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## Energy Policy: 114<sup>th</sup> Congress Issues

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## Summary

Energy policy in the United States has focused on three major goals: assuring a secure supply of energy, keeping energy costs low, and protecting the environment. In pursuit of those goals, government programs have been developed to improve the efficiency with which energy is utilized, to promote the domestic production of conventional energy sources, and to develop new energy sources, particularly renewable sources.

Implementing these programs has been controversial because of varying importance given to different aspects of energy policy. For some, dependence on imports of foreign oil, particularly from the Persian Gulf, is the primary concern; for others, the continued use of fossil fuels, whatever their origin, is most important. The contribution of burning fossil fuels to global climate change is particularly controversial. Another dichotomy is between those who see government intervention as a positive force and those who view it as a necessary evil at best.

In the 113<sup>th</sup> Congress, energy legislation was generally focused on specific topics, as opposed to broad legislation like that enacted in 1992, 2005, and 2007. Congress enacted statutes on generally less controversial topics including hydroelectric licensing and permitting and pipeline safety documentation (P.L. 113-30). The 113<sup>th</sup> Congress also enacted the Water Resources Reform and Development Act of 2014 (WRRDA, P.L. 113-121), omnibus reauthorization of water resource activities.

The Energy Savings and Industrial Competitiveness Act of 2013, S. 2262 and H.R. 1616, would have promoted energy efficiency in buildings and industry by encouraging adoption of uniform building codes and authorized a grant program for state energy efficiency programs. Several versions of the bill saw committee and/or floor action in the Senate, but S. 2262 failed a cloture vote on May 12, 2014. On March 5, 2014, the House passed H.R. 2126, which contained some of the provisions in S. 2262, by a vote of 375-36.

H.R. 3, the Northern Route Approval Act, would have declared that a presidential permit would not be required for construction of the Keystone XL pipeline from Canada to the Gulf of Mexico. The bill passed the House on May 22, 2013, by a vote of 241-175. The issue of approving Keystone XL is closely connected to the question of global climate change, since opponents argue that Canadian oil sands production contributes excessive amounts of greenhouse gas emissions. On November 11, 2014, a related bill, S. 2280, failed a cloture vote in the Senate 59-41.

A bill promoting increased offshore oil and gas exploration (H.R. 2231) passed the House on June 28, 2013. In November 2013 the House passed three energy related bills. H.R. 2728 would have prohibited the Bureau of Land Management from enforcing rules to regulate hydraulic fracturing in any state that has its own regulations on the activity. H.R. 1900 would have required the Federal Energy Regulatory Commission to respond to permit applications for new natural gas pipelines within one year. H.R. 1965 was aimed at increasing on-shore leasing of oil and gas resources on federal land. On March 6, 2014, the House passed H.R. 3826, a bill to block the Environmental Protection Agency from limiting power plant carbon emissions.

On September 18, 2014, the House passed H.R. 2 by a vote of 226-191. The bill contained provisions from several bills, including H.R. 3, H.R. 1900, H.R. 1965, H.R. 2231, and H.R. 3826.

Many of the issues raised in the 113<sup>th</sup> Congress are expected to remain on the legislative agenda at the start of the 114<sup>th</sup> Congress.

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## Introduction

U.S. energy policy since the Arab oil embargo in the 1970s has been aimed at a long-term goal with three major dimensions: to assure a secure supply of energy, to keep energy costs low enough to meet the needs of a growing economy, and to protect the environment while producing and consuming that energy. A continuing theme during this period has been that dependence on imported oil for a large share of the U.S. energy mix, particularly in the transportation sector, impedes that aim in all three dimensions. But the importance given to import dependence varies. For some, import dependence is the primary concern; for others, particularly those focused on environmental issues, it is a symptom of a general crisis that arises from indiscriminate consumption of fossil fuels. A particularly controversial aspect of the debate is the issue of global climate change, because burning fossil fuels produces large amounts of carbon dioxide, a greenhouse gas.

