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Energy Policy and a Trump Administration

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Key Points

- Economic realities expressed through market prices will frustrate Trump administration efforts to boost fossil fuel production.
- As for President-elect Trump's stated goal of making the United States a net energy exporter, this trend is already solidly evident.
- Likewise, the considerable environmental and economic regulations put in place by the states and under state control limit the federal reach.
- Industry has been and will continue to be responsive to its shareholders and ratings agencies, where climate change and other issues of corporate responsibility are important.
- Any efforts to promote natural gas production are likely to lower its price and make coal even less competitive.
- If trade subsidies with Mexico over issues with immigration and NAFTA, US natural gas and pipeline suppliers will be hurt.

With the transition of power now taking place in the White House, there has been considerable uncertainty about the details of energy and climate policies that will be advanced under the incoming administration. This policy brief examines the stated intentions of the Trump campaign and transition team, the roadblocks that may get in the way of their realization, and what the administration could reasonably and quickly turn into a reality. We

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take special care to separate symbolism from reality in the effects these policies might have on the economy and the environment.

Intentions

President-elect Trump envisions a muscular, nationalistic energy policy along with an end to policies to reduce emissions of carbon dioxide (CO₂) and methane. The planned energy policy is best summed up in a statement from the administration's transition website:

"The Trump Administration will make America energy independent. Our energy policies will make full use of our domestic energy sources, including traditional and renewable energy sources. America will unleash an energy revolution that will transform us into a net energy exporter, leading to the creation of millions of new jobs, while protecting the country's most valuable resources—our clean air, clean water, and natural habitats" (Trump Presidential transition 2016).

"Full use" of our domestic resources implies, at a minimum, opening up the Atlantic Continental Shelf and the Arctic to oil drilling, speeding permitting of oil and gas drilling on federal lands, and ending the "war on coal"—a shorthand for bringing jobs back to Appalachian coal mines as well as ending climate policies targeted at coal. As the definition of "traditional" is ambiguous on the Trump transition site, it could include nuclear and hydropower, in addition to the obvious—fossil fuels. Plans for nuclear and hydropower, however, are much more speculative. Renewables are also directly mentioned in the above statement—whether or not policies promoting their use will be maintained or expanded remains to be seen. Although not explicitly mentioned in the statement, "midstream" parts of the fossil fuel lifecycle would also be boosted—notably, from the campaign, pipelines, but also potentially including coal and natural gas export terminals, railroads, and refineries. During the campaign, Mr. Trump said many times that he would approve the Keystone XL pipeline project that President Obama had vetoed.

The theme of nationalism arises from the intention to make America "energy independent," later defined to mean transforming the United States into a "net energy exporter." Of course, many an administration has identified energy independence as a desirable goal, usually, if not always, meaning reducing or eliminating oil imports (and OPEC's influence on oil prices in the United States).

The end goal here could be improved national security, meaning the freedom from our economy being depressed by the actions of foreign oil-exporting governments. Most administrations, presumably the Trump administration included, and academics largely do not worry about Canadian oil imports because such supplies are reliable. Additionally, Trump's support for the Keystone XL pipeline generally signals that he is not opposed to imports from Canada. So, the idea of net energy exports is a new one to the energy independence debate. I surmise that the aim is in the aggregate to either export more (Btu-equivalent) coal, oil, and natural gas than we import, or maintain a net trade surplus in monetary terms.

A different end goal for energy independence could be based not on national security grounds, but rather on the "creation of millions of new jobs." That is, the Trump administration

sees the opportunity that comes from increasing domestic supply rather than the dangers from increasing imports—although these two factors are mirror images.

The last idea expressed in the transition statement is that this growth in energy production will be sustainable in terms of environmental quality. The inclusion of this statement is interesting because it contradicts other statements made during the campaign—that costly environmental regulation of the fossil-fuel industry will be rolled back or eliminated. No one would object to the elimination of costly regulation that offered no environmental protection. But we have no specifics yet on which regulations the Trump administration believes fall into that category, with one important exception—policies to regulate greenhouse gas emissions.

