

ISSUE BRIEF

The America First **Energy Plan**

Renewing the Confidence of American Energy Producers

AUGUST 2017 SARA VAKHSHOURI

S energy policy is poised for a drastic reversal. The Clean Power Plan is giving way to the America First Energy Plan, as President Donald Trump take steps to unwind Barack Obama-era clean energy initiatives, strip US energy policy of environmental and climate concerns, and focus solely on two priorities: producing low-cost energy and creating American jobs.

President Trump has pledged to reignite the US coal industry and expand domestic fossil fuel production. His administration and congressional allies plan to roll back regulations, open hundreds of millions of acres of federal land to coal, oil, and gas exploration, and cut federal funding for climate and environmental programs.

However, while the president has thus far taken steps to dismantle environmental regulations, reduce climate funding, and exit the Paris climate agreement, the real question is whether these moves will lead to a boom in domestic fossil fuel production. When it comes to oil and gas, production has been increasing (with the exception of 2016) since 2008, while domestic coal production (and consumption) has largely trended in the opposite direction.

Republican control of the executive and legislative branches could pave the way for Trump to implement his America First Energy Plan, which many fossil fuel producers have responded favorably to. However, despite Republican control of the executive and legislative branches, President Trump must surmount substantial obstacles to make good on his promises of regulatory rollback heralding in a coal revival. The headwinds against coal have been primarily economic, rather than regulatory, and supporting coal could come at the expense of natural gas—contradicting both the president's own plan to boost natural gas and Republican free market principles.

Thus, it is not yet clear to what extent President Trump can overcome market forces and align seemingly contradictory aims to achieve his energy priorities.

The Atlantic Council Global **Energy Center** works to address the energy-related security, and economic challenges of a world in transition. The Center provides cutting-edge analysis for public and private stakeholder groups across government, industry and civil society and convenes these groups to implement solutions.

An America First Energy Plan: Less Regulation, More Drilling

President Donald Trump has signaled his intention to change US energy policy and has thus far taken several key actions to this end. During Barack Obama's presidency, the White House emphasized developing renewable energy and combatting climate change. Conversely, the Trump administration's stated focus is on the extraction of low-cost energy resources—in other words, fossil fuels,

President Trump's America First Energy Plan aims to reduce regulations on domestic fossil fuel extraction and purports to create jobs by expanding oil, gas, and coal production.

Trump's America First Energy Plan¹ is rooted in campaign promises and has three major components:

- Expand the extraction of low-cost US fossil fuels to create jobs and achieve energy independence;
- 2. Revive the declining coal industry in the United States:
- 3. Undo the Obama administration's climate policies and end the Climate Action Plan.

Summarizing the plan at the January 2017 Republican in Philadelphia. Pennsylvania, proclaimed, "We'll unleash the full power of American energy, ending the job-killing restrictions on shale oil, natural gas and clean, beautiful coal . . . And we're going to put our coal miners back to work."2

The core tenets of President Trump's plan are hardly new. Prioritizing domestic fossil fuel production and low energy prices for consumers has long been the foundation for Republican energy policy, in sharp contrast to the environmental and climate priorities of Democrats. The president's plan preserves the traditional focuses of the Republican energy goals.

However, Trump takes these traditional priorities further. In comparison to President George W. Bush's energy policy, President Trump takes a much stronger, even contemptuous, stance against climate

change policies, which he and his team characterize as job killers. The president's stance against climate change policies even goes further than many oil and gas producers. ExxonMobil and ConocoPhillips, for example, have reiterated their support for the Paris climate agreement,3 which the president announced the United States would exit in a June 1 press conference in the White House Rose Garden.

The purported aim of President Trump's energy policy is to increase domestic fossil fuel—namely oil, gas, and coal—extraction and that of other low-cost energy resources. The America First Energy Plan released by the White House states: "The Trump Administration is committed to energy policies that lower costs for hardworking Americans and maximize the use of American resources, freeing us from dependence on foreign oil."4

To accomplish these objectives, the president has promised to roll back regulations on oil, gas, and coal, shift funding away from renewable resources and climate programs, and approve new energy production and export projects.

