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Obama Administration Seeks Safeguards For Energy Reforms

New Policies Will Continue To Raise Costs For Oil And Coal Industries; Favor Clean Energy Investments

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Policy Brief

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Key Takeaways:

- President Obama emphasized progress his Administration has made in renewable energy growth and climate action in his 2016 State of the Union address
- Newly proposed reforms to the federal government's management of oil and coal resources would impose additional costs to reflect environmental impacts
- The Obama Administration is determined to safeguard climate policy and environmental regulations and advocate clean energy during his final year in office

Entities Mentioned:

- American Petroleum Institute
- American Wind Energy Association
- Bureau of Land Management
- Department of Energy
- Department of the Interior
- Energy Information Administration
- Environmental Protection Agency
- Solar Energy Industries Association
- United Nations Framework Convention on Climate Change
- Wyoming Mining Association

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Insight for Industry – 2016 State of the Union Emphasizes Commitment to Clean Energy and Reforms to Better Reflect Real Costs of Oil and Coal

In his last State of the Union (SOTU) on January 12, 2016, President Barack Obama focused on progress made during his seven years in office, including reinventing the energy sector. The speech highlighted the Administration's accomplishments through clean energy initiatives and emissions reduction policies.

Shortly after the SOTU address, on January 15, the Administration issued an order to pause new leases for coal mined from federal lands as part of a comprehensive review of the government's management of significant amounts coal reserves in the West. The move comes as a major setback for the coal industry and western states, where federal coal leases support thousands of jobs and government revenue.

To climate skeptics, the President said that the U.S. led nearly 200 nations in creating the most ambitious agreement to fight climate change, indicating that the world had accepted the science around climate change. With the Clean Power Plan (CPP) and the Paris climate agreement among his core achievements, President Obama tied climate policy to economic growth hinting that climate change solutions serve to strengthen the economy, regardless of the science behind the issue.

President Obama underscored the need for a stronger commitment to develop clean energy sources. In this, he called for an accelerated transition towards clean energy, stating that communities relying on fossil fuels should invest in the future rather than subsidize the past. The President vowed to continue to push against leasing public lands for oil, gas, and coal production at subsidized prices.

Highlighting the Administration's accomplishments, President Obama noted that the energy portion of the 2009 stimulus package has now made wind power cheaper than conventional power, and also fostered a solar industry that saves tens of millions in energy bills and employs more than the coal industry and pays better than the average. On this note, the speech referenced the spending bill passed in December 2015 with provisions to extend the federal renewable energy tax incentives.

As CPP litigation continues and public opinion on climate change remains divided, President Obama's final year in office will likely focus on preserving his climate policies and defending the CPP. Efforts to advance clean energy initiatives could increasingly favor moving away from coal and oil. The Administration will take efforts to complete its environmental regulations – establishing fuel economy standards for heavy-duty trucks, finalizing methane emission rules for the oil and gas sector, and advancing energy efficiency standards for appliances.

As CPP litigation continues and public opinion on climate change remains divided, President Obama's final year in office will likely focus on preserving his climate policies and defending the CPP