From campaign statements, it was clear that the incoming administration planned to withdraw from the Paris Agreement (or at least make no attempt to live up to the intended nationally determined contribution submitted by the United States)—although in a recent statement, President-elect Trump said that he was rethinking this position. Such a changing of position after an election is not new to presidential politics in the United States. It is not yet possible to know how the Trump administration will shape its energy and environment policies. The campaign also said that the administration would potentially withdraw support for the UN Intergovernmental Panel on Climate Change (IPCC)—and eliminate, roll back, and repeal various climate change initiatives currently in place or planned. These would include, first and foremost, the Clean Power Plan (currently being reviewed by the US Court of Appeals) and the effort by the Bureau of Land Management (BLM) to write a new programmatic environmental impact statement to guide its coal leasing operations, which were halted for the few years this effort would take. Mentioned less often during the campaign were intentions to cut off the US Environmental Protection Agency's (EPA's) plan to regulate existing sources of methane leaks in oil and gas sector operations on non-federal lands, to repeal the recently passed EPA rules regulating methane emissions from new oil and gas sources, and to withdraw BLM's proposed rules on regulating methane from oil and gas operations on federal lands.

Roadblocks

Intentions are one thing; actually writing and passing policy is another. And still another is to have policy function in a way that realizes those intentions. There are a variety of roadblocks to frustrate the Trump administration along this spectrum. They include economic realities, administrative law, the states, the companies in the oil and gas sector (less so in the coal sector), and the general public. I leave the NGO community, the Senate Democrats, and the court system out of this list, to discuss another day.

Economic Realities

In thinking about making “full use” of our fossil resources, supply and demand for each fuel and their respective market prices are obvious starting points. If prices are too low, production will not increase without subsidies of one sort or another, and it is hard to see how this type of policy will be favored by the Republican Congress. Turning to oil first, the price is set in the world market and, to a first approximation, cannot be affected by actions taken by the

United States. Opening up the Arctic and the Atlantic to oil drilling, therefore, will only matter if the economics induce the companies to explore and then drill. These billion-dollar investments are unlikely to occur with oil prices in the range of \$45 per barrel. And the Obama administration recently constructed a further roadblock. Following the BP *Deepwater Horizon* catastrophe, a plan to open Atlantic drilling leasing (agreed upon by President Obama and the governors of Virginia, North Carolina, and South Carolina prior to the disaster) was shelved. A week after the election, President Obama announced that he had removed the Arctic Ocean and the Atlantic from any oil or gas leasing for the next five years—a decision that, if the Trump administration wants to reverse, would entail a regulatory process that may take years to complete (NPR 2016).

For natural gas, the fracking revolution has brought independence to the United States, meaning our natural gas prices depend primarily on our domestic demand and supply, not that of the rest of the world. The productivity of previously unavailable natural gas (and oil) resources means that, even in the face of rising demand, gas prices remain historically low, dropping rig counts and revenues to states and localities. Most of these shale gas (and tight oil) resources are on private lands, according to the Congressional Research Service, so “opening up” public lands (i.e., streamlining permitting) will do little to induce production until prices rise and could even have a depressing effect on prices. If prices were to fall, the advantage natural gas has over coal would further widen unless coal prices fell as well.

As for coal markets, coal production has been declining overall and shifting west for decades. Western coal is far cheaper because it is strip mined (rather than deep mined), driving the underlying labor productivity differences (29.3 short tons per worker-hour in Wyoming’s Powder River Basin versus 1.6 short-tons per tons per worker-hour in southern Appalachia; EIA 2015a). And western coal is more desirable to utilities because it has much lower sulfur content (if somewhat lower energy content) than eastern coal, so helps meet standards for sulfur dioxide emissions under the Clean Air Act.

Coal is further disadvantaged because so many coal generation plants are old and are being retired—many were built before the 1990s, and those that were retired had an average age of 54 years. Increased competition with natural gas and its very low prices has largely led coal’s share of electricity generation to fall, in addition to some regulatory measures such as the Mercury and Air Toxics Standards (MATS). Whether or not the Clean Power Plan is implemented, coal’s share of generation will likely continue to fall due to aging plants, competition from natural gas, and existing regulations.

Because most western coal is produced on federal land, and coal mined on federal land is 40 percent of US production, presidential action on federal coal could potentially have a big effect on the market. How such a policy might materialize is a complicated question to answer. Imagine shutting down production of federal coal in the hope of shifting production to the privately held and economically depressed Midwestern and Appalachian coal states. What would happen? Western producers and their states would strenuously object. ICF ran their coal model for a case similar to this, but involving a royalty payment equal to the social cost of carbon (Table 1; ICF 2016). The result would effectively shut down federal western coal, but the effect in Appalachia was a modest (at most) 20 percent increase in production (ICF 2016).

Ultimately, the results showed that rising coal prices dampened demand and the beneficial effects of the shutdown were felt over more fields than Appalachian (ICF 2016). Although such a policy is purely fanciful, it illustrates how hard it will be to bring back those jobs—even in such an extreme case as shutting down federal western coal.

