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Energy Policy: 114th 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 energy, 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, to be restricted as much as possible.

In the 114th Congress, both the House and Senate are considering broad energy legislation, as well as specific topics of key interest. On April 20, 2016, the Senate passed S. 2012, the Energy Policy and Modernization Act. On December 3, 2015, the House passed H.R. 8, the North American Energy Security and Infrastructure Act of 2015. On May 25, 2016, the House passed an amended version of S. 2012 which contains the text of H.R. 8, as well as the text of several other energy and natural resources-related bills. The conference committee met for the first time on September 8. Both bills would address a variety of energy topics, including energy efficiency in federal buildings, data centers, manufacturing, and schools; water conservation/efficiency; electric grid cybersecurity; and review of the Strategic Petroleum Reserve (SPR). The House bill also includes topics such as electric grid physical security and study of electricity markets; the Senate bill also includes provisions on helium and critical minerals, and electric grid energy storage, and loan programs.

Many energy topics were also addressed at the end of 1st Session of the 114th Congress as part of the FY2016 Consolidated Appropriations Act (P.L. 114-113). Among other provisions, the act included two major energy provisions:

- Repeal of the limitation on exports of U.S.-produced crude oil under the Energy Policy and Conservation Act; and
- Extension of several energy tax incentives, including the production tax credits (PTC) for wind and solar electricity, electric vehicle tax credits, and incentives for advanced biofuel production.

Early in the first session of the 114th Congress, the House and Senate passed the Keystone XL Pipeline Approval Act (S. 1), which was vetoed by President Obama on February 24, 2015. The bill would have immediately approved this controversial pipeline project. On November 6, 2015, the Department of State determined that the pipeline would “not serve the national interest of the United States,” and rejected TransCanada’s permit application.

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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 energy, particularly oil for 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 33% in 2015. Generation by natural gas has risen in importance, supplying nearly an equal percentage in the same year. 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.¹ 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.² 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.³ 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.⁴

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. The increase in unconventional oil supply has raised concerns about the environmental effects of hydraulic fracturing and other advanced extraction techniques. Increased production has also reduced U.S. crude oil imports, and led some stakeholders to argue limits on exports of U.S.-produced crude, in place since the 1970s, should be repealed; as part of the FY2016 Consolidated Appropriations Act (H.R. 2029), this provision of the Energy Policy and Conservation Act was repealed on December 18, 2015.

Much 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.⁵ The Deepwater Horizon oil spill in the Gulf of Mexico in 2010 added a further dimension to the question of OCS leasing.⁶ In recent years, development of Canadian oil sands resources, and of tight oil deposits in the United States, has added further

¹ For details, see CRS Report R42721, *Automobile and Truck Fuel Economy (CAFE) and Greenhouse Gas Standards*, by Brent D. Yacobucci, Bill Canis, and Richard K. Lattanzio.

² See CRS Report R44465, *Energy and Water Development: FY2017 Appropriations*, by Mark Holt.

³ See CRS Report R42147, *DOE Weatherization Program: A Review of Funding, Performance, and Cost-Effectiveness Studies*, by Fred Sissine.

⁴ See CRS Report R42028, *Lighting Industry Trends*, by Fred Sissine.

⁵ See CRS Report R42432, *U.S. Crude Oil and Natural Gas Production in Federal and Nonfederal Areas*, by Marc Humphries.

⁶ See CRS Report R41684, *Enacted and Proposed Oil Spill Legislation in the 112th Congress*, by Jonathan L. Ramseur.

controversy over the possible environmental effects of their production and transportation.⁷ Before TransCanada's permit application was rejected in November 2015, the proposed Keystone XL pipeline to bring Canadian crude to Texas refineries was particularly controversial.⁸ More recently, controversy has arisen over the siting of the Dakota Access Pipeline, a 1,172-mile project that would carry North Dakota crude oil to southern Illinois.⁹

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.¹⁰

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.¹¹ 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.¹²

Since June 2014, oil and gasoline prices have remained relatively low. In the last week of June 2014, crude oil prices were above \$100 per barrel; at the end of December 2014 prices were below \$60 per barrel, and have remained below \$50 per barrel since August 2015. Similarly, national average gasoline prices dropped from roughly \$3.80 to around \$2.20, and have remained below \$2.50 since September 2015. 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.

⁷ See CRS Report R43148, *An Overview of Unconventional Oil and Natural Gas: Resources and Federal Actions*, by Michael Ratner and Mary Tiemann.

⁸ See CRS Insight IN10393, *The State Department's Final Decision on the Keystone XL Pipeline*, by Linda Luther and CRS Report R42611, *Oil Sands and the Keystone XL Pipeline: Background and Selected Environmental Issues*, coordinated by Jonathan L. Ramseur.

