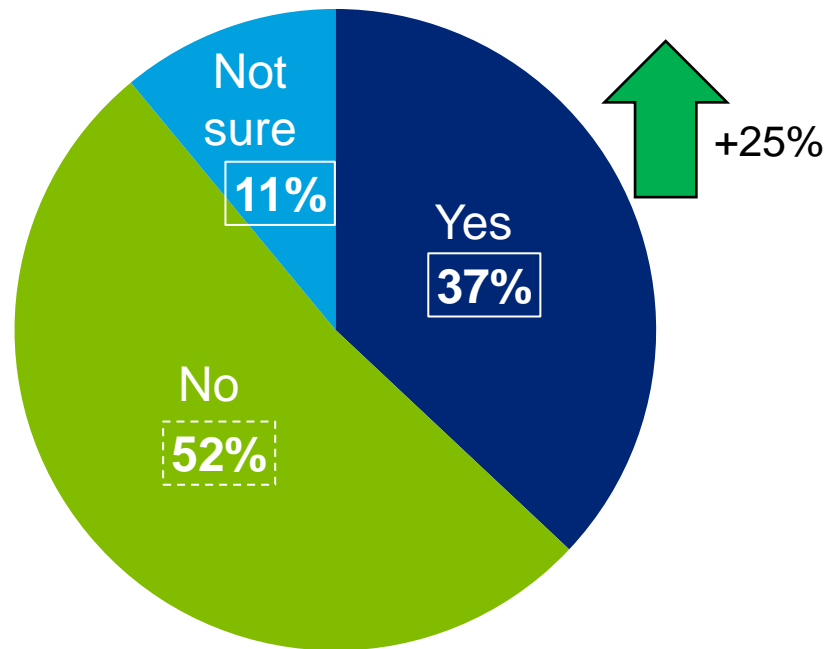
- Still half feel the U.S. is not yet there (versus eight-in-ten in 2012)

## Has the U.S. achieved energy security?

2012



2014



Q: Do you believe that the U.S. has achieved energy security to the degree that it has a cushion against significant worldwide disruptions in the oil and gas markets as compared to most other nations?

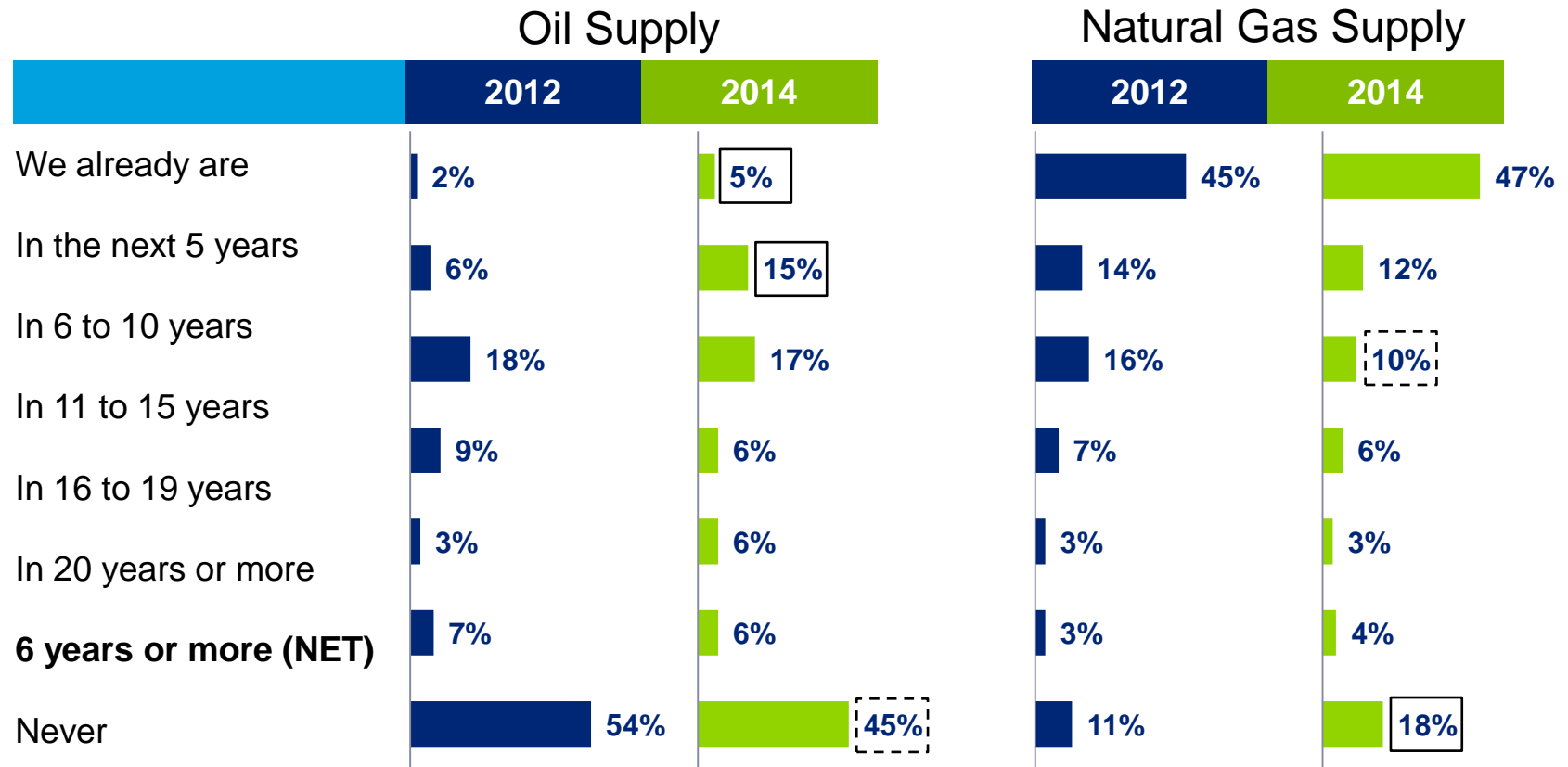
## Natural gas self-sufficiency

- One of the driving factors behind the increased optimism for energy security is rising U.S. self-sufficiency in oil and gas production, which not only reduces our dependence on imports, but has the U.S. poised to reclaim its former position as an important exporting country.
- Less than half of industry respondents now believe that the U.S. will never attain self-sufficiency in its oil supply, nearly 10% fewer than two years ago.
- The share of respondents who believe the U.S. can achieve oil supply self-sufficiency within the next ten years has risen from 26% in 2012 to 37% in 2014, rising 11 points in just two years.
- In the natural gas market, 59% of respondents believe the U.S. has or will soon achieve natural gas self-sufficiency.

# Optimism about oil self-sufficiency ticking up since 2012, but so is skepticism about natural gas self-sufficiency

- Ultimate self-sufficiency in natural gas still more widely believed than for oil

## When will the U.S. be fully self-sufficient with respect to...



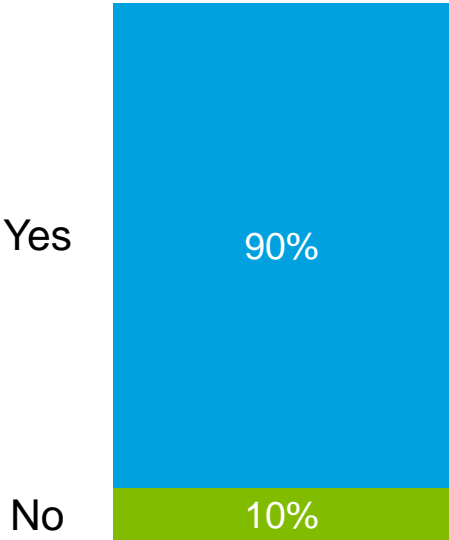
Q: When do you believe that the U.S. will be completely self-sufficient in terms of its oil supply? Q: When do you believe that the U.S. will be completely self-sufficient in terms of its natural gas supply?