DOI’s Moratorium on Federal Coal Leasing Comes as Major Setback to Coal States

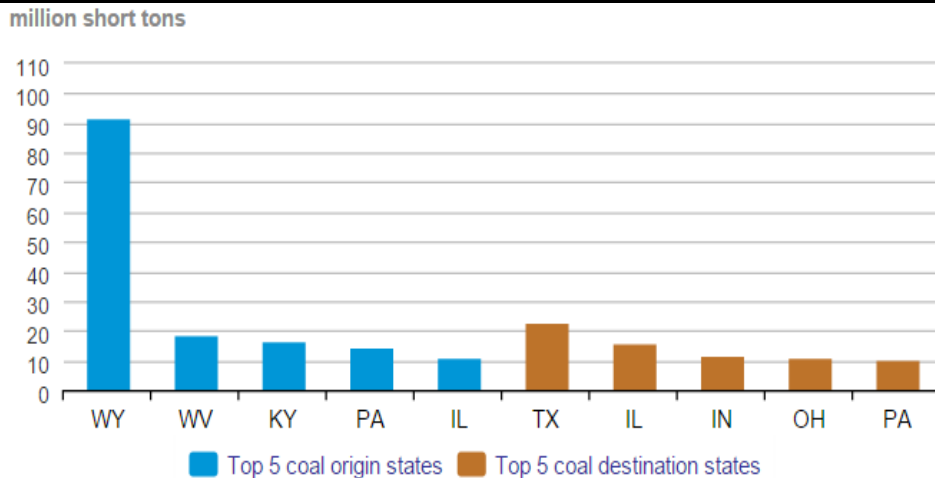
The Administration’s regulatory efforts seek to expand the regulatory reach of the Department of the Interior (DOI) and, in most cases, impose more stringent rules and significant costs on oil, gas, and coal operations on public lands. The DOI and its sub-agencies manage the vast majority of the surface and mineral rights and energy projects on public lands, both onshore and offshore.

On January 15, the DOI announced that it will pause coal leasing while it reviews potential reforms to the federal coal program to reflect impacts on the environment and ensure fair returns to taxpayers. The announcement comes in response to the newly-issued Order No. 3338 which directs the DOI’s Bureau of Land Management (BLM) to prepare a discretionary Programmatic Environmental Impact Statement (PEIS) to analyze potential reforms to the federal coal program. The BLM will not hold lease sales or process new lease applications for surface and underground coal, with limited exceptions, while DOI completes its programmatic review, the first comprehensive review of the federal coal program in 30 years. According to DOI, the review will examine concerns raised by the Government Accountability Office, the DOI’s Inspector General, Members of Congress, and the public. In March 2015, the DOI held a series of listening sessions on coal leasing regarding returns to taxpayers and local communities, transparency, competitiveness, and consistency with climate objectives.

Approximately 41 percent of US coal is mined on federal lands, with Wyoming and Montana accounting for more than 85 percent of federal production (Figure 1). In 2015, federal coal accounted for 14 percent of U.S. electricity generation. The Wyoming Mining Association expressed displeasure saying that the DOI measure will make federal coal uneconomical to mine and lock up the nation’s most abundant and reliable source of electricity generation.

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Figure 1 – Top Five Coal Origin and Destination States, Q2 2014



Source: EIA

According to DOI, the coal program took in approximately \$1.29 billion in royalties, rents, and bonuses in 2015. The DOI noted stakeholder concerns that royalty rates do not adequately compensate the public. Rates are fixed at 8 percent for underground mines and not less than 12.5 percent for surface mines. Many stakeholders believe that these rates do not provide adequate compensation. Returns are also lowered through certain types of leasing actions, such as lease modifications and royalty rate reductions, which may result in royalty rates as low as 2 percent. In addition, there have been concerns that the impact of federal coal sales, which represent approximately 41 percent of total domestic production, artificially lowers market prices, thereby reducing royalty amounts.