Like the goals of energy policy, the means of achieving them have three dimensions: reducing consumption by increased energy efficiency; increasing domestic production of conventional energy sources, particularly oil and natural gas; and developing new sources of energy, particularly renewable energy and renewable fuels, that can replace oil and other fossil fuels.

Pursuing the goals of energy policy has been complicated by the diversity of energy consumption and supply in the United States. On the consumption side, there are three major sectors: residential/commercial, industrial, and transportation. On the supply side, the primary sources have traditionally been fossil energy: petroleum, natural gas (and “natural gas liquids” such as propane and butane), and coal. Electricity, which is both an energy source and a consumer of energy, has replaced some fossil fuels: about 75% of the energy consumed by the residential/commercial sector is electricity, and industrial energy consumption is about 35% electricity. But in the transportation sector, petroleum has remained dominant. Only in the past few years has corn-derived ethanol become a significant transportation fuel, replacing around 10% of gasoline consumption.

A diverse spectrum of generating sources is used to produce electricity. Coal for many years supplied half the electricity generated nationally. In recent years its share has declined; it was about 39% in 2013. Generation by natural gas has risen in importance, supplying about 27% in 2013. To those who regard global climate change as an urgent issue, this trend is important because generating electricity from coal emits roughly twice the carbon dioxide per kilowatt-hour than generating from natural gas. Nuclear fission supplies about 20%, hydropower less than 10%. Petroleum, an important generating fuel in the 1970s and early 1980s, now contributes less than 1% of electricity generation. A surge of construction of wind-powered generating capacity has brought its share of total generation to almost 5%.

An issue that cuts across all these factors is the role of government. How much does and should government policy affect energy markets? A fundamental dichotomy that lies beneath many individual policy debates, not only in energy issues, is between those who see government intervention as a positive force, and those who view it at best as a necessary evil to be restricted as much as possible.

# Policy Goals

## Conservation and Energy Efficiency

Reducing energy consumption by conservation and by increased efficiency of energy use has been a major component of policy since the first energy crisis in the 1970s. Most prominent has been setting fuel economy standards for automobiles and trucks.<sup>1</sup> Federal research and development programs in energy-efficient technologies have had continued support over many years, pursuing improvements in building technology, in industrial processes, and in vehicle efficiency—the last including battery designs that have been used in producing hybrid vehicles.<sup>2</sup> Development of “Smart Grid” technologies in electric power distribution systems to encourage more efficient use of electricity has received much recent attention. Grant programs to improve and “weatherize” existing residences have received continued funding, but like all such programs they have become controversial in the current tight budget environment.<sup>3</sup> Standards for home appliances such as air conditioners, refrigerators, and washing machines are another policy program that has had continued support, and some controversy. A requirement to raise efficiency levels in light bulbs has been an issue for several years.

## Increasing Domestic Supply

### Production of Oil

With dependence on oil imports probably the most high-profile energy policy issue, the question of domestic oil production has a long history of controversy. Recent years have seen a jump in domestic production of crude oil, mostly light crude oil from unconventional supplies in the Bakken formation in North Dakota and the Eagle Ford formation in Texas. Increased production has reduced U.S. crude oil imports, and has led some stakeholders to argue that current limits on exports of U.S.-produced crude should be amended. The increase in unconventional oil supply has also raised concerns about the environmental effects of hydraulic fracturing and other advanced extraction techniques.

Much conventional exploration and development of new oil resources involves federal land, particularly on the outer continental shelf (OCS) and in Alaska, and environmental concerns have led to extended moratoria on leasing for many areas.<sup>4</sup> The Deepwater Horizon oil spill in the Gulf of Mexico in 2010 added a further dimension to the question of OCS leasing.<sup>5</sup> In recent years, development of Canadian oil sands resources, and of tight oil deposits in the United States, has added further controversy over the possible environmental effects of their production and

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<sup>1</sup> For details, see CRS Report R42721, *Automobile and Truck Fuel Economy (CAFE) and Greenhouse Gas Standards*, by (name redacted), (name redacted), and (name redacted).