## Natural gas supply

- Ninety percent of respondents believe that rising domestic production will be able to provide enough affordable natural gas supply to new demand sources such as power generation, the chemicals industry, manufacturing sector, a growing number of natural gas-powered vehicles, as well as export markets.
- Indicative of strong U.S. gas production capabilities, over the past summer, the U.S. natural gas industry had a record-breaking gas injection season that raised U.S. working natural gas in underground storage a staggering 2,734 Bcf.

# More than three-quarters feel at least somewhat sure there is enough affordable natural gas to satisfy projected demand

## Enough affordable natural gas to satisfy demand



Q: Do you believe we have enough affordable natural gas domestically to satisfy the multitude of projected demand, including vehicles, power generation, chemicals, manufacturing and exports?

# 2015 Forecast

## Looking to the coming year – industry experts overwhelmingly positive about future prospects

- Only 15% of respondents were very or extremely concerned about a price decline similar to the one that occurred in natural gas markets.
- Eight out of ten respondents were only somewhat or not very concerned about a fall in prices.

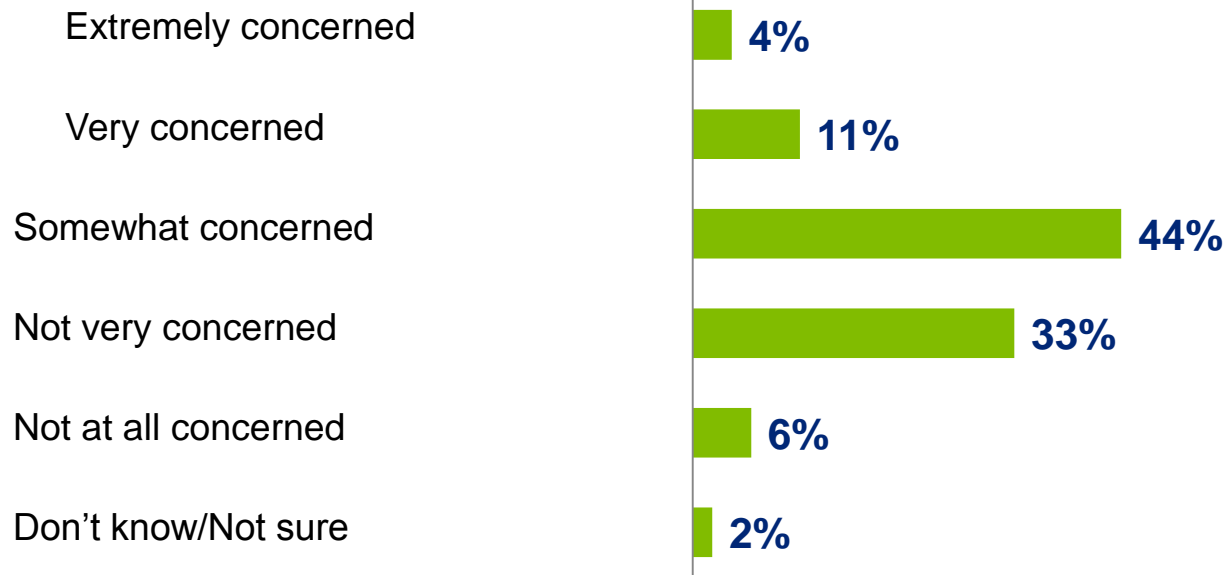
**Post survey, a sense of confidence about the strength of the shale revolution is reflected in energy industry activity over the past month. Since the survey was conducted, WTI prices have fallen nearly 15% between October and November. However, companies are continuing with their capital spending plans and continue to post strong revenue growth. Some companies have even announced dividend increases despite the underlying price decline.**

# Just 15% of oil and gas professionals are extremely or very concerned about a price collapse in the oil market similar to natural gas

- But more than four-in-ten report being somewhat concerned

## Concern about a price collapse in oil similar to natural gas market

### Extremely/very concerned (Net)



Q: How concerned are you about a price collapse in the oil market similar to the one that occurred with natural gas?



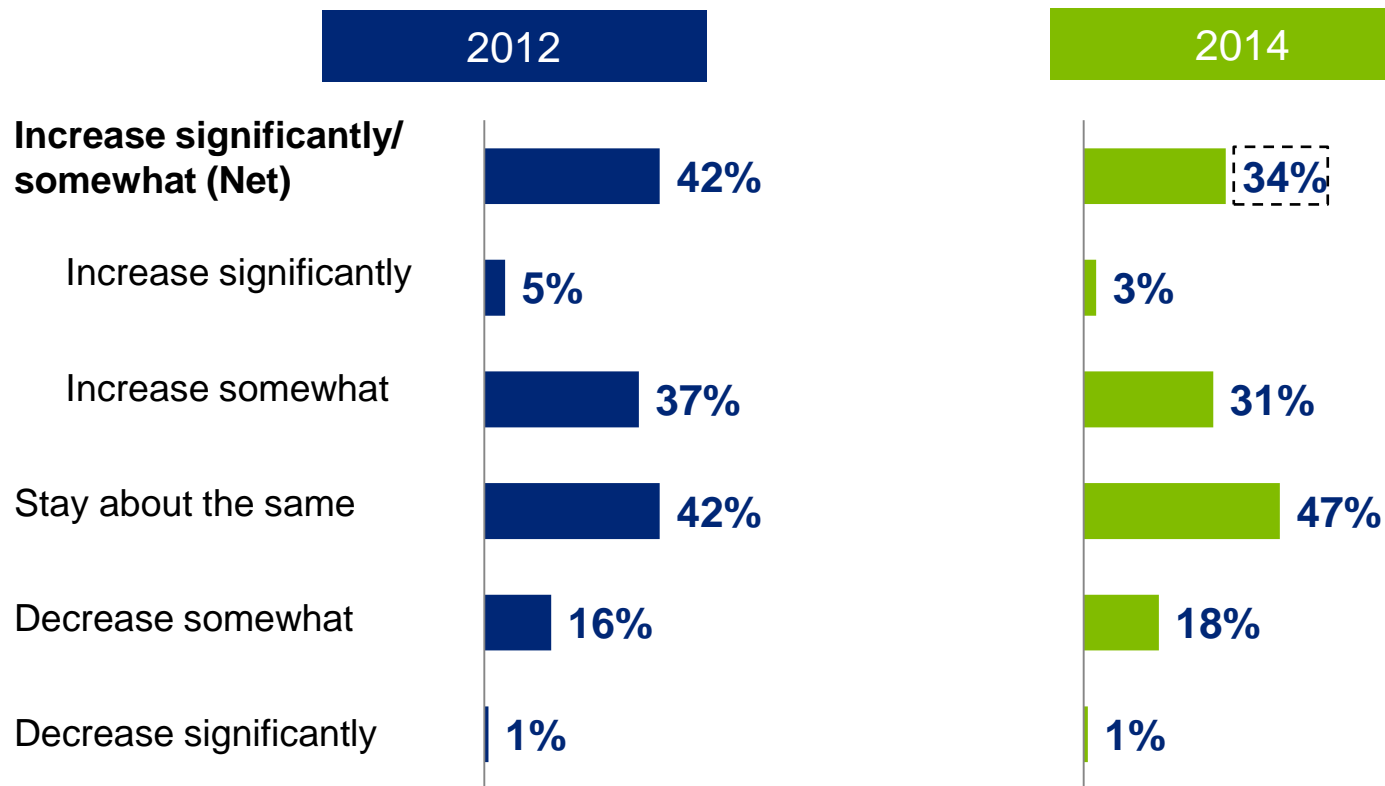
## Downstream profitability – the industry remains overwhelmingly positive

