



AMERICAN COUNCIL FOR CAPITAL FORMATION

## How Federal Energy Policies Can Support U.S Economic Recovery

By Margo Thorning, Ph.D.

July 16, 2013

As the Senate Energy and Natural Resources Committee, chaired by Senator Ron Wyden (D-Oregon), holds yet another hearing to investigate the pricing of oil and gas in the U.S. and restructuring in the refining industry and distribution system, it is important to focus on the very positive impact the U.S. oil and gas industry has had on the U.S. economic recovery over the past several years and on strengthening energy security stemming due to increased production of both oil and gas. In addition, policymakers need to realize that the industry could contribute even more to job and GDP growth and to federal and state tax receipts if it has access to more onshore and offshore reserves. Speeding up the permitting process for LNG exports from the U.S. will also help reinvigorate our economy. Avoiding changes in federal tax policy toward the oil and gas industry that slow capital cost recovery and recovery of other costs is also an important to keep investment in the industry growing.

### Contribution of the Oil and Gas Industry to U.S. Economic Recovery

To put the economic impact of the oil and gas industry in perspective, it is useful to look at the recent impact of increased energy production on U.S. employment. For the last several years, personal income and job growth in major energy producing states such as Texas, Oklahoma, Montana, Wyoming, North and South Dakota has been much greater than in other states (see Figure 1)<sup>1</sup>. In addition, a recent analysis by the Progressive Policy Institute, “*Investment Heroes: Who’s Betting on America’s Future*” notes that in 2011, four of the top ten non-financial companies investing in the U.S. were oil and gas companies<sup>2</sup>. These four companies, Exxon Mobil, Occidental Petroleum, ConocoPhillips and Chevron, invested a total of \$28.3 billion domestically in 2011. Historically, each \$1 billion increase in investment is associated with an additional 22,300 jobs in the U.S. Thus, the \$28.3 billion of investment by the four oil and gas companies may have produced over 600,000 new jobs in 2011.

The PPI report notes that most of the U.S. capital expenditures by energy companies consisted of production and exploration costs, which includes building out oil and natural gas pipelines and exploratory costs for new drilling sites. The report concludes, “Despite any environmental concerns, the fact remains that such large amounts of domestic investment by these individual companies have the ability to prop up local area economies while meeting the realities of increased power demand.”<sup>3</sup>

Other evidence of the role of the oil and gas industry in our economic recovery is cited in a report by the Small Business & Entrepreneurial Council, while overall U.S. jobs in employer firms declined by 3.7 percent from 2005 to 2010, jobs grew by 27.6 percent in the oil and gas extraction sector during the same time period.<sup>4</sup>

---

<sup>1</sup> “Which States Have Best Income Growth,” The Wall Street Journal, July 16, 2012,

<http://blogs.wsj.com/economics/2012/07/16/which-states-have-best-income-growth/>