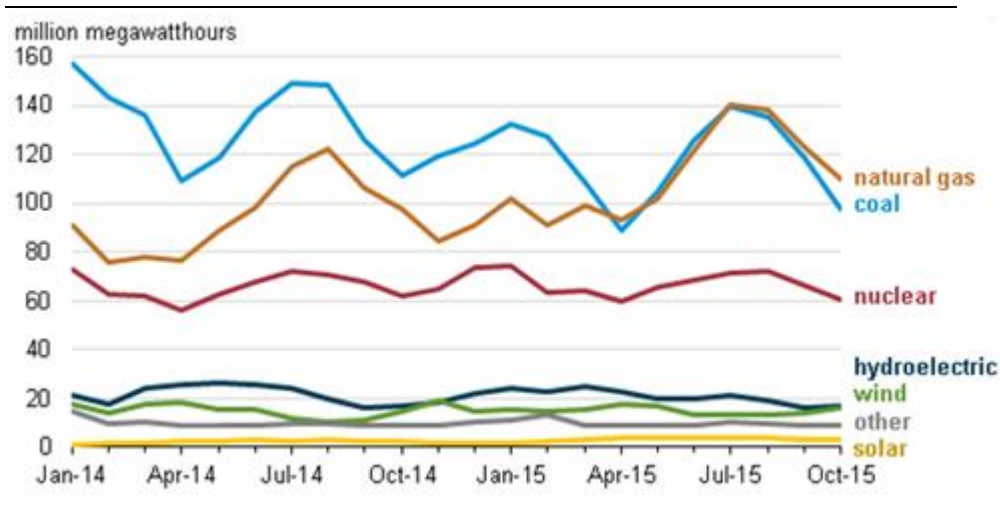
The coal industry and major coal producing regions have already faced adverse impacts from the Administration’s sweeping environmental regulations. According to the National Mining Association, 40,000 coal miners have lost their jobs since 2011, largely due to regulatory policies that led to premature closure of coal power plants.

Stringent Environmental Regulations and Shale Gas Boom Accelerate Shift from Coal to Natural Gas-Fired Generation

The 2015 generation mix demonstrates the remarkable pace with which natural gas-fired generation is gaining dominance. A January 11 report from the Energy Information Administration (EIA) showed that natural gas-fired generation exceeded coal-fired generation for five months in 2015 – April, July, August, September, and October – driven by low natural gas prices and stringent environmental regulations (Figure 2). While EIA said that coal would still surpass gas as the prevalent generation fuel, the final result remains to be seen after data for November and December 2015 become available.

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Figure 2 – U.S. Monthly Net Electric Power Generation, January 2014 to October 2015



Source: EIA

In 2015, nearly all new utility-scale plants of 1 MW capacity or greater consisted of natural gas, wind, and solar units. Coal units accounted for most generator retirement, with more than 11,000 MW retired through October 2015 and an additional 2,600 MW planned to retire by December. Wholesale electricity prices at major trading hubs on a monthly average basis for on-peak hours declined by 27-37 percent in 2015 compared to 2014, in response to changes in natural gas prices. In addition, natural gas-fired generators, particularly combined-cycle plants, experienced an increase in the average capacity factor – a measure of the actual generation as a percent of a potential maximum – while coal-fired generators faced a modest decline in capacity factor. Nuclear generation through October was the highest since 2010 due to low outage levels facilitated by high capacity factors. Among renewable sources, hydroelectricity continued to provide the most generation accounting for six percent of the nation's total generation through October.

Shale gas, labeled as a bridge towards clean energy future, is replacing coal and helping the Administration meet its 2030 goal of reducing carbon emissions by 32 percent. Shale gas has also contributed to a renaissance in the chemical and manufacturing industry where it is used as feedstock in the form of natural gas liquids.

Despite Production Glut Oil Interests Disapprove of Regulatory Environment

Despite the production boom in the U.S. oil and gas industry, there are concerns that the Administration's regulations have been a hindrance to the overall industry. Responding to the 2016 SOTU address, Sen. Lisa Murkowski (R-Alaska) said the President had placed a stranglehold on domestic resource production while unleashing the Iranian energy sector through sanctions relief. Sen. Murkowski also complained that the Administration had blocked offshore energy production and resource development in the Arctic National Wildlife Refuge (ANWR), neglecting investment opportunities in the Arctic.

The American Petroleum Institute (API) President and CEO Jack Gerard said that environmental progress could be achieved without an onslaught of new regulations raising costs for consumers. He attributed the U.S. energy renaissance to state leadership, private investment, and innovation, rather than federal programs, pointing out that crude oil production had remained flat and natural gas production had declined in federal lands.