- With respect to downstream profitability, the industry remains overwhelmingly positive for continued profitability in the sector in 2014 as they were in 2012.
- The continued optimism for refining and marketing is somewhat surprising given the dramatic narrowing of the Brent/WTI spread from \$15 – \$20 per barrel in 2012 to just around \$5 today.
- With WTI and Brent prices having fallen further since the survey was conducted, one can expect that industry sentiment has only grown more positive on downstream profitability.

## Expected profitability of refining companies in coming year softer as compared to 2012 expectations for 2013

- One-third expect profitability to increase in 2015 vs. 2014
- Two-in-ten expect profitability to decrease

### Expectations for profitability of refining companies next year



Q: What do you think will happen to the profitability of refining companies in 2015?

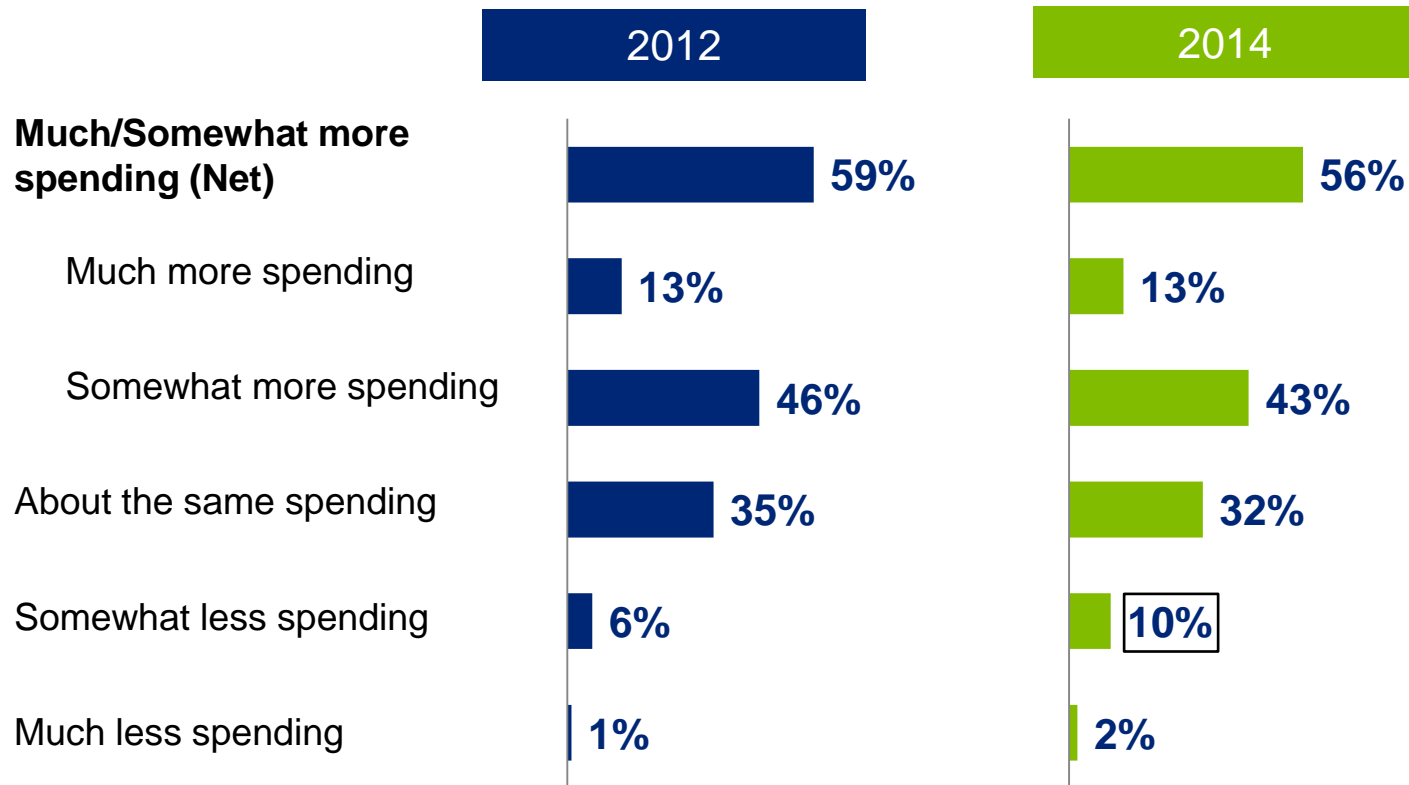
## Capital Spending Expected to Increase in 2015

- With industry production and revenues booming, six-in-ten industry professionals expect to see an increase in capital spending in 2015.
- Despite the recent fall in prices, this sentiment will likely remain strong as the industry is poised to enter an extended demand cycle driven by growing demand from developing countries.
- This demand growth may be further enhanced by the recent downturn in prices, which may spur oil demand growth in developed economies as well.

# Just under six-in-ten oil and gas professionals expect an increase in capital spending in the upcoming year

- Consistent with expectations for 2013 seen in 2012

## Expectations for oil and gas capital spending in upcoming year



Q: How much more or less capital spending by the oil and gas industry in North America do you foresee in 2015 compared to 2014?