In February, Trump signed a bill undoing financial disclosure rules on energy companies.⁵ In March, Trump issued an executive order to stop the implementation of the Clean Power Plan.⁶ In June, he announced his intention to withdraw the United States from the Paris climate agreement, although the exact mechanics of withdrawal remain unclear. While an effort to roll back regulation of methane emissions faltered in Congress, the Interior Department's Bureau of Land Management announced it would delay implementation of methane regulations on federal land while the Environmental Protection Agency (EPA) announced it would delay implementation of a rule on methane leaks for two vears.7

President Donald J. Trump. "An America First Energy Plan." The White House, https://www.whitehouse.gov/america-first-energy.

Donald Trump, Speech Delivered at the Republican Party Philadelphia Retreat via CNN, January 26, 2017, http://www.cnn.com/ TRANSCRIPTS/1701/26/wolf.02.html.

Alex Nussbaum and Joe Carroll, "Exxon and Conoco Reiterate Support for Paris Climate Deal," Bloomberg, May 31, 2017, https:// www.bloomberg.com/news/articles/2017-05-31/exxon-conocoback-paris-climate-deal-as-trump-weighs-pact-exit.

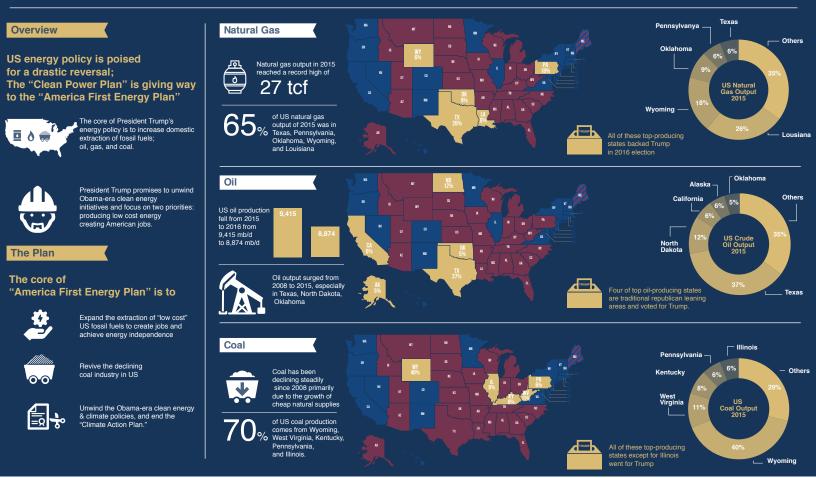
President Trump, "An America First Energy Plan."

Devin Henry, "Trump Signs Bill Undoing Obama's Coal Mining Rule," The Hill, February 16, 2017, http://thehill.com/policy/energy-environment/319938-trump-signs-bill-undoing-obama-coalmining-rule.

⁶ Coral Davenport and Alissa Rubin, "Trump Signs Executive Order Unwinding Obama Climate Policies, New York Times, March 28, 2017, https://www.nytimes.com/2017/03/28/climate/trump-executive-order-climate-change.html?_r=0.

Juliet Eilperin, "Trump Administration Delays Rules Limiting

US Energy Policy in the Trump Era



In addition to the rollback or delay of regulations, the Trump administration is also eager to open more federal lands to drilling. In April, Trump signed the America-First Offshore Energy Strategy, reversing President Obama's decision to withdraw millions of acres of federal offshore land for development.8

In conjunction with expanding production, the Trump administration is strongly promoting an increase in liquefied natural gas (LNG) exports. With its emphasis on reducing trade deficits, the administration sees sales of US LNG as an element of its trade policy. Asia looms large in the US LNG export strategy. In May, the

Methane Emissions," *Washington Post*, June 14, 2017, https://www.washingtonpost.com/politics/trump-administration-de-lays-rules-limiting-methane-emissions/2017/06/14/0e7d50fa-512b-11e7-be25-3a519335381c_story.html?utm_term=.dc53c27da71b.