<sup>2</sup> See CRS Report R43567, *Energy and Water Development: FY2015 Appropriations*, coordinated by (name redacted).

<sup>3</sup> See CRS Report R42147, *DOE Weatherization Program: A Review of Funding, Performance, and Cost-Effectiveness Studies*, by (name redacted).

<sup>4</sup> See CRS Report R42432, *U.S. Crude Oil and Natural Gas Production in Federal and Non-Federal Areas*, by (name redacted).

<sup>5</sup> See CRS Report R41684, *Enacted and Proposed Oil Spill Legislation in the 112<sup>th</sup> Congress*, by (name redacted).

transportation.<sup>6</sup> The proposed Keystone XL pipeline to bring Canadian crude to Texas refineries has been particularly controversial.<sup>7</sup>

In addition, for some, increasing production of oil is in principle to be avoided, since it merely postpones the replacement of fossil fuels by renewable energy and makes the transition more difficult. Others are particularly opposed to development of oil sands, on the grounds that it produces more greenhouse gases than conventional oil production.<sup>8</sup>

## The Price of Oil and Gasoline

Since 2004, oil and gasoline markets have been highly volatile. Throughout this period some have argued that prices were being driven not by the cost of producing the resources but by speculation and unregulated manipulation of the markets. The Dodd-Frank Wall Street Reform Act of 2010 (P.L. 111-203) aimed to address these concerns, but its application and enforcement remain controversial.<sup>9</sup> The issue is complicated because oil prices are largely determined in a world market beyond the reach of domestic regulation.

An additional issue involving oil and gasoline prices is the role of the Strategic Petroleum Reserve (SPR), which was set up after the Arab oil embargoes to address temporary interruptions in the supply of oil. In principle releases from the SPR are limited to cases in which a physical lack of supply exists, but some have argued that it can be used to dampen surges in world oil prices even when current supply is adequate to meet demand. The June 2011 release of 30 million barrels from the SPR in response to the Libyan civil war has been deemed by some critics as such an attempt to influence the market when U.S. supplies were adequate.<sup>10</sup>

Since June 2014, oil and gasoline prices have dropped sharply. In the last week of June 2014, crude oil prices were above \$100 per barrel; through the end of December prices were below \$60 per barrel.<sup>11</sup> Similarly, national average gasoline prices dropped from roughly \$3.80 to \$2.40. The drop in crude oil and refined product prices has led to savings for U.S. consumers and businesses, but has also raised questions about the profitability of U.S. and foreign oil suppliers. Whether prices remain low over the long term will affect the oil industry as well as nations that rely heavily on oil revenues.

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<sup>6</sup> See CRS Report R43148, *An Overview of Unconventional Oil and Natural Gas: Resources and Federal Actions*, by (name redacted) and (name redacted).

<sup>7</sup> See CRS Report R43787, *Keystone XL Pipeline: Overview and Recent Developments*, by (name redacted) et al., and CRS Report R42611, *Oil Sands and the Keystone XL Pipeline: Background and Selected Environmental Issues*, coordinated by (name redacted).

<sup>8</sup> See CRS Report R42537, *Canadian Oil Sands: Life-Cycle Assessments of Greenhouse Gas Emissions*, by (name redacted).

<sup>9</sup> See CRS Report R41398, *The Dodd-Frank Wall Street Reform and Consumer Protection Act: Title VII, Derivatives*, by (name redacted) and (name redacted).

<sup>10</sup> See CRS Report R42460, *The Strategic Petroleum Reserve: Authorization, Operation, and Drawdown Policy*, by (name redacted) and (name redacted).