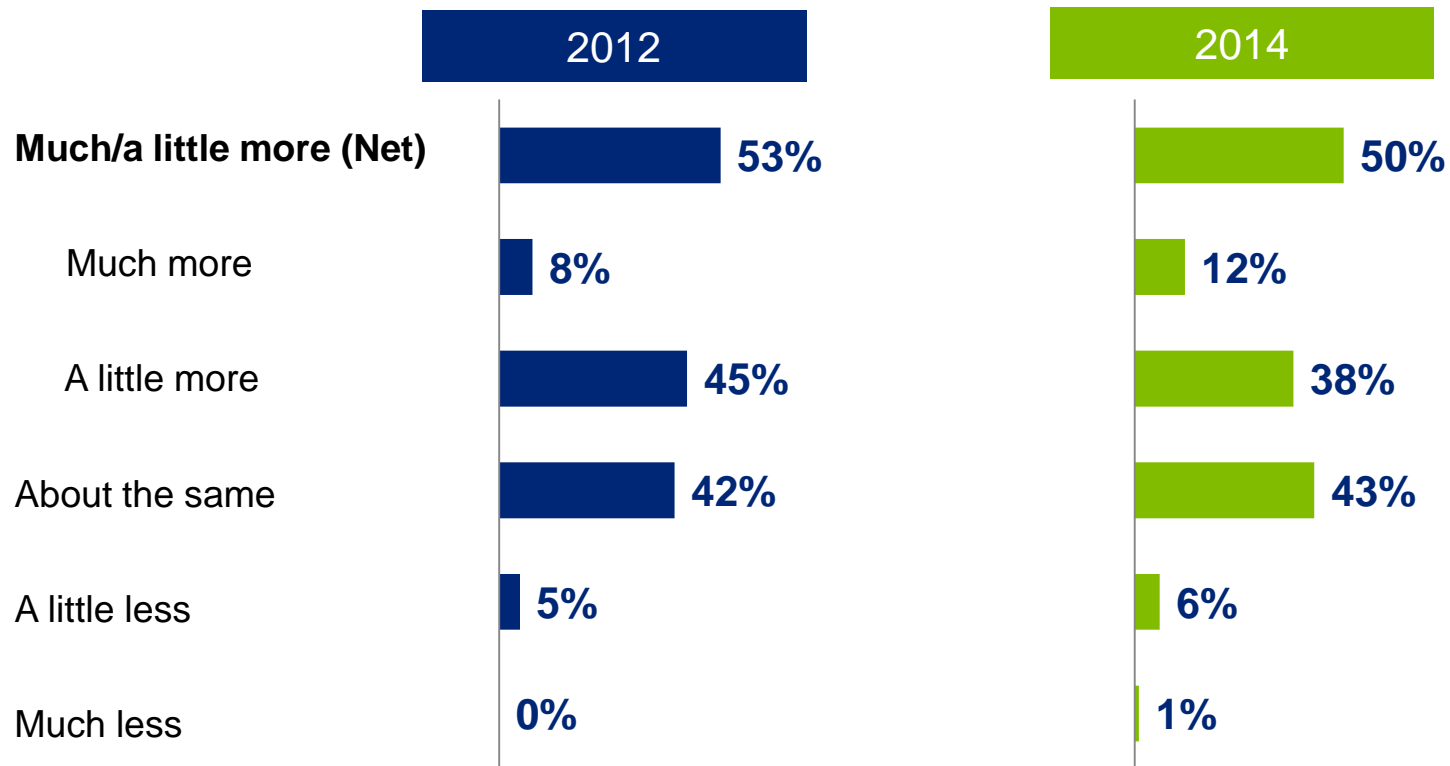
## Optimism for mergers and acquisitions

- In addition to positive expectations for organic growth through capital budgets, half of industry professionals are optimistic that inorganic growth through mergers and acquisitions (M&A) will increase over the next year.
- Given recent trends, in which M&A activity has been slightly muted versus prior periods, we can expect to see a return to the average over time.

# Half of oil and gas professionals expect higher levels of M&A activity in 2015, but only slightly more activity for most

- Also consistent with 2012 results

## Expectations for oil and gas M&A activity in upcoming year



Q: Compared to 2014, how much merger and acquisition activity do you expect to see in the oil and gas industry in 2015?

# Shale Optimization

## Shale extraction benefiting from better economics

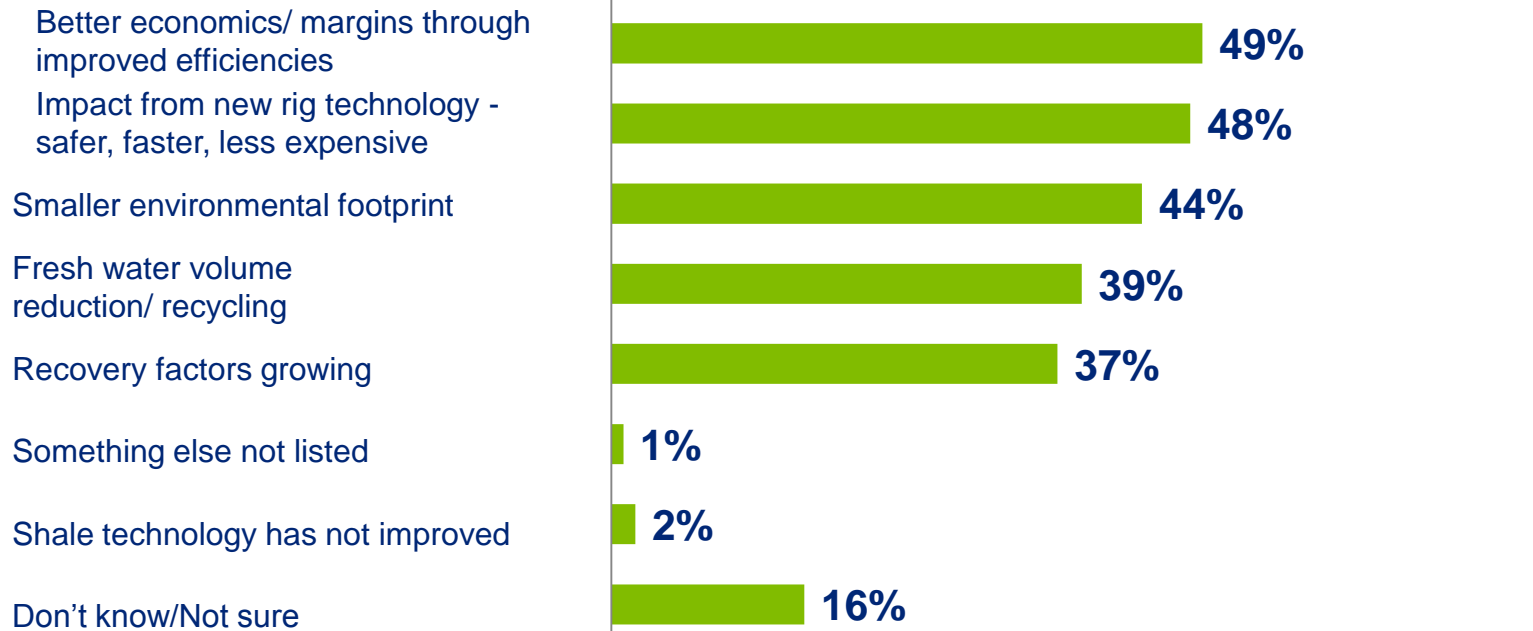
- While the underlying economics of shale gas and tight oil extraction have improved, industry experts have concerns about pending regulations that could affect the industry.
- Two-thirds of respondents (66%) highlighted that shale extraction is benefitting from better economics through improved efficiencies and new safer, faster, less-expensive rig technology.
- As a result of the improved technologies, four in 10 respondents point to improved recovery factors.
- The improved economics of shale will be beneficial to the industry as it weathers the low price environment it is currently experiencing.
- Shale extraction has also become more environmentally sustainable with nearly 40% of respondents highlighting technologies improvements in water reuse and recycling and 44% of respondents pointing to the smaller over all footprint of shale extraction.



# More than eight-in-ten feel that shale production technology has improved in at least one area

## How technology has improved in shale

### Economic Benefits (NET)



Q: Does America as a whole have a better understanding about shale development today vs. last year? Q: How, if at all, do you feel technology has improved in shale production?