In 2015, the end of the 40-year old ban on crude oil exports came as a relief for the oil industry that has been seeking export avenues to accommodate increasing domestic production. However, the denial of a presidential permit to build the Keystone XL oil pipeline across the U.S.-Canadian border was a major setback for the industry. In another setback to the industry, in August 2015, the EPA proposed the first national standards for methane emissions from the oil and gas sector as part of the 2013 Climate Action Plan aiming to reduce emissions of methane – the primary component of natural gas – by 40-45 percent below 2012 levels by 2025. The proposed regulations would be burdensome for the oil and gas industry, which is already facing consistently falling commodity prices that have resulted in lower profits. Weak natural gas

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prices and additional compliance requirements would increase costs especially for companies involved in natural gas production and transmission.

President Obama's energy industry review was first highlighted in his 2012 "all-of-the-above" energy strategy aimed to harness U.S. innovation and develop a diverse portfolio of U.S.-made energy. The strategy emphasized safe and responsible development of domestic energy resources while advancing cleaner forms of energy, primarily natural gas and renewables.

Paris Agreement and Reducing Fossil Fuel Use in Power and Transportation Sectors Form Obama's Climate Legacy

Climate policy gained a stronger focus in President Obama's second term, with the 2013 SOTU casting a bold vision on climate change action, seeking a bipartisan market-based solution to address the issue, but pledging to work unilaterally if Congress denied action. In June 2013, the Administration outlined a comprehensive Climate Action Plan with sweeping measures to cut carbon emissions from power plants, boost renewable energy production, increase fuel economy standards, and advance international initiatives to combat climate change. A 2007 Supreme Court decision which ruled that the Environmental Protection Agency (EPA) had authority under the existing Clean Air Act to regulate greenhouse gases set the stage for climate policy. Given EPA's obligations, environmental regulations emerged as a strategic move allowing the Administration to act without congressional roadblocks.

While President Obama has championed the fight against climate change, establishing this legacy depends on pursuing solutions that measure up to the scale of the challenge, primarily by reducing fossil fuel use. President Obama's signature accomplishment was helping lead a historic international climate agreement involving 195 countries at the Paris climate conference in December 2015. The Paris agreement lays the foundation for countries to reduce global greenhouse gas emissions and keep the global temperature rise below 2 degrees Celsius. In March 2015, the U.S. submitted its emissions reduction target to the United Nations Framework Convention on Climate Change (UNFCCC), committing to reduce emissions by 26-28 percent below 2005 levels by 2025. The State Department is also working to reduce global emissions of HFCs through an amendment to the Montreal Protocol.

In August 2015, the Administration launched the CPP, which establishes the first emission guidelines for existing fossil fuel-fired electric generating units. The CPP sets a 2030 emissions reduction target of 32 percent relative to 2005 levels, with mandatory emissions reductions set to begin in 2022 and rise gradually until 2030, when states must meet their overall target. The EPA envisioned the CPP as the foundation for longer term emissions reduction strategies confirming U.S. global leadership in addressing climate change. In addition, the Administration has also set standards to double the fuel economy of passenger vehicles by 2025 and is now moving ahead with tougher fuel efficiency standards for heavy-duty trucks.