⁹ See CRS Insight IN10567, *Dakota Access Pipeline: Siting Controversy*, by Paul W. Parfomak.

¹⁰ See CRS Report R42537, *Canadian Oil Sands: Life-Cycle Assessments of Greenhouse Gas Emissions*, by Richard K. Lattanzio.

¹¹ See CRS Report R41398, *The Dodd-Frank Wall Street Reform and Consumer Protection Act: Title VII, Derivatives*, by Rena S. Miller and Kathleen Ann Ruane.

¹² See CRS Report R42460, *The Strategic Petroleum Reserve: Authorization, Operation, and Drawdown Policy*, by Robert Pirog.

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, 2014 gas consumption, 26.7 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 many of the 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.¹³

Electric Power Production

The electric power sector since the mid-1980s has been essentially independent of the question of oil import dependence, 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. Roughly 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 and finalized 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.¹⁴ Further, because of low natural gas prices, retirement of some coal plants in favor of natural gas would be expected regardless of regulatory factors.

Arguably the most controversial regulatory action has been EPA's Clean Power Plan (CPP). On August 3, 2015, EPA finalized regulations to limit carbon dioxide (CO₂) emissions in the electric power sector. The CPP final rule requires states to submit plans that would reduce CO₂ emissions or emission rates from existing fossil fuel electricity generating units. EPA estimates that in 2030, the CPP will result in CO₂ emission levels from the electric power sector that are 32% below 2005 levels.

The CPP is the subject of ongoing litigation in which a number of states and other entities have challenged the rule. On February 9, 2016, the Supreme Court stayed the CPP for the duration of the litigation. The CPP therefore currently lacks enforceability or legal effect, and if the rule is ultimately upheld, at least some of the deadlines would have to be delayed. On September 27,

¹³ See CRS Report R42074, *U.S. Natural Gas Exports: New Opportunities, Uncertain Outcomes*, by Michael Ratner et al. and CRS Report R43442, *U.S. Crude Oil Export Policy: Background and Considerations*, by Phillip Brown et al.

¹⁴ See CRS Report R41914, *EPA's Regulation of Coal-Fired Power: Is a "Train Wreck" Coming?*, by James E. McCarthy and Claudia Copeland.

2016, the U.S. Court of Appeals for the District of Columbia Circuit (D.C. Circuit) heard oral arguments on the case.

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.¹⁵

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 (EPAc 2005; P.L. 109-58) was the most recent comprehensive general legislation, with provisions and authorizations in almost all areas of energy policy. EPAc 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 2011.¹⁶

¹⁵ See CRS Report RL33558, *Nuclear Energy Policy*, by Mark Holt.

¹⁶ See CRS Report R42152, *Loan Guarantees for Clean Energy Technologies: Goals, Concerns, and Policy Options*, by Phillip Brown.

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 of biofuels in transportation in 2008, rising 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 112th Congress.

In the 111th 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 114th Congress

Comprehensive Energy Legislation

In the second session of the 114th Congress, both the House and Senate are considering broad energy legislation, as well as specific topics of key interest. On April 20, 2016, the Senate passed S. 2012, the Energy Policy and Modernization Act. On December 3, 2015, the House passed H.R. 8, the North American Energy Security and Infrastructure Act of 2015. On May 25, 2016, the House passed an amended version of S. 2012 which contains the text of H.R. 8, as well as the text of several other energy and natural resources-related bills. The conference committee met for the first time on September 8.

Both bills would address a variety of energy topics, including energy efficiency in federal buildings, data centers, manufacturing, and schools; water conservation/efficiency; electric grid cybersecurity; and review of the Strategic Petroleum Reserve (SPR). The House bill also includes topics such as electric grid physical security and study of electricity markets; the Senate bill also includes provisions on helium and critical minerals, electric grid energy storage, and loan programs. Further, both bills contain major natural resources provisions, including a Title on forestry management in the House and permanent reauthorization of the Land and Water Conservation Fund in the Senate.¹⁷

Regulation of Power Plant Emissions and Global Climate Change

In June 2013, President Obama released a Climate Action Plan and directed EPA to propose standards for carbon dioxide emissions from existing power plants by June 2014 and to finalize the standards a year later. EPA proposed the standards on June 2, 2014, and finalized them on August 3, 2015. The rule, known as the Clean Power Plan (CPP), sets individual state targets for average emissions from existing power plants. The CPP set a deadline of September 6, 2016, for states to submit implementation plans to EPA detailing how they will meet these targets. However, the CPP is the subject of ongoing litigation in which a number of states and other entities have challenged the rule, while other states and entities have intervened in support of the

¹⁷ For a discussion of major provisions in both bills, see CRS Report R44291, *Energy Legislation: Comparison of Selected Provisions in S. 2012 as Passed by the House and Senate*, by Brent D. Yacobucci.

rule. On February 9, 2016, the Supreme Court stayed the Clean Power Plan for the duration of the litigation. On September 27, 2016, the U.S. Court of Appeals for the District of Columbia Circuit (D.C. Circuit) heard oral arguments on the case.