<sup>11</sup> See CRS Report IF10026, *Lower Oil Prices 2015*, by (name redacted)

## Natural Gas

Unlike the world oil market, in which events abroad quickly affect prices locally, the natural gas market is largely domestic. Except for about 5% net imports from Canada by pipeline, 2013 gas consumption, 26.1 trillion cubic feet, was almost entirely produced in the United States. Production since 2010 has increased sharply, largely as a result of development of tight shale formations. As with tight oil production, shale gas development has brought environmental concerns about the effects on ground water of hydraulic fracturing and horizontal drilling. The need for gathering infrastructure and pipeline construction from new fields is also an issue.

With gas production up and demand not growing as quickly, the likelihood of increasing exports of liquefied natural gas (LNG) has increased. LNG requires complex and expensive processing and loading facilities that have been controversial in locations where they have been proposed. There is also the prospect of controversy over the question of exporting energy resources such as oil and natural gas, and their effects on prices, supply, and energy security.<sup>12</sup>

## Electric Power Production

The electric power sector since the mid-1980s has been essentially independent of the major energy policy issue of dependence on imported oil, since oil-generated electricity is a very small part of the generation mix. Nevertheless, electricity's central role in America's energy mix makes it subject to numerous controversies.

A major consideration is the role of the coal industry. More than 1 billion tons of coal are consumed in the United States each year, about 93% of it burned to produce electricity. Initiatives by the Environmental Protection Agency (EPA) that would impose tighter emissions restrictions on coal-fired power plants are particularly controversial. Limits on cross-state emissions of sulfur dioxide and nitrogen oxides, emissions of mercury and other hazardous pollutants, and regulation of greenhouse gas emissions, among other proposed regulations, have been characterized by critics as a regulatory "train wreck" that would impose excessive costs and lead to plant retirements that could threaten the adequacy of electricity capacity (i.e., reliability of supply) across the country, although some in the electric power industry consider those concerns overstated.<sup>13</sup> Further, because of low natural gas prices, retirement of some coal plants in favor of natural gas would be expected regardless of regulatory factors.

Nuclear power is also a continuing issue. Although subject to continuing opposition over questions of safety, disposal of radioactive waste, and possible proliferation of nuclear weapons, nuclear fission has gained support because it does not emit greenhouse gases. However, cost considerations in the face of increasing natural gas production, and safety concerns enhanced by the tsunami-caused accident at Japan's Fukushima nuclear plant in March 2011, have put further expansion of nuclear power in question.<sup>14</sup>

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<sup>12</sup> See CRS Report R42074, *U.S. Natural Gas Exports: New Opportunities, Uncertain Outcomes*, by (name redacted) et al., and CRS Report R43442, *U.S. Crude Oil Export Policy: Background and Considerations*, by (name redacted) et al.

<sup>13</sup> See CRS Report R41914, *EPA's Regulation of Coal-Fired Power: Is a "Train Wreck" Coming?*, by (name redacted) and (name redacted).

<sup>14</sup> See CRS Report RL33558, *Nuclear Energy Policy*, by (name redacted).



## Replacing Conventional Energy Sources

The third path toward reaching the goals of energy policy is to develop alternative sources of energy to replace fossil fuels. As noted, reducing the need for imported oil has been a major feature of energy policy, and congressional mandates have led to increased consumption of ethanol and other biofuels. However, essentially all fuel ethanol currently is produced from corn, potentially putting pressure on food production and food prices. The technology for producing ethanol from non-food sources (including cellulosic biomass) faces serious technological barriers. Another transportation alternative, long considered but only slowly adopted, has been natural gas-powered vehicles. Recent increases in natural gas production, noted above, have made this option appear more attractive, although developing a supply infrastructure and overcoming technological and cost difficulties continue to present barriers to widespread adoption.

For many participants in the energy debate, replacing fossil fuels has been a goal not limited to the transportation sector, however. Electricity production by renewable energy sources—wind power, concentrating solar power, photovoltaic cells, geothermal energy, and biomass—is the goal of many initiatives: research and development programs, tax benefits, loan guarantees, and mandates.