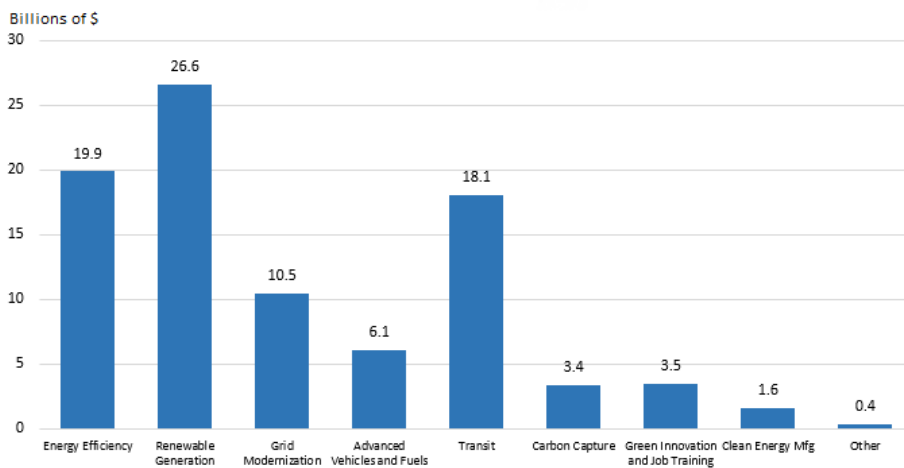
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In March 2015, the BLM published its final rule on hydraulic fracturing to protect water quality and ensure sound well construction and handling of water after it is used in the well. In April 2015, the Bureau of Safety and Environmental Enforcement (BSEE) issued a proposed rule – estimated to cost as much as \$883 million over 10 years – to update standards for blowout prevention systems and other well controls for offshore oil and gas operations. The DOI has also proposed standards for Arctic oil and gas exploration and development, specifically tailored to the region’s conditions. The BLM has also issued proposed regulations to establish procedures for how producers should measure and account for the energy resources they extract from public lands and ensure accurate royalties.

Solar and Wind Industries Hail Clean Energy Success in Response to SOTU

The 2016 SOTU touted clean energy accomplishments facilitated by the American Recovery and Reinvestment Act of 2009 (ARRA), which appropriated an unprecedented \$90 billion in investment and tax incentives to lay the foundation for a clean energy economy (Figure 3). Through the Act, the Department of Energy (DOE) invested more than \$31 billion to support clean energy technologies, including smart grid, alternative fuel vehicles, energy efficiency upgrades, and carbon capture and storage. Notably, the Advanced Research Project Agency-Energy (ARPA-E) program, aimed to drive transformational energy research breakthroughs, has funded hundreds of millions in cutting-edge energy technologies.

Figure 3 – Clean Energy Appropriations by Category



Source: White House

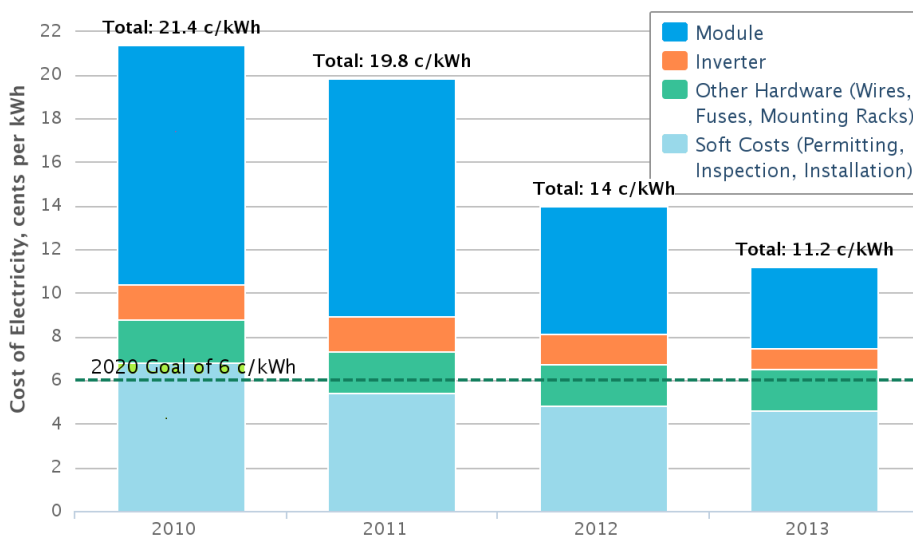
The Solar Energy Industries Association (SEIA) commended President Obama’s mention of solar energy as a key solution for clean energy development. The most recent victory for clean energy is the five-year extension of the Production Tax Credit for wind and the Investment Tax Credit for solar, providing the much needed regulatory certainty and market signal for steady growth. Wind and solar power have become economically viable due to

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significant deployment growth and resulting cost reductions in recent years. Production of wind power has more than quadrupled since 2008, with wind representing 4.9 percent of U.S. end-use electricity demand. Solar capacity is more than 22 times of what it was at the end of 2008, and now accounts for a little more than one percent of U.S. power. According to the Solar Foundation, the solar industry employs 208,859 workers as of November 2015. The American Wind Energy Association puts the number of wind-related jobs at 73,000 at the end of 2014, with growth underway.