In the 114th Congress several pieces of legislation have been introduced regarding the CPP. In the first session, both the Senate and House passed S.J.Res. 24, to disapprove the rule under the Congressional Review Act (November 17 and December 1, 2015, respectively). The President vetoed the resolution on December 18, 2015. In addition, on June 24, 2015, the House passed H.R. 2042, the Ratepayer Protection Act of 2015, which would delay implementation of the CPP and allow states to opt out of the rule. In the Senate, S. 1324, the Affordable Reliable Electricity Now Act, contains similar provisions.¹⁸

U.S. Crude Oil Exports

Some major energy topics were addressed at the end of first session of the 114th Congress as part of the FY2016 Consolidated Appropriations Act (P.L. 114-113). Among other provisions, the act repealed the 40-year limitation on exports of U.S.-produced crude oil under the Energy Policy and Conservation Act. Before the repeal, the United States exported roughly 500,000 barrels of crude oil per day to Canada. Through the end of June 2016, approximately 29 million barrels total have been exported to new destinations in the Caribbean, Europe, and Asia.¹⁹

Energy Tax Incentives

The FY2016 Consolidated Appropriations Act also extended several energy tax incentives, including the production tax credits (PTC) for wind and solar electricity, electric vehicle tax credits, and incentives for advanced biofuel production.

Keystone XL Pipeline

Early in the first session of the 114th Congress, the House and Senate passed the Keystone XL Pipeline Approval Act (S. 1), which was vetoed by President Obama on February 24, 2015. The bill would have immediately approved this controversial pipeline project. On November 6, 2016, the Department of State determined that the pipeline would “not serve the national interest of the United States,” and rejected TransCanada’s permit application.²⁰

Hydraulic Fracturing

Under provisions of EPCA 2005, EPA does not have regulatory jurisdiction over certain aspects of hydraulic fracturing. The Fracturing Responsibility and Awareness of Chemicals Act (FRAC Act, H.R. 1482 and S. 785) would give EPA such jurisdiction under the Safe Drinking Water Act. The Safe Hydration Is an American Right in Energy Development Act of 2015 (H.R. 1515) would amend the SDWA to create a new prohibition on hydraulic fracturing unless the party conducting the operations agrees to comply with new testing and data reporting requirements. The Fracturing

¹⁸ For more information, see CRS Report R44341, *EPA’s Clean Power Plan for Existing Power Plants: Frequently Asked Questions*, by James E. McCarthy et al.

¹⁹ For more information, see CRS Insight IN10536, *U.S. Crude Oil Exports to International Destinations*, by Phillip Brown.

²⁰ For more information, see CRS Legal Sidebar WSLG1436, *Obama Administration Rejects Keystone XL Pipeline Permit Request: Could Congress Nevertheless Approve It?*, by Brandon J. Murrill and Adam Vann.

Regulations Are Effective in State Hands Act (S. 828) would give states sole jurisdiction to regulate hydraulic fracturing within their borders, including on federal land.²¹

Vehicle Fuel Economy (CAFE)/Greenhouse Gas (GHG) Standards

On August 28, 2012, the Obama Administration issued new joint passenger vehicle Corporate Average Fuel Economy (CAFE) and greenhouse gas (GHG) standards for vehicle model years (MY) 2017-2025.²² However, while EPA has authority to set GHG standards over an unlimited time frame under the Clean Air Act, the National Highway Traffic Safety Administration (NHTSA) is constrained by the Energy Policy and Conservation Act to setting standards in five-year increments. Thus, NHTSA has established standards for MY2017-MY2021, and only proposed standards beyond that. As part of the 2012 rulemaking, the agencies committed to a “comprehensive mid-term evaluation” in 2017 to assess the progress of the program, revisit cost-benefit analyses, and propose new CAFE standards.

At the same time that EPA and NHTSA are preparing for the mid-term evaluation, automakers are seeking regulatory or legislative changes to limit their potential penalties under the CAFE program. Because of differences between the two statutes, while some automakers are in compliance with the GHG standards, they may still potentially face penalties under the CAFE standards.²³

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²¹ For more information, see CRS Report R43152, *Hydraulic Fracturing: Selected Legal Issues*, by Adam Vann, Brandon J. Murrill, and Mary Tiemann.

²² For more information, see CRS Report R42721, *Automobile and Truck Fuel Economy (CAFE) and Greenhouse Gas Standards*, by Brent D. Yacobucci, Bill Canis, and Richard K. Lattanzio.

²³ See CRS Insight IN10550, *Automakers Seek to Align Fuel Economy and Greenhouse Gas Regulations*, by Bill Canis.