- 8 Juliet Eilperin, "Trump Signs Executive Order to Expand Drilling Off America's Coasts: 'We're Opening It Up,'" Washington Post, April 28, 2017, https://www.washingtonpost.com/news/energy-environment/wp/2017/04/28/trump-signs-executive-order-to-expand-offshore-drilling-and-analyze-marine-sanctuaries-oil-and-gas-potential/?utm_term=.b94a8fe36d3b.
- 9 Barney Jopson, Demetri Sevastopulo, and Ed Crooks, "Trump Looks to Lift LNG Exports in US Trade Shift," Financial Times, June 22, 2017, https://www.ft.com/content/c5c1958c-5761-11e7-80b6-9bfa4c1f83d2?mhq5j=e3.

commerce department issued a statement expressing support for striking deals with Chinese energy buyers. In June, Secretary of Energy Rick Perry traveled to Beijing where he promoted US LNG.¹⁰ While the United States currently supplies 7 percent of Chinese LNG imports, several major Chinese companies are considering long-term contracts to import more US LNG.¹¹ To meet projected global demand, six LNG export terminals are slated to open within the next several years. The Trump administration is likely to take pains to ensure that the licensing process proceeds as smoothly as possible.¹² However, low oil prices are a hurdle for US LNG producers, complicating their ability to compete and match the prices offered by other major producers like Qatar. US LNG contract and spot prices in Asia and

¹⁰ Ibid.

¹¹ Jude Clemente, "US Liquefied Natural Gas to China Is a Game-Changer," *Forbes*, May 25, 2017, https://www.forbes.com/sites/judeclemente/2017/05/25/u-s-liquefied-natural-gas-to-china-is-a-game-changer/#24c541b2671a.

¹² John Sicilano, "Trump LNG Export Policy Sparks Clash between Big Energy Users and Gas Industry," Washington Examiner, July 3, 2017, http://www.washingtonexaminer.com/trump-lng-exportpolicy-sparks-clash-between-big-energy-users-and-gas-industry/ article/2627603.

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Europe are currently much higher than the oil-indexed prices offered by Qatar.

Thus, despite the complex interagency negotiations and time-consuming, legally uncertain processes required to undo or reverse regulations, fossil fuel producers are expecting more regulatory relief to come and have responded eagerly to promises of more acreage for production and less regulation. However, it remains to be seen just how the administration will walk back some of the existing regulations it has promised to undo, how long this will take, and how soon auctions or permitting for drilling in newly opened areas could occur.

An Oil and Gas Resurgence

The beginning of Trump's presidency has thus far coincided with what could be the beginnings of a resurgence—started in 2016—of domestic oil and gas production following a downturn due to low oil prices. US fossil fuel production is rising and the number of operating rigs for both oil and gas in the United States has increased significantly since 2016.

Major investors in US shale have significantly increased their 2017 capital-spending budgets. In his first public appearance, Darren Woods, Secretary of State Rex Tillerson's successor as chairman and chief executive officer (CEO) of ExxonMobil, announced that the company would allocate 50 percent of its worldwide drilling budget to US shale. Mr. Woods anticipates that US shale output will grow at an average rate of 20 percent annually through 2025. Other shale investors like Hess, Apache Group, Cabot Oil & Gas, and Whiting Petroleum Corp. have all increased their 2017 capital-spending and investment budgets.

While market forces have largely driven increasing upstream investment, Trump's inauguration—and support for fossil fuels—may have bolstered optimism among some producers. Investment budgets began rising prior to Trump's inauguration, but as Pioneer Natural Resources CEO Timothy Dove stated at Platts Global Crude Oil Summit in May, "Trump's energy

plan and relaxed EPA rules are helping the oil and gas producer focus more on productive issues."¹⁶

While this perspective is not universal—many oil companies have downplayed the impact of reduced regulations on their bottom lines to investors—many executives have publicly stated that regulatory relief will improve their margins.¹⁷

In a written statement, ConocoPhillips noted that "Changing, excessive, overlapping, duplicative and potentially conflicting regulations increase costs, cause potential delays and negatively impact investment decisions, with great cost to consumers of energy." At the CERAWeek energy conference in March of this year, Chevron's CEO John Watson added, "We haven't seen 3 percent growth in the economy for eight years, and I think part of the reason is that we've had a heavy dose of regulation." 19

These statements are indicative of a sentiment among some oil and gas producers that their outlook under Trump might be more favorable than had Hillary Clinton won the White House. Referring to Clinton's loss, John Dowd, an energy fund manager, stated "I believe the absence of a negative is a positive . . . The market has been concerned with the sustainability of fracking, and particularly to what extent it might have been regulated into obscurity by a different election outcome." With a president and Congress in support of domestic fossil fuels and in opposition to many environmental regulations, industry concerns with regulations have eased substantially.