The main stimulus for these programs is environmental, including concern about global climate change, but the prospect of developing new industrial production from expansion of renewable energy sources has been a significant, if controversial, theme. Even nuclear power, long a target of environmental concerns, has been considered a viable alternative to fossil energy for electricity generation, although once again the influx of newly developed natural gas resources has raised serious questions about the cost competitiveness of new nuclear power generators.

## Energy Legislation

### Earlier Legislation

Energy policy historically has often been legislated in large, complex bills that deal with a wide variety of issues, with debate spanning several sessions. The Energy Policy Act of 2005 (EPAcT 2005; P.L. 109-58) was the most recent comprehensive general legislation, with provisions and authorizations in almost all areas of energy policy. EPAcT 2005 also set up in DOE the program of energy project loan guarantees which became a source of controversy and debate following the bankruptcy of the Solyndra solar system manufacturing facility in 2011.<sup>15</sup>

The Energy Independence and Security Act of 2007 (EISA, P.L. 110-140) set new target fuel economy standards for cars and light trucks of 35 miles per gallon by 2020, and expanded the renewable fuels standard (RFS) to require 9.0 billion gallons in 2008 and rise to 36 billion gallons by 2022. EISA also included new efficiency standards for appliances and for light bulbs, the latter being particularly controversial in the 112<sup>th</sup> Congress.

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<sup>15</sup> See CRS Report R42152, *Loan Guarantees for Clean Energy Technologies: Goals, Concerns, and Policy Options*, by (name redacted).



In the 111<sup>th</sup> Congress the American Recovery and Reinvestment Act (the “Stimulus” Act, ARRA, P.L. 111-5) had major energy policy provisions, including expansion of the loan guarantee program and large increases in funding for renewable energy programs. The Department of Energy’s Office of Energy Efficiency and Renewable Energy, in addition to the \$2 billion appropriated in the FY2009 regular appropriations bill, received \$17 billion in ARRA, of which \$11.5 billion was for grants to states for energy, efficiency, and weatherization programs. The Office of Electricity Delivery and Energy Reliability, which had historically been funded at about \$150 million per year, received \$4.5 billion in ARRA, directed at establishing “Smart Grid” technology for the electric power industry.

## **Legislation in the 113<sup>th</sup> Congress**

The 113<sup>th</sup> Congress did not debate major energy legislation, but numerous energy policy questions were taken up in proposed legislation. The 113<sup>th</sup> Congress enacted statutes on generally less controversial topics, including hydroelectric licensing and permitting and pipeline safety documentation (P.L. 113-30). The 113<sup>th</sup> Congress also enacted the Water Resources Reform and Development Act of 2014 (WRRDA, P.L. 113-121), omnibus reauthorization of water resource activities.

More controversial energy policy topics saw committee and floor action in the 113<sup>th</sup> Congress, including legislation on the Keystone XL pipeline, hydraulic fracturing, and energy efficiency. Some of these proposals were rolled into H.R. 2, which passed the House September 18, 2014, but was not taken up in the Senate.

## **Keystone XL Pipeline and Other Pipeline Legislation**

In the ongoing debate over approval of the proposed Keystone XL pipeline to bring Canadian oil sands crude oil to the Gulf of Mexico, H.R. 3, the Northern Route Approval Act, would have declared that a presidential permit would not be required for its construction.<sup>16</sup> The bill passed the House on May 22, 2013, by a vote of 241-175. On November 11, 2014, a related bill, S. 2280, failed a cloture vote in the Senate 59-41.