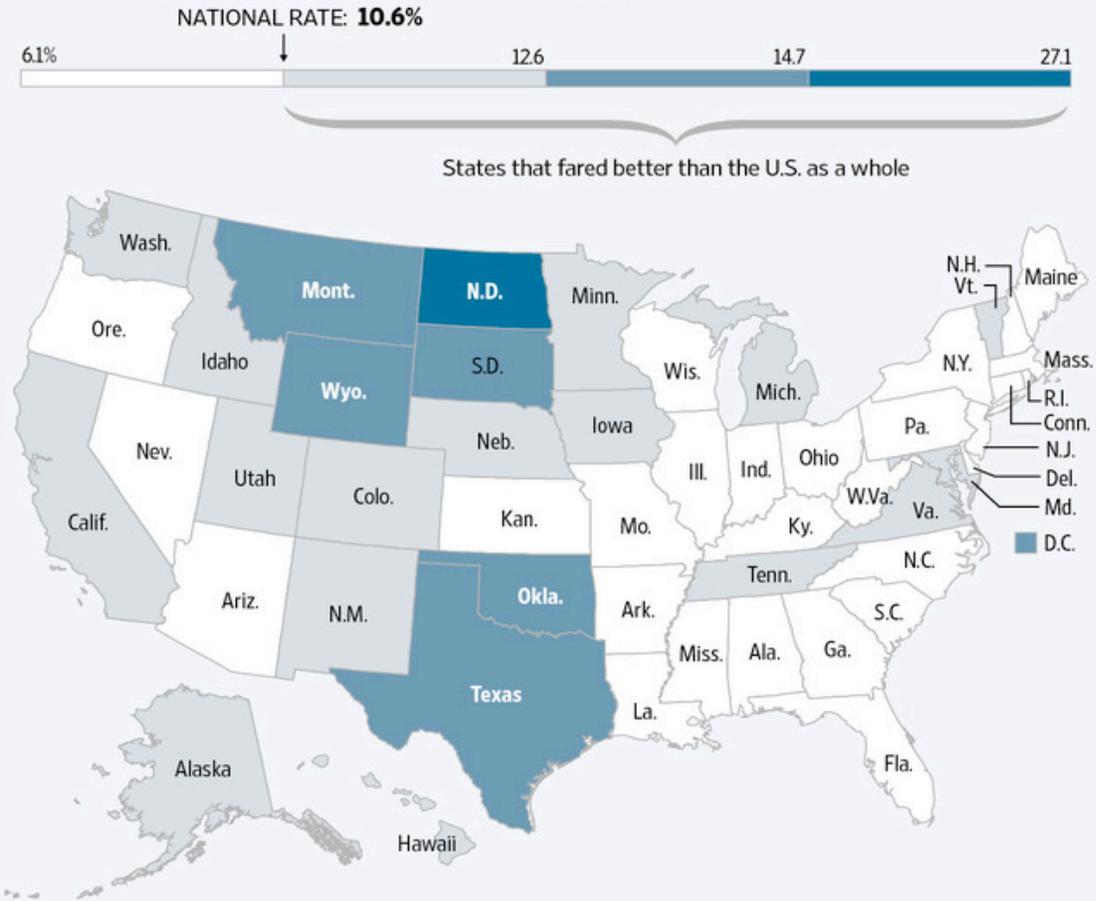
<sup>2</sup> [http://progressivepolicy.org/wp-content/uploads/2012/07/07\\_2012-Mandel\\_Carew\\_Investment-Heroes\\_Whos-Betting-on-Americas-Future.pdf](http://progressivepolicy.org/wp-content/uploads/2012/07/07_2012-Mandel_Carew_Investment-Heroes_Whos-Betting-on-Americas-Future.pdf)

<sup>3</sup> Ibid, p.5.

<sup>4</sup> Small Business & Entrepreneurship Council (SBEC), “The Benefits of Natural Gas Production and Exports for U.S. Small Businesses,” May 2013, page 3 <http://www.sbecouncil.org/wp-content/uploads/2013/05/BenefitsofNatGasSBECouncil.pdf>.

# Figure 1. Total Personal Income

Growth from the end of the recession in June 2009 through the first quarter of 2012



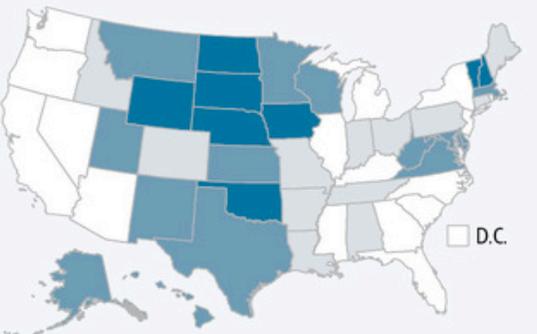
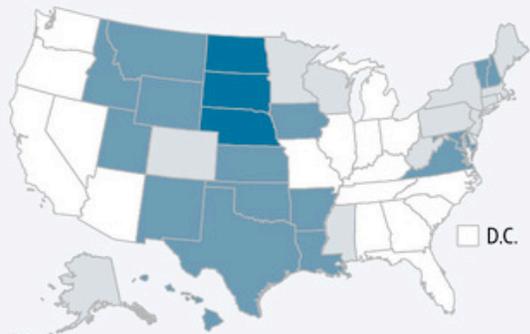
## UNEMPLOYMENT RATES

June 2009

May 2012\*

NATIONAL RATE: **9.5%**

NATIONAL RATE: **8.2%**



\*Most recent data available †Both data sets exclude employer contributions for government social insurance  
Sources: Commerce Department (personal income and industry earnings); Labor Department (unemployment rates)