The factors driving this growth are, of course, multiple, with rapid improvement of drilling technologies and market conditions being the most important. The Organization of the Petroleum Exporting Countries (OPEC) production agreement forged in November 2016, effective as of January 2017 and extended in May, suggests that after two years of volatility and low prices, the market has finally seen some sort of control over production. Even though the agreement was not successful in causing significant price relief, it prevented

Joe Carroll, "Exxon's New CEO Shifts Investments to Quick-Earning Shale Oil," Bloomberg, March 1, 2017, https://www.bloomberg.com/news/articles/2017-03-01/exxon-sees-20-annual-growth-in-u-s-shale-fields-through-2025.

¹⁴ Ibid.

¹⁵ See Table 1.

¹⁶ S&P Global Platts 10th Anniversary Global Crude Oil Summit, London, May 11-12, 2017, attended by the author.

¹⁷ Richard Valdmanis, "As Trump Targets Energy Rules, Oil Companies Downplay Their Impact," Reuters, March 28, 2017, http://www.reuters.com/article/us-usa-trump-oil-regulation-insight-idUSKBN16U1A9.

¹⁸ Ibid.

¹⁹ Ibid.

²⁰ Ibid.

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further price drops and shock in the market. The hope is that lower oil prices will encourage demand growth, and that this annual demand growth combined with OPEC supply control could help the market balance itself by 2018. Thus, the production agreement also presents a significant potential opportunity for US oil producers, although so far prices have remained soft, as inventories have failed to decline.

The shale industry has also proven far more nimble and responsive to short-term pricing than traditional multibillion-dollar megaprojects that take decades to develop, enabling shale producers to rapidly respond to changing conditions. Shale has also grown substantially more price resilient in recent years. According to Pioneer Natural Resource's Timothy Dove, the "breakeven price in the Permian is now at

Table 1. Capital Investment Budgets in 2016 and 2017 (billions of dollars)

Company	Location	2016	2017	Comments
ExxonMobil	Permian Basin; Bakken Formation	19.3	22	One-third of budget for shale One-half for shale in 2018
Hess Corp.	Bakken Formation	1.9	2.25	\$700 million investment in unconventional resources
Whiting Petroleum	North Dakota	.554	1.1	North Dakota's largest producer
Cabot Oil & Gas	Eagle Ford Formation; Marcellus Formation	.325	0.65	Increased investments in both Eagle Ford and Marcellus
Apache Corp.	Permian Basin; Alpine High Oil and Gas Field	1.9	3.1	\$500 million for infrastructure in Alpine High Field

Sources: Ernest Scheyder, "Exxon Doubling Permian Basin Holdings in US for Up to \$6.6 Billion," Reuters, January 17, 2017, http://www.reuters.com/article/us-exxon-mobil-deals-permian-idUSKBN15120F?il=0; "Hess Increase Capital Budget by 15% for 2017," Hess Journal; "Whiting Petroleum Nearly Doubles Its Capital Spending Budget," Reuters, February 21, 2017, http://www.reuters.com/article/us-whiting-petrol-results-idUSKB-N1602LO; Jamison Cocklin, "Cabot Oil & Gas Increases 2017 Spending on Firmer Commodity Prices," Natural Gas Intel, February 24, 2017, http://www.naturalgasintel.com/articles/109535-cabot-oil-gas-increases-2017-spending-on-firmer-commodity-prices; "Apache Sees Higher 2017 Budget but Output Forecast Disappoints," Reuters, February 23, 2017, http://www.reuters.com/article/us-apachecorp-results-idUSKBN1621F2.

Table 2. US Oil and Gas Rig Count: April 2016 and April 2017

Rig Type	April 2016	April 2017	
Oil	343	688	
Gas	88	167	

Source: "North American Rig Count," Baker Hughes, http://phx.corporate-ir.net/phoenix.zhtml?c=79687&p=irol-reportsother.

\$20 per barrel,"21 although the breakeven price for shale varies widely, and the US average is closer to \$35 per barrel. Supporting his bullish stance towards US shale, ExxonMobil's Darren Woods also noted that "The shift from long to short is really a reflection of the opportunity that has grown in the short-cycle business. That part of the business isn't in discovery mode; it's in extraction mode."22 (Emphasis added.)