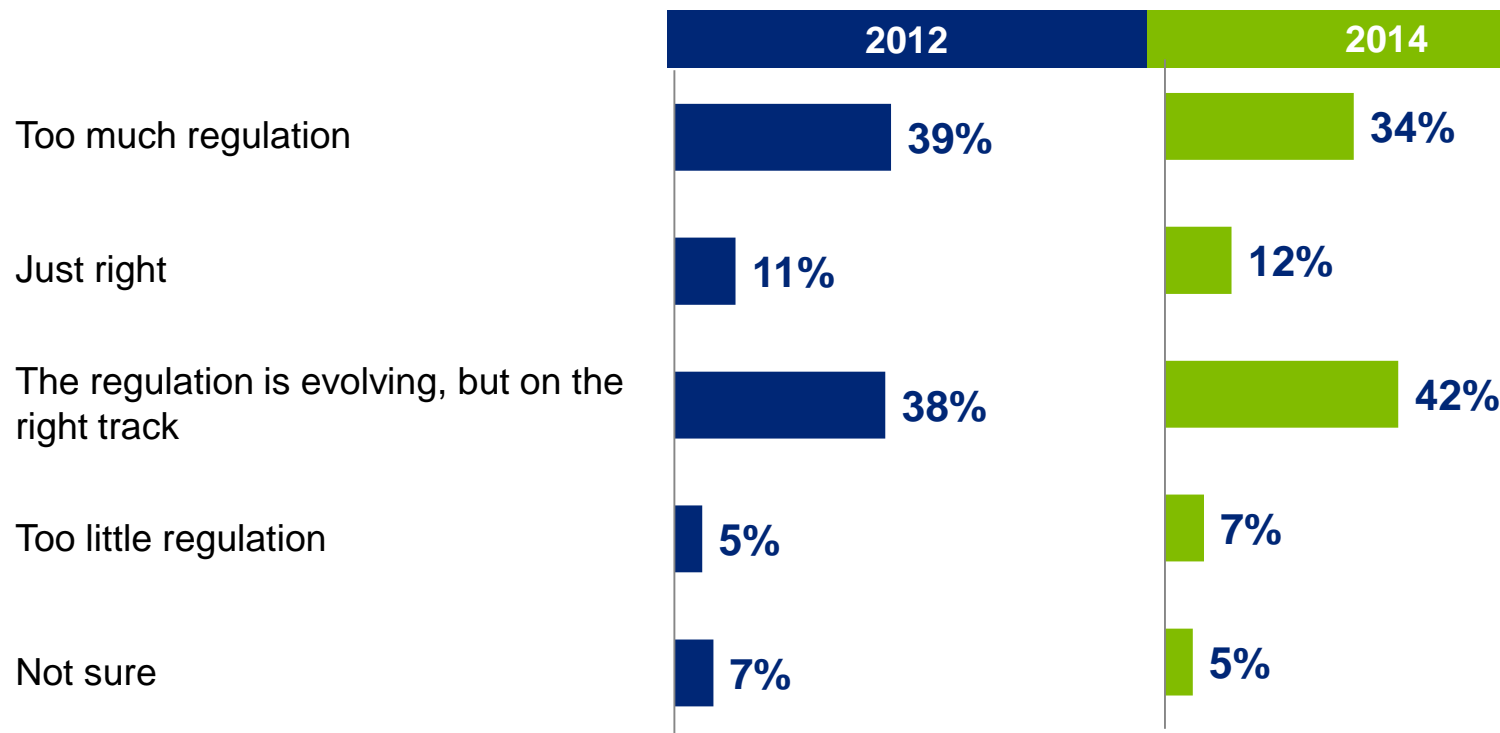
## Regulatory concerns – on the right track

- Another factor improving the operating environment for shale has been a moderation of concerns over the regulatory environment.
- The share of respondents who felt that there was too much regulation of the industry fell 5% while those who believe that regulation – while still evolving – is on the “right track” increased by 14 points.
- Over half of respondents (54%) believe that regulation is just right or on the right track.
- The results also show a slight uptick in the share of industry professionals that support fracking fluid disclosure regulations rising from 63% to 66%, while those opposed to such disclosures have fallen by the same 3% to just 21%.

# One-third of oil and gas professionals feel there is too much government regulation over fracking, down slightly from 2012

- Consistent with 2012, four-in-ten feel the level of regulation is evolving but on the right track

## Feelings about the current level of fracking regulation



Q: What do you think of the current level of government regulation over hydraulic fracturing?

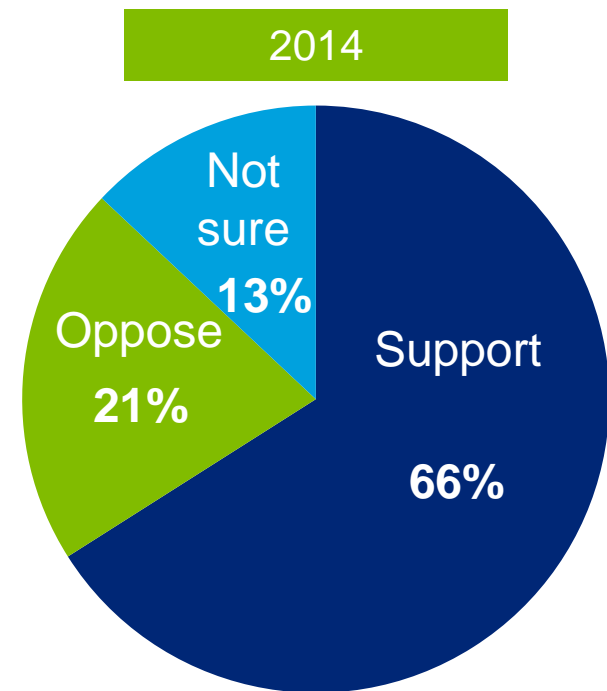
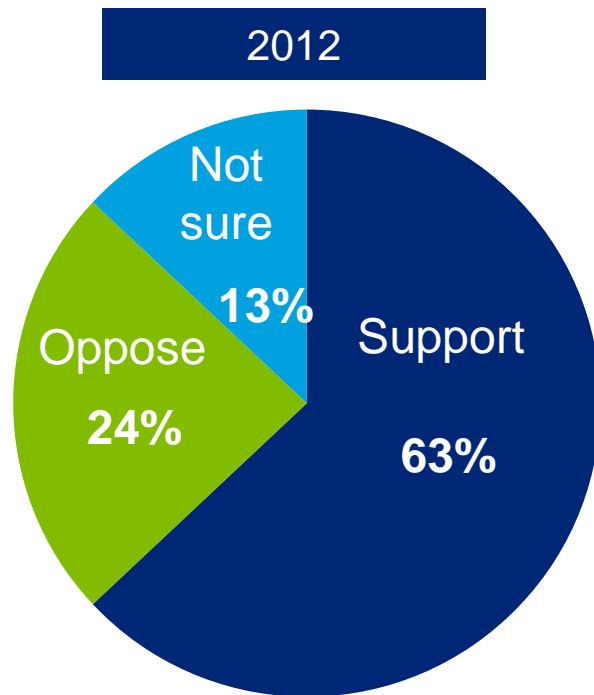
## Regulatory concerns

- Although regulations currently in place were largely viewed positively by industry, concerns persist about pending federal regulations such as the EPA's multi-year study on the impact of hydraulic fractionation, which is expected to be released in 2016.
- While oil and gas industry operations have historically been regulated at the state and local level, two-thirds of respondents (65%) expressed concern about pending federal regulations, nearly twice as many as were concerned about pending local regulations (36%).
- Nearly half of respondents (48%) were concerned about new EPA regulations such as proposed greenhouse gas rules under section 111(d) of the Clean Air Act and efforts to cut so-called fugitive gas emission leakage from pipelines.
- The relatively positive industry attitude toward regulations already in place and concern about pending regulations indicates that regulations once established and known by industry can be easily incorporated into standard operating procedures, however regulatory uncertainty can interfere with the ability of industry to plan and can potentially prevent new projects from moving forward.