**Table 1. Employment Growth Among Employer Firms, 2005-2010**

Sector	2005	2010	Percent Change
Total	116,317,003	111,970,095	-3.7%
Oil/Gas Extraction	85,562	109,199	27.6%
Drilling Oil and Gas Wells	66,084	76,072	15.1%
Support for Oil and Gas Operations	136,038	188,468	38.5%
Oil and Gas Pipeline and Related Structures Construction	86,321	126,856	47.0%
Oil and Gas Field Machinery and Equipment Manufacturing	30,580	49,542	62.0%

Source: Small Business & Entrepreneurship Council (SBEC), "The Benefits of Natural Gas Production and Exports for U.S. Small Businesses," May 2013, <http://www.sbecouncil.org/wp-content/uploads/2013/05/BenefitsofNatGasSBECouncil.pdf>

Over the 2005-2010 period, employment grew by 15.1 percent in the drilling oil and gas wells sector; by 38.5 percent in the support sector for oil and gas operations; by 47 percent in the oil and gas pipeline and related structures construction sector; and by 62 percent in the oil and gas field machinery and equipment manufacturing sector (see Table 1).<sup>5</sup> As the SBEC report notes, expanded energy production over the 2005-2010 period has been a boon to small and midsize enterprises.

### Impact of Expanded Access to Onshore and Offshore Reserves

Several recent economic analyses suggest that increased access to domestic onshore and offshore oil and gas reserves (including shale gas) could strongly boost U.S. economic recovery, manufacturing and job growth. Fossil fuels, which provide 78% of U.S. primary energy production, can have a positive impact in restoring strong economic growth. A recent Global Insight/CERA analysis, "Restarting the Engine—Securing American Jobs, Investment and Energy Security" finds that allowing exploration and development in the Gulf of Mexico in 2012 could create more 230,000 jobs, a \$44 billion increase in GDP and \$12 billion in additional tax receipts to federal and state treasuries.<sup>6</sup> Another recent report by Wood Mackenzie, "U.S. Supply Forecast and Potential Jobs and Economic Impacts (2012-2030)" finds that policies that encourage the development of new and existing resources could by 2015 increase production by over 1 million barrels of oil equivalent per day (mboed), create almost 670,000 jobs and provide an additional \$10 billion in federal and state tax receipts compared to the base case.<sup>7</sup> By 2030, production would rise by over 10 mboed, employment would be over 1.4 million higher and tax receipts would be \$99 billion higher. In fact, domestic access to shale gas and development of that abundant resource has the ability to reduce operating and feedstock costs for manufacturing and chemicals industries, respectively, in ways that can be transformative for those industries and job growth. In another recent analysis, "The Economic and Employment Contributions of Shale Gas in the United States" the consulting firm Global Insight documents the significant contributions that shale gas is making to the U.S. economy.<sup>8</sup> The report finds that in 2010, the industry supported 600,000 jobs and contributed more than \$76 billion to GDP. Capital expenditures were \$33 billion in 2010 and will grow to \$48 billion in 2015. The current low and stable gas prices will contribute to a 10% reduction in electricity prices in the near term and to a 1.1% increase in the level of GDP by 2013. All sectors of manufacturing benefit, especially those that use natural gas as a feedstock or energy source.

<sup>5</sup> Ibid.

<sup>6</sup> [http://www.gulfeconomicssurvival.org/phx-content/assets/files/GoM\\_Restarting\\_the\\_Engine.pdf](http://www.gulfeconomicssurvival.org/phx-content/assets/files/GoM_Restarting_the_Engine.pdf)

<sup>7</sup> [http://www.api.org/policy/americanatowork/upload/API-US\\_Supply\\_Economic\\_Forecast.pdf](http://www.api.org/policy/americanatowork/upload/API-US_Supply_Economic_Forecast.pdf)

<sup>8</sup> <http://www.ihs.com/images/Shale-Gas-Economic-Impact-Dec-2011.pdf>

## LNG Exports Will Also Enhance U.S. Job and Economic Growth

Multiple economic analyses over the past two years demonstrate the power of allowing U.S. producers to export LNG.<sup>9</sup>

Using various assumptions regarding export levels, global market conditions, and the costs of producing natural gas within the U.S. and also examining alternative scenarios that might affect natural gas supply and demand, the vast majority of these analyses have reached the same fundamental conclusion. As explained in the NERA study commissioned by the U.S. Department of Energy:

*“Across the scenarios, U.S. economic welfare consistently increases as the volume of natural gas exports increased. This includes scenarios in which there are unlimited exports. The reason for this is that even though domestic natural gas prices are pulled up by LNG exports, the value of those exports also rises so that there is a net gain for the U.S. economy measured by a broad metric of economic welfare ---- or by more common measures such as real household income or real GDP..”<sup>10</sup>*

Another macroeconomic analysis by ICF International finds that expanded LNG exports would spur significant gains in nationwide employment. The net effects on U.S. employment are anticipated to be positive with net job growth of between 73,100 to 452,300 jobs on average between 2016 and 2035, including all economic multiplier effects.<sup>11</sup> Manufacturing job gains average between 7,800 and 76,800 net jobs between 2016 and 2035, including 1,700-11,400 net job gains in the specific manufacturing sectors that include refining, petrochemicals, and chemicals. The net effect on U.S. GDP is expected to be positive at about \$15.6 to \$73.6 billion per year on average between 2016 and 2035, including the impacts of associated liquids production, increases in the petrochemical manufacturing of olefins, and all economic multiplier effects. In addition, the ICF analysis predicts that LNG exports would have only moderate impacts on domestic natural gas prices. Over the 2016-2035 period, price increases would range from about \$0.32 to \$1.02 per million British Thermal Units (MMBtu) on average.<sup>12</sup> Given the sharp increases in shale gas production predicted in EIA’s 2013 Annual Energy Outlook, it seems quite likely that price changes for natural gas in the U.S. would be small (see [www.actonlng.org](http://www.actonlng.org) for more details).

---

<sup>9</sup> For example, “Macroeconomic Impacts of LNG Exports from the United States,” Dec 2012: [http://energy.gov/sites/prod/files/2013/04/f0/nera\\_lng\\_report.pdf](http://energy.gov/sites/prod/files/2013/04/f0/nera_lng_report.pdf); “Made in America: The economic impact of LNG exports from the United States,” 2011:

[http://www.deloitte.com/view/en\\_US/us/Services/consulting/9f70dd1cc9324310VgnVCM1000001a56f00aRCRD.htm](http://www.deloitte.com/view/en_US/us/Services/consulting/9f70dd1cc9324310VgnVCM1000001a56f00aRCRD.htm); “Liquid Markets: Assessing the Case for U.S. Exports of Liquefied Natural Gas,” May 2012:

<http://www.brookings.edu/research/reports/2012/05/02-lng-exports-ebinger>; “The Benefits of Natural Gas Production and Exports for U.S. Small Businesses,” May 2013: <http://www.sbecouncil.org/wp-content/uploads/2013/05/BenefitsofNatGasSBECouncil.pdf>; U.S. LNG Exports: Impacts on Energy Markets and the Economy,” May 2013: <http://www.api.org/news-and-media/news/newsitems/2013/may-2013/~media/Files/Policy/LNG-Exports/API-LNG-Export-Report-by-ICF.pdf>; “Liquefied Natural Gas Exports: An Opportunity for America” <http://www.piie.com/publications/pb/pb13-6.pdf>

<sup>10</sup> NERA, on behalf of DOE, “Macroeconomic impacts of LNG Exports from the U.S.,” December 2012, page 6

<sup>11</sup> What is full source info? ICF, page 2. <http://www.api.org/news-and-media/news/newsitems/2013/may-2013/~media/Files/Policy/LNG-Exports/API-LNG-Export-Report-by-ICF.pdf>, page 2

<sup>12</sup> NERA, page 2.

## **Refinery Maintenance Schedules Should Not be Subject to Federal Regulation and Oversight**

U.S. refineries operate around the clock and require periodic maintenance to ensure continued safety and functionality. Safety is the first priority of any refiner, and shutdowns associated with planned maintenance or turnarounds are critical to ensure safe refinery operations. The occasional gasoline price impact that result from either planned or unplanned shutdowns are generally short lived and should not be subject to federal regulation

There are several types of refinery shutdowns or outages. First, there is planned refinery maintenance (turnarounds) which occur every 3-5 years, require 1-2 years of planning, and last 20-60 days. Planned turnarounds involve multiple internal vessel inspections, maintenance, and repairs that cannot be done during normal operations and require a complete shutdown.

Second, planned, targeted shutdowns require 2-6 months of planning, last 5-15 days. Planned shutdowns are not as extensive as a turnaround, and may only target isolated units or processes. Third, there are unplanned shutdowns due to the fact that even well maintained machinery sometimes encounters unexpected problems. Unplanned shutdowns may last longer, depending on availability of parts and equipment.