The president's positions add a layer of support for producers, on top of modestly (and haltingly) improving market conditions and technological advancements. An appreciable factor may be the psychological impact of Trump's election. His vocal, rhetorical support of fossil fuel production has baked profitable scenarios in investors' minds, contributing to the soaring oil and gas investment budgets for 2017.

However, it is unclear whether relaxing regulations will ultimately have a large impact on domestic oil and gas production, which is largely responsive to price signals and changes in global markets. Reducing regulations and opening more land for drilling could raise US oil and gas production. If producers capitalize on these changes, it could usher in a supply surge, putting downward pressure on oil and gas prices, assuming there is no global supply interruption, which could then lead to curtailed production under the new price environment.

Reviving the Coal Industry: A Difficult Challenge

The America First Energy Plan places special emphasis on "reviving America's coal industry," which the White House says "has been hurting for too long."²³ Trump has taken several steps to reduce what he characterizes as undue regulatory burden on the industry.

In February, Trump signed legislation that eliminated restrictions on polluting waterways with coal mining waste.²⁴ In March, he signed an executive order, which he signed in the presence of coal miners who he told he was putting back to work, essentially undoing the Clean Power Plan. The Interior Department has also proposed regulatory changes that would allow coal exploration and production across 570 million acres of federal land.²⁵ Despite these regulatory changes and proposals, reigniting the coal industry at a time when natural gas has been consistently out-competing coal is not an easy task.

The US coal industry has been declining steadily since 2008, primarily due to the growing availability of cheap natural gas used in power production, another example of how the shale boom has substantially reshaped the US energy portfolio. In 2016, natural gas overtook coal as the largest source of US electricity and power plant feedstock for the first time.²⁶ However, while the coal industry has suffered years of falling production, there is the potential for some modest relief. The Energy Information Administration projects US coal production to rise 8 percent in 2017, driven by demand for US exports.²⁷ While this may be welcome news to many US coal producers, it raises the question of whether Trump's policies and rhetorical support for coal or global demand will be the bigger determinant of coal's future.

Market forces, more than environmental regulations, have primarily driven the decline of coal. American power generation is moving away from coal because gas has become cheaper, and clean coal has yet to be proven economically viable. Electric companies and consumers have benefited from cheap natural gas. It is not economical to upgrade an older generation of coal pants that emit high levels of mercury pollution to meet federal requirements when plants could simply alternate their feeding fuel. The capital cost of constructing and operating a new coal power plant with 90 percent carbon capture capability is vastly more expensive than a similar plant that runs on natural gas.²⁸

To bring back coal, the Trump administration would need to intervene in the market and introduce incentives for electricity producers to use coal rather than cheaper and cleaner natural gas to generate

²¹ S&P Global Platts 10th Anniversary Global Crude Oil Summit.

²² Carroll. "Exxon's New CEO."

²³ President Trump, "An America First Energy Plan."

Henry, "Trump Signs Bill Undoing Obama's Coal Mining Rule."

²⁵ Michael Shea, "Trump Administration Rolls Back Mining Restrictions on Public Lands," Field and Stream, April 6, 2017, http:// www.fieldandstream.com/trump-administration-rolls-back-mining-restrictions-on-public-lands.

[&]quot;What Is US Electricity Generation by Energy Source," US Energy Information Administration, last updated April 18, 2017, https:// www.eia.gov/tools/faqs/faq.php?id=427&t=3.

²⁷ US Energy Information Administration, Short-Term Energy Outlook, June 2016, https://www.eia.gov/outlooks/steo/pdf/steo_full.pdf, 2.

²⁸ US Energy Information Administration, Capital Cost Estimates for Utility Scale Electricity Generating Plants, November 2016, https://www.eia.gov/analysis/studies/powerplants/capitalcost/ pdf/capcost_assumption.pdf, 7.

Table 3. Power Plant Capital and Operating Costs

Type	Capital Cost (\$/kilowatt)	Operation Cost (\$/kilowatt-year)	
Coal	5084	70	
Natural Gas	978	11	
Uranium	5945	100.28	
Biomass	4985	110	
Wind	1877	39.7	
Solar	2671	23.4	

Source: US Energy Information Administration, Capital Cost Estimates for Utility Scale Electricity Generating Plants, November 2016, https://www.eia.gov/analysis/studies/powerplants/capitalcost/pdf/capcost_assumption.pdf.

power. Interfering in the market is not only at odds with Republican economic principles but also potentially conflicts with Trump's other stated goal of expanding natural gas production, another low-cost domestic resource.