In response to the increase in new production of natural gas and a consequent pressure to expand the means of transporting it to market, the House passed legislation (H.R. 1900) on November 21, 2013, to require the Federal Energy Regulatory Administration (FERC) to respond to new gas pipeline permit applications within one year.<sup>17</sup>

## **Increasing Domestic Production**

A bill to increase on-shore leasing of oil and gas resources on federal land (H.R. 1965), including the National Petroleum Reserve in Alaska, and shale oil deposits in Colorado, passed the House on November 21, 2013. A bill promoting increased offshore oil and gas exploration (H.R. 2231) passed the House on June 28, 2013. Neither bill was debated in the Senate.

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<sup>16</sup> For more information, see CRS Report R43787, *Keystone XL Pipeline: Overview and Recent Developments*, Keystone XL Pipeline: Overview and Recent Developments, by (name redacted) et al.

<sup>17</sup> For more information, see CRS Report R43138, *Interstate Natural Gas Pipelines: Process and Timing of FERC Permit Application Review*, by (name redacted).

## Regulation of Power Plant Emissions and Global Climate Change

As noted above, EPA's moves to regulate emissions from coal-fired power plants have been controversial, and several bills in the 112<sup>th</sup> and 113<sup>th</sup> Congresses passed the House without being taken up in the Senate.

On June 25, 2013, President Obama announced a national plan to reduce emissions of carbon dioxide and other greenhouse gases, as well as to encourage adaptation to expected climate change. A major feature of the President's Climate Action Plan was a directive to the Environmental Protection Agency to issue rules to curtail carbon dioxide emissions from new and existing power plants.<sup>18</sup> On March 6, 2014, the House passed H.R. 3826, a bill to block the Environmental Protection Agency from limiting power plant carbon emissions, by a vote of 229-183.

## Hydraulic Fracturing

The issue of regulation and safety of hydraulic fracturing led to differing legislative proposals. Under provisions of EPCA 2005, EPA does not have regulatory jurisdiction over certain aspects of hydraulic fracturing. In the 112<sup>th</sup> Congress, one proposed legislative solution, the Fracturing Responsibility and Awareness of Chemicals Act (FRAC Act, H.R. 1084 and S. 587), would have given EPA such jurisdiction under the Safe Drinking Water Act. Another bill would have maintained jurisdiction within the states. Neither legislative proposal was reported out of committee. In the 113<sup>th</sup> Congress, the FRAC Act was reintroduced as H.R. 1921.

Another aspect of the hydraulic fracturing issue is the proposal by the Bureau of Land Management (BLM) to regulate fracking on federal lands.<sup>19</sup> On November 20, 2013, the House passed H.R. 2728, which would have prohibited the Department of the Interior from enforcing rules related to hydraulic fracturing in "any state that has regulations, guidance or permit requirements for that activity."

## Energy Efficiency

The Energy Savings and Industrial Competitiveness Act of 2013, S. 2262 and H.R. 1616, would have promoted energy efficiency in buildings and industry by encouraging adoption of uniform building codes and authorized a grant program for state energy efficiency programs. Several versions of the bill saw committee and/or floor action in the Senate, but S. 2262 failed a cloture vote on May 12, 2014. On March 5, 2014, the House passed H.R. 2126, which contained some of the provisions in S. 2262, by a vote of 375-36.

## Multi-Faceted Legislation

On September 18, 2014, the House passed H.R. 2, which contained provisions from several bills, including H.R. 3, H.R. 1900, H.R. 1965, H.R. 2231, and H.R. 3826. The bill would have, among other provisions, effectively approved the Keystone XL pipeline, amended FERC authority to

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<sup>18</sup> See CRS Report R43120, *President Obama's Climate Action Plan*, coordinated by (name redacted).

<sup>19</sup> See CRS Report R43148, *An Overview of Unconventional Oil and Natural Gas: Resources and Federal Actions*, by (name redacted) and (name redacted).

approve natural gas pipelines, increased federal on-shore and off-shore oil and gas leasing, and limited EPA's authority to regulate greenhouse gas emissions. The bill passed by a vote of 226-191, but was not taken up by the Senate.

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