# Nearly two-thirds support regulations requiring disclosure of contents of fracturing fluids while just two-in-ten oppose

- Support for disclosure regulations consistent with 2012

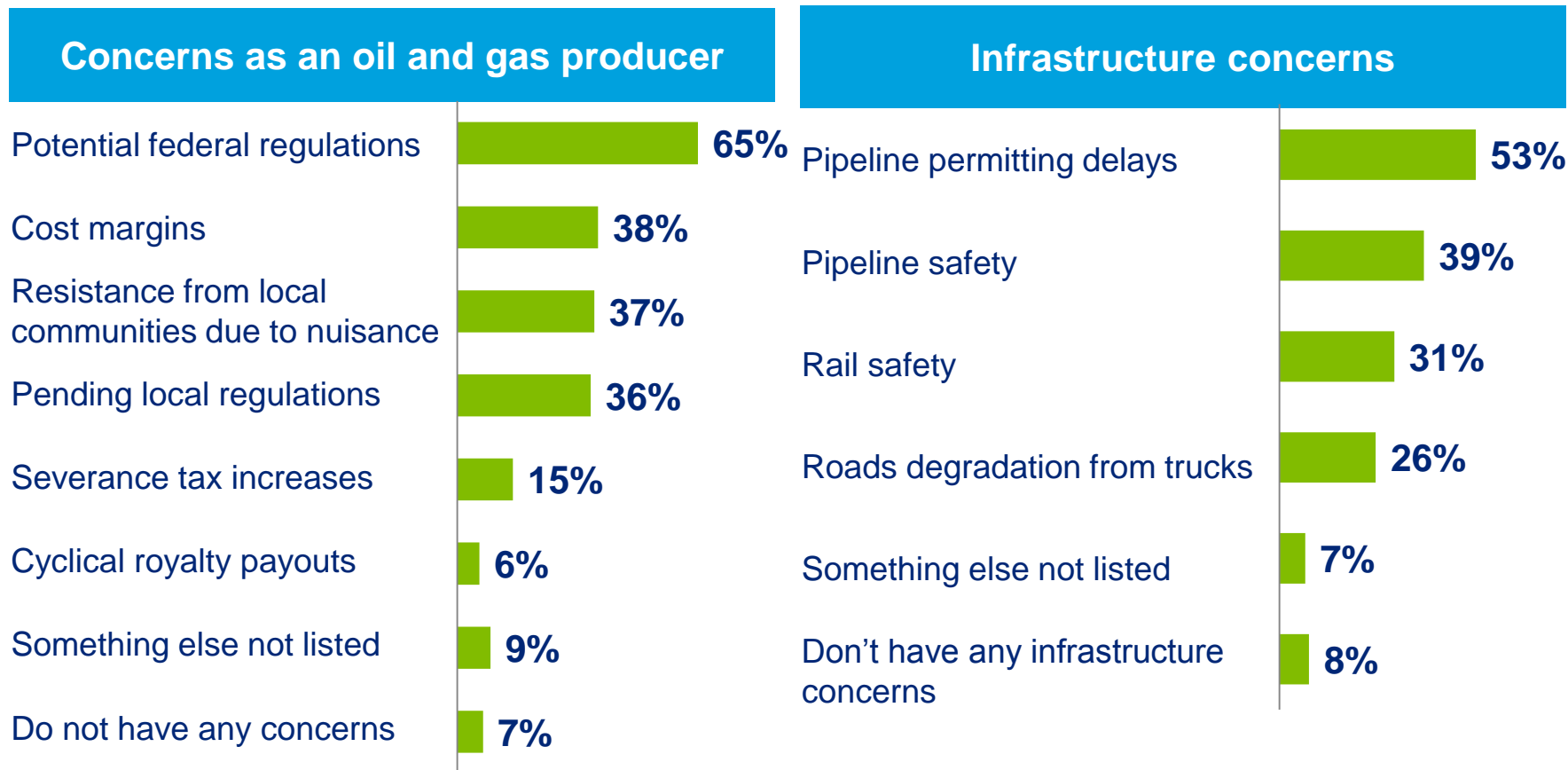
## Support for fracking fluid disclosure regulations



Q: Do you support or oppose regulations that would require oil and gas companies to disclose the contents of their hydraulic fracturing fluids?

# The future regulatory environment is the biggest concern for oil and gas producers

- Pipeline permitting delays top the list of infrastructure concerns

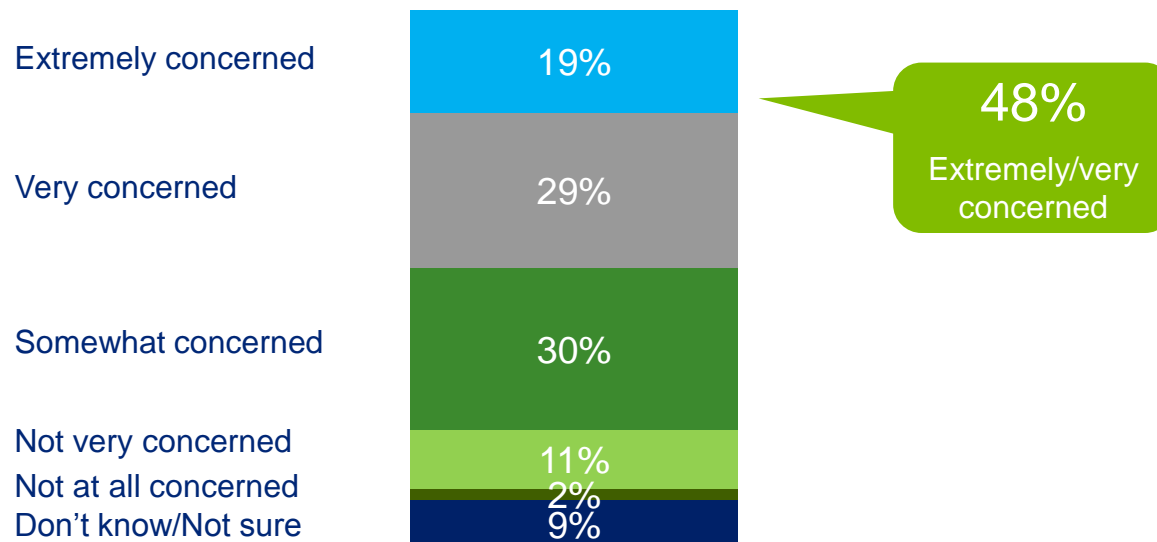


Q: What are your greatest concerns as an oil and gas producer? Q: What are your biggest infrastructure concerns related to the oil and gas industry?