One potential, though uncertain, bright spot for President Trump's vision may lie in metallurgical coal. Unlike thermal coal used in power production, metallurgical coal is used for steelmaking, and faces less severe competitive constraints.²⁹ A mine in Jennerstown, Pennsylvania, started under the Obama administration, opened in June and is expected to employ 70 people producing metallurgical coal.³⁰ While unlikely to fully offset declines in the thermal coal industry, an uptick in metallurgical coal production could provide a degree of modest relief for producers.

Exporting coal, rather than focusing on domestic consumption, is another way the Trump administration could encourage US coal production. Coal exports not only would benefit the US economy and encourage domestic production, but could be used as a diplomatic tool. The recent agreement between energy companies

Budget and Cabinet Choices Reflect Trump Priorities

Part of President Trump's plan to undo federal regulations and incentivize fossil fuel production includes reducing or eliminating funding for environmental and climate programs. Trump has proposed to cut, and in many cases completely defund, environmental initiatives housed in the EPA,

in the United States and Ukraine is a perfect example of how coal exports could be used to help attain US foreign policy objectives. According to this agreement, Xcoal Energy & Resources LLC, a Pennsylvania-based coal company, will export seven hundred thousand tons of thermal coal to Ukraine in the winter of 2017.³¹ This coal will be used in a power plant run by Ukrainian public joint stock company Centrenergo to generate electricity.³² Even though the distance between the two countries will result in higher transportation costs, which will be reflected in the final prices, these exports will help Ukraine diversify its sources of supply and reduce its reliance on Russian coal.

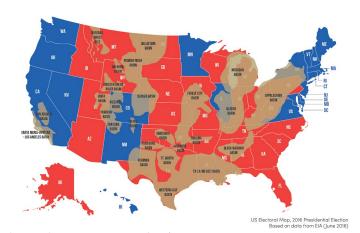
²⁹ Timothy Gardner, "Can Trump Make Coal Great Again? At Least Some Companies Think So," Reuters, November 18, 2016, http://www.reuters.com/article/us-usa-trump-coal-idUSKBN13D17J.

³⁰ Reid Frazier, "FACT CHECK: Is President Trump Correct That Coal Mines Are Opening?" NPR, June 2, 2017, http://www.npr.org/2017/06/02/531255253/fact-check-is-president-trump-correct-that-coal-mines-are-opening.

³¹ Ari Nattter, "Ukraine Coal Exports Part of Trump Bid to Counter Russia," *Bloomberg*, July 31 2017, https://www.bloomberg.com/news/articles/2017-07-31/ukraine-coal-exports-part-of-trump-bid-to-counter-russian-energy.

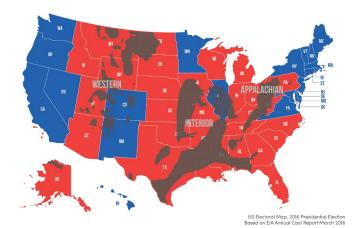
³² Mathew Daley, "Trump administration hails deal to export coal to Ukraine," *Washington Post*, July 31 2017, https://www.washingtonpost.com/politics/trump-administration-hails-deal-to-export-coal-to-ukraine/2017/07/31/34839d78-760f-11e7-8c17-533c52b2f014_story.html?utm_term=.0d86ee24799b.

Map 1. US Shale Oil and Gas Basins



Source: SVB Energy International.

Map 3. US Coal Basins



Source: SVB Energy International.

Department of Energy (DOE), and Department of State (DOS).

Trump's budget for the EPA calls for limiting or discontinuing the Clean Power Plan, clean air programs, and international research programs and partnerships for climate change. Trump's proposed budget plan would slash DOS funding of the Global Climate Change Initiative and end payments to the United Nations Climate Change Program.³³ Proposed cuts to DOE would hit the Office of Energy Efficiency and Renewable Energy and the Advanced Research Projects Agency -Energy particularly hard.³⁴ Although Trump's budget

Map 2. US Major Fossil Fuel Producers



Source: SVB Energy International.

proposal stands little chance in Congress, it indicates his priorities, and he is likely to see some substantially moderated version pass with Republican majorities in

both chambers.