Finally, emergency shutdowns occur in situations such as a natural disaster. In 2007, EIA reported that the largest source of emergency shutdowns was an unexpected loss of utilities (electricity) to refinery units. It is likely that the current situation in the Midwest is a combination of shutdowns due to routine planned maintenance and unplanned refinery outages.

New Legislation is Unnecessary and Redundant because refineries cannot discuss planned outages with each other due to antitrust laws. In fact, turnaround schedules are often treated as confidential business information. However, due to market forces, major turnaround operations have minimal overlap. Constraints on overlapping turnaround include: finite skilled labor force; availability of engineering and construction firms; availability of specialty firms; availability of specialty items such as large cranes, etc. These constraints have acted (and will continue to act in the future) to limit the extent of simultaneous outages. In conclusion, a refinery has no economic incentive to shut down its operations any longer than necessary to ensure continued safe operations. If anything, a refinery has incentive to run during another refinery's turnaround.

## **Tax Policy to Encourage Continued Strong Investment in the U.S. Oil and Gas Industry**

Several of the tax reform proposals put forward in the last several years, including the National Commission on Fiscal Responsibility and Reform (Bowles/Simpson) eliminate accelerated depreciation, bonus depreciation, last in-first out (LIFO) accounting and other deductions used by both capital intensive and other industries while lowering the corporate income tax rate.<sup>13</sup> The President's Framework for Business Tax Reform, released in 2012, would eliminate or curtail many current law tax provisions, which reduce the cost of capital for new investment such as accelerated depreciation, deduction for interest expense, LIFO, as well as provisions applicable to the oil and gas industry.<sup>14</sup> For example, the President's plan calls for eliminating expensing for intangible drilling costs (IDCs), requiring such costs to be depreciated over time. When companies drill for oil or gas, they incur IDCs, which are largely the labor costs of locating and drilling wells. IDCs are costs that cannot be recovered as they have no salvage value (in contrast to the drill pipe and casing itself, which is a "tangible asset" and is subject to depreciation). It is noteworthy that all other natural resource industries (e.g., minerals and coal production) have almost precisely the same rules as apply to oil and gas and other industries such as software development and pharmaceuticals are able to expense research and development costs. In addition, the President's

<sup>13</sup>Source? [http://www.fiscalcommission.gov/sites/fiscalcommission.gov/files/documents/TheMomentofTruth12\\_1\\_2010.pdf](http://www.fiscalcommission.gov/sites/fiscalcommission.gov/files/documents/TheMomentofTruth12_1_2010.pdf)

<sup>14</sup><http://www.treasury.gov/resource-center/tax-policy/Documents/The-Presidents-Framework-for-Business-Tax-Reform-02-22-2012.pdf>

FY 2013 budget also calls for increasing the amortization period for geological and geophysical costs (G&G). G&G expenses include the costs incurred for geologists, seismic surveys, and the drilling of core holes; like IDCs, they have no salvage value.<sup>15</sup> Further, the President's FY 2013 budget would repeal Section 199 for only oil and gas companies, leaving it in place for all other companies that manufacture, produce, extract or grow items in the U.S. {Section 199 (c)}.

Given the importance of cash flow to investment spending, policymakers need to weigh carefully the impact of repealing current law provisions that reduce the cost of capital for new investment. As the recent report by the Progressive Policy Institute notes, the strong domestic investment by U.S. oil and gas companies in 2011 was due in part to outlays that would be classified as intangible drilling costs and G&G. If IDCs had to be depreciated rather than deducted or, in the case of G&G, amortized over longer periods, it is likely that less investment would have occurred in the oil and gas industry and fewer new jobs would have been created in the U.S.

### **Conclusions**

Given the performance of the oil and gas industry, with its strong job and investment growth in the U.S., policymakers need to focus on allowing the industry to continue to expand production both onshore and offshore. Permits for exporting LNG should also be expedited and current federal tax provisions for new investment should be continued.

*Dr. Margo Thorning is Senior Vice President and Chief Economist for The American Council for Capital Formation ([www.accf.org](http://www.accf.org)), a nonprofit, nonpartisan organization advocating tax, energy, regulatory and environmental policies that facilitate saving and investment, economic growth and job creation.*

###

---

<sup>15</sup> <http://www.treasury.gov/resource-center/tax-policy/Documents/General-Explanations-FY2013.pdf>