Energy Policy: 113th 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 indiscriminate 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.

Energy policy was an important issue in the 2012 presidential campaign, and there were sharp differences between the positions of President Obama and Republican candidate Mitt Romney, and between most Republicans and Democrats in Congress. The Obama Administration has vigorously pushed energy efficiency and renewable energy initiatives, at the same time claiming to encourage development of oil and natural gas resources. President Obama has declared global climate change a major issue. The Romney campaign argued that the Obama Administration has blocked oil and gas development, and declared that so-called green technologies are too expensive to compete in the market. Alternative energy funding, according to Romney, should be concentrated on basic research. On global climate change, Romney acknowledged that human activity contributes to global warming, but claimed there is no consensus on its extent or severity. He opposed unilateral measures that do not include actions by developing countries.

The 112th Congress did not take up comprehensive energy legislation, but numerous bills were considered on specific energy issues. Its most significant action was extension of energy tax credits, including the Production Tax Credit (PTC) for wind energy, to January 1, 2014, as part of P.L. 112-240, The American Taxpayer Relief Act of 2012. In the 113th Congress, a number of issues, some of which drew attention previously, have been taken up in proposed legislation. H.R. 3, the Northern Route Approval Act, would declare 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 Energy Savings and Industrial Competitiveness Act of 2013, S. 761 and H.R. 1616, would promote energy efficiency in buildings and industry by encouraging adoption of uniform building codes and authorize a grant program for state energy efficiency programs. The bill was reported out by the Senate Energy and Natural Resources Committee on May 13, 2013, and is expected to come to the Senate floor before the August recess.

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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 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 close to 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 42% in 2011, and about 36% through September 2012. Generation by natural gas has risen in importance, supplying about 25% in 2011 and 31% in 2012. 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 about 3%.

An issue that cuts across all these factors is the role of government. How much does 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.

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. 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.[4] The Deepwater Horizon oil spill in the Gulf of Mexico in 2010 added a further dimension to the question of OCS leasing.[5] 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 transportation.[6] The proposed Keystone XL pipeline to bring Canadian crude to Texas refineries has been particularly controversial.[7]

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[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 R42498, *Energy and Water Development: FY2013 Appropriations*, coordinated by Carl E. Behrens.

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

[4] See CRS Report R42432, *U.S. Crude Oil and Natural Gas Production in Federal and Non-Federal Areas*, by Marc Humphries, and CRS Report R41132, *Outer Continental Shelf Moratoria on Oil and Gas Development*, by Curry L. Hagerty.

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

[6] See CRS Report R41760, *Hydraulic Fracturing and Safe Drinking Water Act Regulatory Issues*, by Mary Tiemann and Adam Vann.

[7] See CRS Report R41668, *Keystone XL Pipeline Project: Key Issues*, by Paul W. Parfomak et al., and CRS Report R42611, *Oil Sands and the Keystone XL Pipeline: Background and Selected Environmental Issues*, coordinated by Jonathan L. Ramseur.

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.[8]

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.[9] 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 fill 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.[10]

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, 2011 gas consumption, 24 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. 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 natural gas, and its effect on prices and supply.[11]

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

[9] See CRS Report R42129, *Derivatives Legislation in the 112th Congress*, by Rena S. Miller.

[10] See CRS Report R42460, *The Strategic Petroleum Reserve: Authorization, Operation, and Drawdown Policy*, by Anthony Andrews and Robert Pirog.

[11] See CRS Report R42074, *U.S. Natural Gas Exports: New Opportunities, Uncertain Outcomes*, by Michael Ratner et al.

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.[12]

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.[13]

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. 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, biomass—is the goal of many initiatives: research and development programs, tax benefits, loan guarantees, and mandates.

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

[13] See CRS Report RL33558, *Nuclear Energy Policy*, by Mark Holt.