According to DOE’s 2014 Wind Technologies Market Report, released in August 2015, wind energy pricing is at an all-time low, with prices offered by wind projects to utility purchasers averaging under \$0.025 per kilowatt-hour (kWh) for projects negotiating contracts in 2014. As of November 2015, the solar industry is almost 70 percent of the way to achieving the SunShot Initiative’s cost target of \$0.06/ kWh for utility-scale PV (relative to 2010 baseline). The SunShot Initiative aims to make solar energy cost-competitive with other forms of electricity by the end of the decade (Figure 4).

Figure 4 – Falling Price of Utility-Scale Solar Photovoltaic Projects



Source: DOE

Among other efforts, the DOE has also opened loan guarantee authorization to distributed energy projects, such as rooftop solar panels with storage, through its existing solicitations for Renewable Energy and Efficient Energy (REEE) projects and Advanced Fossil Energy (AFE) projects. It provided an additional \$1 billion loan guarantee for distributed energy projects and unlocked \$10 billion in current loan guarantees for these technologies. The DOE’s Clean Energy Investment Initiative expands private-sector investment in emissions reduction technologies with approximately \$4 billion in private-sector commitments and executive actions to scale up investment in clean energy innovation. The DOE has also announced a \$12.5 billion loan guarantee solicitation to support innovative and advanced nuclear energy projects.

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Among the significant energy efficiency initiatives, the Better Buildings Challenge launched in 2011 aims to make commercial and industrial buildings 20 percent more energy efficient by 2020 and accelerate private sector investment in energy efficiency. New energy efficiency standards for appliances and equipment are also expected to reduce consumers' electricity bills and contribute to emissions reductions.

Obama's Final Year of Presidency Likely to Focus on Safeguarding Climate Policy and Advocating Clean Energy

In his final year in office, President Obama will likely focus on preserving his climate policies, advocating the economic benefits of expanding clean technology initiatives under the Paris climate agreement, and also defending the CPP. Legal suits against the CPP continue; public opinion on climate change remains intensely divided; and several states have moved to revise their renewable energy policies.

The Administration's regulatory efforts seek to expand the regulatory reach of the DOI and, in most cases, impose more stringent rules and significant costs on oil, gas, and coal operations on public lands. With DOI's latest measure to halt coal leasing on federal lands, the coal industry and western states, where federal coal leases support thousands of jobs and government revenue will likely be adversely impacted.

The Administration could pursue important policies to achieve the emissions target of up to 28 percent by 2025. These policies include establishing fuel economy standards for heavy-duty trucks, finalizing methane emission rules for the oil and gas sector, and advancing energy efficiency standards for appliances.

Legal and Congressional challenges to the CPP, if successful, could upset much of the progress in President Obama's climate legacy. However, the momentum seems to be favorable as states and air regulators are moving toward CPP compliance to avoid subjugation to a federal plan; grid operators are analyzing modeling to fit regional compliance approaches into the electricity market design, and utilities are planning for operational and infrastructure changes in transitioning to natural gas and renewables.

Climate change, which has traditionally drawn little attention from voters, could become a prominent factor in the 2016 presidential election. In the 2016 SOTU, President Obama acknowledged the political divide that has grown during his tenure – partly attributable to the advocacy for climate policy – and has pledged to try bridging the divide during his final year in office.

To achieve the 2025 emissions target, the Administration could pursue important policies, such as establishing fuel economy standards for heavy-duty trucks, finalizing methane emission rules for the oil and gas sector, and advancing energy efficiency standards for appliances

Disclosures Section

RESEARCH RISKS

Regulatory and Legislative agendas are subject to change.

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