# Almost nine-in-ten oil and gas professionals are at least somewhat concerned about the impact of new EPA carbon rules on U.S. competitiveness

- Just under half report being extremely or very concerned about the impact

## Concern with EPA carbon rules limiting U.S. industrial competitiveness



Q. How concerned are you that the new EPA carbon rules such as 111d will limit the US industrial competitiveness?

# Broadening the Energy Renaissance



## Industry professionals supportive of broadening into new markets

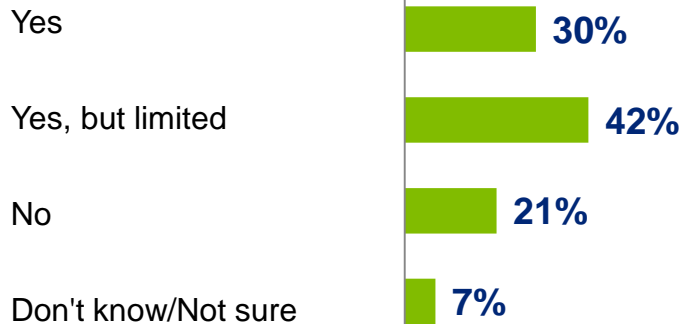
- When queried about broadening the North American Energy Renaissance to include new markets and new regions for exploration and production, industry professionals were overwhelmingly supportive.
- Seventy-two percent of respondents support some form of crude oil exports from the U.S. with over a third responding that exports are important for the long-term viability of unconventional oil and gas production in the United States.
- Without a significant spread between the two major benchmark crudes, exports are unlikely to have a significant impact on price.
- Given the narrowing spread between WTI, which is used to price domestic crude, and Brent, which is used to price crude internationally, only 8% believe exports would increase prices significantly while 40% believe exports would have no significant impact on prices.

## Seven-in-ten support crude oil exports in a limited way

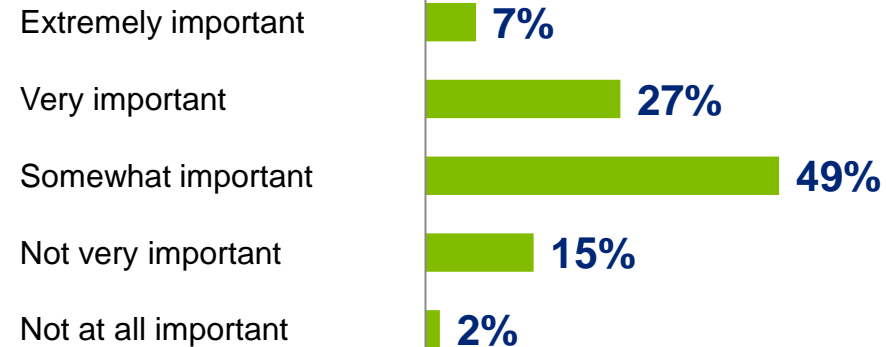
- Just one-third view crude oil exports extremely or very important to the long-term viability of unconventional oil and gas production in the U.S.
- Majority expect exports would only increase prices slightly or would have no significant impact

### Support for and impact of crude oil exports from U.S.

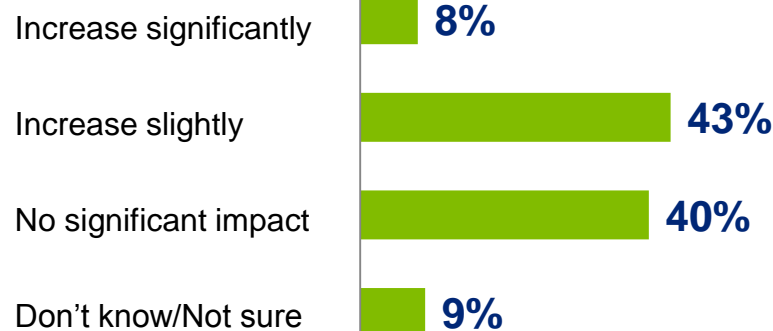
#### Support



#### Importance



#### Impact on prices



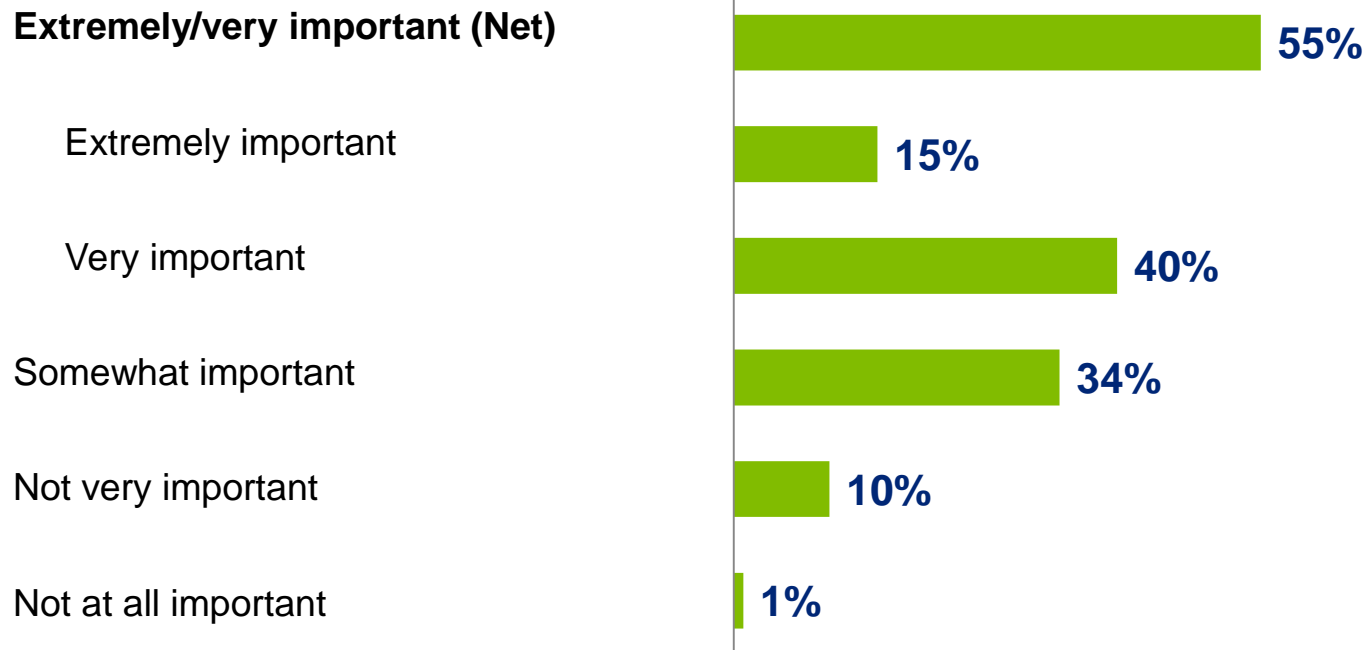
Q: Do you support the export of crude oil from the U.S.? Q: How do you think that crude oil exports would likely affect domestic oil prices? Q: How important do you believe oil exports are to the overall long-term viability of unconventional oil and gas production in the US?

## Opening the Atlantic Coast to offshore exploration and production activity is important to sustaining the oil and gas revolution

- While the potential for offshore drilling along the U.S. Atlantic Outer Continental Shelf remains a remote possibility over the near to medium term, more than half of respondents (55%) believe that opening the Atlantic Coast to offshore exploration and production activity is very or extremely important to sustaining the oil and gas revolution in the United States.
- The U.S. government announced in August that it would begin to allow testing for oil and gas reserves off the Atlantic Coast.
- Estimates from the American Petroleum Institute indicated that there could be as much as 114 MMbbl or one-tenth the amount of oil as the Gulf of Mexico in the region.