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 Policy in the 2012 Presidential Campaign

When oil prices surged over $100 per barrel early in 2012, mostly driven by the prospect of a confrontation with Iran over nuclear weapons and the expected slowing of world economic growth, it appeared that energy policy would be a major factor in the election of 2012. By midyear, however, the Iran crisis appeared to be less critical, prices receded, and the issue receded somewhat from the headlines. Nevertheless, there remained sharp differences between the positions of President Obama and Republican candidate Mitt Romney, and between most Republicans and Democrats in Congress.

Obama Energy Policy

The Obama campaign website did not have a specific reference to energy policy, but the President frequently stated his support for strong efforts to develop renewable energy sources, both as an environmental goal and as a way to develop domestic industrial activity. In his 2011 State of the Union address to Congress he declared: "This is our generation's Sputnik moment," when, like the Apollo mission to the moon, investment in research and education "unleashed a wave of innovation that created new industries and millions of new jobs."[14] He repeated the theme in 2012, claiming that "because of federal investments, renewable energy use has nearly doubled, and thousands of Americans have jobs because of it."[15]

In addition to clean energy initiatives, the President also claimed credit for encouraging the development of natural gas production, especially the recent surge in shale gas, while ensuring that the environment is protected in the process. In his 2012 State of the Union address, he noted that "it was public research dollars, over the course of 30 years, that helped develop the technologies to extract all this natural gas out of shale rock."[16]

Domestic production of oil is also up, and the President insists his Administration had opened up large areas for exploration in an environmentally safe way. Speaking in March 2012,[17] when gasoline prices appeared to be peaking again, the President scorned "politicians [who] dust off their 3-point plans for $2.00 gas" by proposing "drill, baby, drill, drill, drill, drill." Instead, he said, "we need an all-of-the-above strategy.... Yes, develop as much oil and gas as we can, but also develop wind power and solar power and biofuels. Make our buildings more fuel-efficient. Make our homes more fuel-efficient. Make our cars and trucks more fuel-efficient so they get more miles for the gallon."

[14] http://www.whitehouse.gov/the-press-office/2011/01/25/remarks-president-state-union-address.

[15] http://www.whitehouse.gov/the-press-office/2012/01/24/remarks-president-state-union-address.

[16] Ibid.

[17] http://www.whitehouse.gov/the-press-office/2012/03/15/remarks-president-energy.

The President has declared global climate change to be "one of the biggest issues of this generation,"[18] and early in his Administration supported legislation that would have set up a "cap-and-trade" limit on greenhouse gas emissions. Climate change is a major justification for the vigorous efforts to develop renewable energy sources.

The President's actions generally followed his declared policies. Fuel economy standards were raised, with a rule issued in April 2010 setting the standard at 34.1 miles per gallon (mpg) for 2016, and a further rule issued in August 2012 setting the 2025 standard at 49.7 mpg. The new standards also call for reductions in emissions of greenhouse gases.[19] Support for energy efficiency and renewable energy programs in the Department of Energy was sharply increased in each of the Administration's annual budget requests. On the issue of OCS leasing, some areas in the Gulf of Mexico that were formerly closed have been opened to leasing. In each of these areas, the extent and form of policy changes have been subject to controversy.

Romney Energy Policy

On his website, Republican presidential candidate Mitt Romney criticized the Obama energy policy and proposed action in three areas: regulatory changes, increasing production of "carbon-based energy resources," and directing alternative energy R&D funding to "basic research."[20]

The statement argued that the Obama Administration, "in thrall to the environmentalist lobby and its dogmas," had "stifled the domestic energy sector" by blocking "off-shore drilling in U.S. waters" and blocking "construction of a pipeline that would bring Canadian oil to the United States, knowing full well that the result would be Canadian oil flowing to China instead." The statement also attacked Obama's focus on renewable energy and his claim to creating "green" jobs. "The 'green' technologies are typically far too expensive to compete in the marketplace, and studies have shown that for every 'green' job created there are actually more jobs destroyed," according to the Romney statement.