President Trump's cabinet picks further signal a focus on energy production at the expense of environmental protection. The EPA administrator, Scott Pruitt, has a history of conflict with the core principles of the agency he oversees—Pruitt sued the EPA at least fourteen times while serving as the attorney general of Oklahoma.³⁵ The appointment of former Texas Governor Rick Perry as the secretary of energy and former ExxonMobil CEO Rex Tillerson as head of the State Department further emphasize the new administration's focus on increasing fossil fuel production and lowering prices for consumers.

Political Pressures to Deliver on Campaign Promises

Today's low energy prices partially explain Trump's proposed reversal of US energy policy. The oil and gas glut and persistent low prices have hurt some fossil fuelproducing regions. Higher prices, regulatory changes, and the psychological boost of the president's rhetoric could encourage domestic fossil fuel investment, particularly in lower-cost shale plays.

³³ Hiroko Tabuchi, "What's at Stake in Trump's Proposed EPA Cuts," New York Times, April 10, 2017, https://www.nytimes. com/2017/04/10/climate/trump-epa-budget-cuts.html.

³⁴ Brad Plumer, "Looking for Trump's Climate Policy? Try the Energy Department," New York Times, May 25, 2017, https://

www.nytimes.com/2017/05/25/climate/energy-department-climate-trump-budget.html?mcubz=2.

³⁵ Robinson Meyer, "Trump's EPA Pick Is Poised to Slide Past a Lawsuit into Office," The Atlantic, February 15, 2017, https://www. theatlantic.com/science/archive/2017/02/progressives-will-regret-not-doing-more-to-oppose-scott-pruitt/516840/.

"Any impact on oil, gas, and coal producers from Trump's policy proposals will be felt most strongly and most immediately by many members of the Republican base."

Any impact on oil, gas, and coal producers from Trump's policy proposals will be felt most strongly and most immediately by many members of the Republican base. Fossil fuel production is overwhelmingly concentrated in stalwart conservative strongholds that supported Trump in 2016 and sent Republican representatives to Congress. Many of these communities rise and fall with the price of oil, gas, and coal. In Williston, North Dakota-one of the more extreme examplesthe Trump administration's decision to authorize the Keystone pipeline sparked a night of fireworks and celebration, as Facebook CEO Mark Zuckerberg recounted recently.36

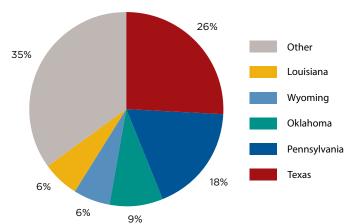
Natural gas production, which reached a record high of twenty-seven trillion cubic feet in 2015,37 is heavily concentrated in states that supported Trump in 2016. Five states—Texas, Pennsylvania, Oklahoma, Wyoming, and Louisiana-accounted for 65 percent of total US dry natural gas production in 2015,38 all five of which are traditional Republican strongholds and backed Trump in 2016.

Following years of decline from 1985 to 2008, domestic oil production has since been on the rise, particularly in Texas, North Dakota, and Oklahoma. However, due to persistently low global prices, production fell from 9,415 million barrels per day (mb/d) in 2015 to 8,874 mb/d in 2016.³⁹ This slump, and the associated



[&]quot;Natural Gas Gross Withdrawals and Production," US Energy Information Administration, release date June 30, 2017, https:// www.eia.gov/dnav/ng/NG_PROD_SUM_DC_NUS_MMCF_A.htm.

Figure 1. US Natural Gas Output (2015)



Source: "Natural Gas Gross Withdrawals and Production," US Energy Information Administration, release date June 30, 2017, https://www. eia.gov/dnav/ng/NG_PROD_SUM_DC_NUS_MMCF_M.htm.

thousands of layoffs due to falling production, hit these states particularly hard. While these states traditionally support Republican candidates, Trump's energy policy promises to ease regulatory requirements could have added to his popularity.