Almost all (89%) feel that opening the Atlantic Coast to Offshore exploration and production is at least somewhat important to sustaining the oil and natural gas revolution in the United States

## Importance of opening the Atlantic Coast to offshore exploration and production



Q: How important is the opening of the Atlantic Coast to offshore E&P to sustain the oil and natural gas revolution in the U.S?

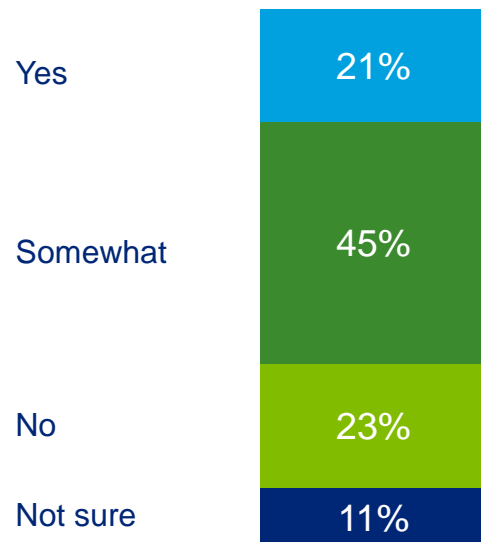
## Looking southward, two-thirds of respondents believe the liberalization of Mexico's oil and gas industry is at least somewhat critical to help North America achieve energy self-sufficiency

- Over the past decade, Pemex has suffered from insufficient operational capabilities, a lack of capital, and maturation of its major oil fields.
- As a result, the Mexico's output has fallen from 3.85 MMbbl/d of crude and liquids in 2004 to 2.9 MMbbl/d in 2013.
- Opening Mexico's oil and gas sector to foreign firms creates opportunities for exploration and production, supply chain management, infrastructure development as well as equity investment.
- Thirty-nine percent believe opening Mexico will strengthen U.S. competitiveness while only 14% believe it will weaken it.
- Most respondents (56%) believe Mexico's liberalized E&P environment will be a benefit to supermajors or large independents.
- Pemex's Round One, in which over 150 blocks will be tendered to private companies and Pemex, is scheduled for mid-2015.

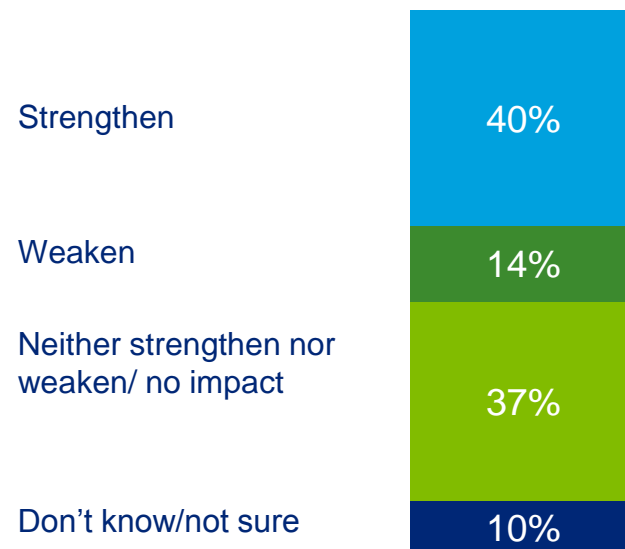
# Two-in-ten oil and gas professionals view the liberalization of Mexico's oil and gas industry as critical to helping North America achieve energy self-sufficiency

- Just 14% feel that opening up Mexico will weaken U.S. competitiveness

## Liberalization of Mexico's oil and gas industry critical for U.S.



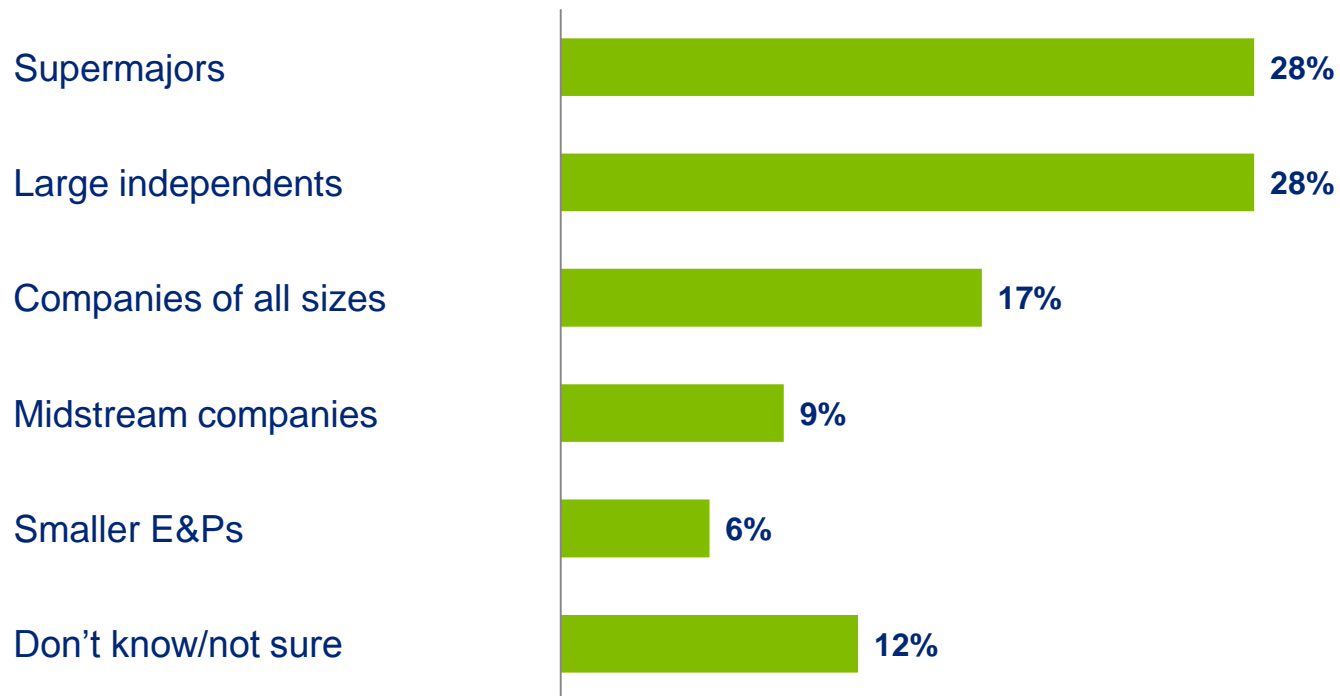
## Impact of opening Mexico on U.S. competitiveness



Q. Do you believe liberalization of Mexico's oil and gas industry is critical to help North America achieve energy self-sufficiency? Q: Will opening up Mexico strengthen or weaken US competitiveness?

Most see larger companies, split between supermajors and large independents, as best positioned to benefit from Mexican Energy Reform

## Companies best positioned to benefit from Mexican Energy Reform



Q. What size company is best positioned to benefit from the Mexican Energy Reform?

## Conclusion

- Deloitte's 2014 Oil & Gas Survey reveals the well of positive expectations among industry professionals for a continuing and stable expansion of the North American Energy Renaissance.
- The unprecedented growth in U.S. oil and gas production over the past few years is dramatically transforming the U.S. economy for the better.
- The results of the survey show that the industry is poised to weather the recent price decline with little expectations of headwind.
- Further, a period of lower energy prices may help speed up the global economic recovery and increase overall demand.



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