Romney's regulatory proposals included speeding up approval of gas and oil production permits and nuclear power licensing, including cost considerations in regulatory processes and excluding carbon dioxide from the purview of the Clean Air Act—the latter aimed at restricting the Environmental Protection Agency from limiting greenhouse gas emissions to combat global climate change. Specific actions proposed to increase domestic energy production included "prevent[ing] overregulation of shale gas development and extraction" and "support[ing] construction of pipelines to bring Canadian oil to the United States." On research and development, the Romney statement said, "government has a role to play in innovation in the energy industry," but that "we should not be in the business of steering investment toward particular politically favored approaches. That is a recipe for both time and money wasted on projects that do not bring us dividends." The policy should be to "concentrate alternative energy funding on basic research," according to the statement.

[18] http://www.sciencedebate.org/debate12/

[19] http://yosemite.epa.gov/opa/admpress.nsf/79c090e81f0578738525781f0043619b/13f44fb4e2c2d39d85257a68005d0154!OpenDocument

[20] http://www.mittromney.com/issues/energy#content-content

In a "white paper" issued August 23, 2012, Romney criticized the Administration's emphasis on alternative energy and claimed that to "dramatically increase domestic energy production" would lead to "North American energy independence by 2020." He specifically proposed giving the states authority to "control onshore energy development."[21]

On the issue of global climate change, Romney stated that "the world is getting warmer, human activity contributes to that warming, and policymakers should therefore consider the risk of negative consequences." But he claimed a "lack of scientific consensus ... on the extent of the warming, the extent of the human contribution, and the severity of the risk," and criticized policies that unilaterally aimed at reducing U.S. emissions without requiring reductions from the developing world.[22]

Energy Legislation

Energy policy historically has been legislated mostly 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 has become a source of controversy and debate following the bankruptcy of the Solyndra solar system manufacturing facility in 2011.[23]

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 increased the renewable fuels standard (RFS) to start at 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 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 Office of Energy Efficiency and Renewable Energy programs, 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 112th and 113th Congress

The 112th Congress did not deal with major energy legislation, but numerous energy policy questions were taken up in proposed legislation. The major action was passage of the "fiscal cliff" act: P.L. 112-240, The American Taxpayer Relief Act of 2012, signed into law January 2, 2013. It

[21] http://www.mittromney.com/sites/default/files/shared/energy_policy_white_paper_8.23.pdf

[22] http://www.sciencedebate.org/debate12/

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

was primarily concerned with averting scheduled income tax rate increases and spending reductions required by the Budget Control Act (P.L. 112-25), but it included extension of energy tax credits, including the Production Tax Credit (PTC) to January 1, 2014, some biofuels incentives, and incentives for efficient homes, appliances, alternative fuels, and electric vehicles.

In the 113th Congress, the following issues have attracted legislative attention.

Keystone XL Pipeline

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 declare that a Presidential permit would not be required for its construction. The bill passed the House on May 22, 2013, by a vote of 241-175.

Regulation of Power Plant Emissions

As noted above, EPA's moves to regulate emissions from coal-fired power plants have been controversial, and several bills in the 112th Congress passed the House without being taken up in the Senate. No similar legislation has yet been introduced in the 113th Congress.

Hydraulic Fracturing

The issue of regulation and safety of hydraulic fracturing led to differing legislative proposals. Under provisions of EPAct 2005, EPA does not have regulatory jurisdiction over certain aspects of hydraulic fracturing. In the 112th Congress, one proposed legislative solution, the Fracturing Responsibility and Awareness of Chemicals Act (FRAC Act), 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 113th Congress, the FRAC Act was reintroduced as H.R. 1921.

Energy Efficiency

The Energy Savings and Industrial Competitiveness Act of 2013, S. 761 and H.R. 1616, would promote energy efficiency in buildings and industry by encouraging adoption of uniform building codes and authorize a grant program for state energy efficiency programs. The bill was reported out by the Senate Energy and Natural Resources Committee on May 13, 2013.

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