While the 2016 downturn is an anomaly in the otherwise positive nearly decade-long resurgence in domestic oil and gas production, coal's fortune has been on the decline over the same period. The decline in coal production has lasted longer and hit harder compared with oil and natural gas-production fell from 1 billion tons in 2014 to nearly 897 million tons in 2015.40

While about half of US states produce appreciable quantities of coal, 70 percent of production comes from five states: Wyoming, West Virginia, Kentucky, Pennsylvania, and Illinois. All but Illinois went for Trump,⁴¹ with historically Democratic-leaning Pennsylvania giving Trump a stunning—though slim victory, thanks largely to white supporters in rural regions.⁴² Failure to follow through on his promise to achieve an increase in coal production could hurt his slender margins in Pennsylvania.

^{38 &}quot;Natural Gas Explained: Where Our Natural Gas Comes From," US Energy Information Administration, last updated January 10, 2017, https:// www.eia.gov/energyexplained/index.cfm?page=natural_gas_where.

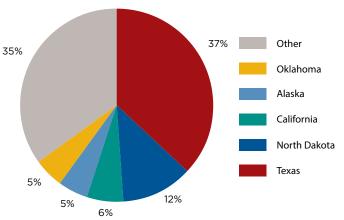
^{39 &}quot;US Coal Production, 2010 - 2016," US Energy Information Administration, https://www.eia.gov/coal/production/quarterly/pdf/ t1p01p1.pdf.

⁴⁰ US Energy Information Administration, Annual Coal Report 2015, November 2016, https://www.eia.gov/coal/annual/pdf/acr.pdf, 4.

[&]quot;Coal: Explained: Where Our Coal Comes From," US Energy Information Administration, last updated April 24, 2017, https:// www.eia.gov/energyexplained/index.cfm?page=coal_where.

⁴² Salena Zito, "Why Democrats in Western Pennsylvania Are Voting Trump," The Atlantic, September 13, 2016, https://www.theatlantic.com/politics/archive/2016/09/why-democrats-in-western-pennsylvania-are-voting-trump/499577/; "Pennsylvania Results," New York Times, February 10, 2017, https://www. nytimes.com/elections/results/pennsylvania.

Figure 2. US Crude Oil Output (2015)



Source: "US Crude Oil Production," US Energy Information Administration, release date June 30, 2017, https://www.eia.gov/dnav/pet/ pet_crd_crpdn_adc_mbblpd_a.htm.

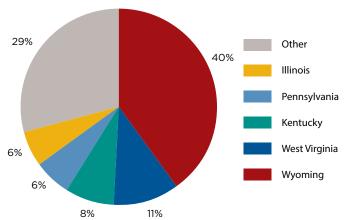
Conclusion

President Trump aims to change the direction of US energy policy. The America First Energy Plan emphasizes developing and extracting domestic low-cost resources and creating jobs, while scaling down or ending Obama administration investments in environmental and climate programs.

Nevertheless, Trump's energy plans still face daunting challenges, particularly his promises to revive the coal industry. Some Republican senators and industry executives have cautioned Trump to temper his promises and rhetoric, as the economics of coal are difficult, including the economics of clean coalpowered plants, which are extremely uncompetitive and disadvantageous at a time of secure, cheap, and abundant natural gas.

Despite the obstacles, Trump's presidency has generated great optimism and hope in an industry that has suffered due to low oil prices and an increasingly difficult political environment due in part to increasing momentum for policies to combat climate change. The Trump administration will create a more favorable environment for increasing domestic oil and gas production. As Pioneer's CEO stated, relaxed regulatory rules and greater support for fossil fuels from the administration and Congress will help producers focus on production. A more favorable regulatory climate for producers with the potential for higher investment returns could encourage international investment in US oil and gas fields, although thermal coal is unlikely to see the same growth.

Figure 3. US Coal Output (2015)



Source: "US Coal Production, 2010 - 2016," The US Energy Information Administration, https://www.eia.gov/coal/production/quarterly/ pdf/t1p01p1.pdf.

However, President Trump's energy policy proposals ultimately contain an inherent contradiction that further imperils their success. If he successfully presides over an expansion in fossil fuel production and an ensuing reduction in consumer prices, as he has promised, the resulting lower prices would subsequently drive highcost producers from the market and once again erode profits. This basic supply and demand constraint would ultimately undermine his ambition to create American energy jobs and achieve long-term production increases.

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