TABLE 1. COAL PRODUCTION BY BASIN % CHANGE, BASE CASE A WITH SCC ADDERS RELATIVE TO BASE CASE A

Coal Supply Region	20%					50%					100%				
	2016	2020	2025	2030	2040	2016	2020	2025	2030	2040	2016	2020	2025	2030	2040
Central Appalachia (CAPP)	2%	1%	0%	1%	1%	3%	3%	4%	1%	3%	6%	7%	3%	1%	3%
Northern Appalachia (NAPP)	3%	5%	13%	10%	3%	9%	11%	16%	11%	7%	14%	15%	20%	13%	9%
Illinois Basin (ILB)	1%	3%	2%	2%	12%	7%	9%	7%	11%	17%	11%	12%	9%	13%	19%
Powder River Basin (PRB)	-4%	-14%	-23%	-20%	-24%	-17%	-41%	-61%	-59%	-66%	-27%	-78%	-93%	-95%	-95%
Rocky Mountains	10%	-4%	-13%	-14%	-13%	4%	-27%	-25%	-18%	-8%	-13%	-41%	-67%	-50%	-28%
All other U.S. Regions	-4%	5%	4%	5%	8%	-3%	6%	4%	4%	7%	5%	3%	-4%	-4%	-1%
Total	-1%	-4%	-6%	-5%	-5%	-4%	-14%	-20%	-19%	-18%	-6%	-28%	-34%	-34%	-29%

Source: ICF (2016), Exhibit 34.

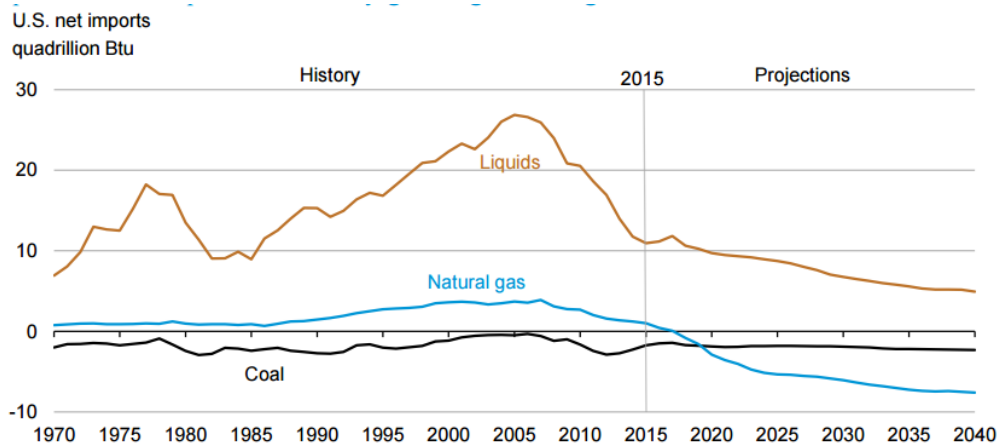
Another policy the Trump administration could implement would be to increase demand for coal nationally by increasing coal exports, say, through approving a West Coast export terminal. Such an export terminal would firstly not help Appalachia, due to several factors. First, the terminal would be geographically closer to western coal. Second, as mentioned above, western coal has lower sulfur content, and developing countries are facing increased pressure to reduce air pollution—making exports of western US coal more attractive. Third, Appalachian coal is less cost-effective than western coal. Such a policy would therefore have little effect on Appalachian and Midwestern coal; investments in carbon capture and storage facilities may be the only way to make Midwestern and Eastern coal economically attractive, if CO₂ regulations are to be maintained. Fourth, there is likely to be opposition to approval of a coal export terminal in the West, and states or communities where the terminal would be located may take action to oppose it, as has happened on the West Coast. In 2016, five of six proposed export terminals in the Pacific Northwest were rejected, one due to opposition from the Lummi Nation (Geiling 2016). The sixth proposed terminal also faces legal challenges.

Finally, “full use” implies support for new infrastructure. The Trump administration can have the intention of approving the Keystone pipeline but TransCanada would need to re-propose building this pipeline, and low oil prices may well discourage that—despite the company’s public statements that it “remains fully committed to building Keystone XL” (Mufson 2016). Yet pipeline construction has been robust otherwise, despite all the publicity associated with the Dakota Access and Keystone XL pipelines. As the industry’s trade associations have put it, “in the time the Keystone XL pipeline was under review, we built the equivalent of 12 Keystone XL pipelines across the United States” (AOPL and API 2015).

Turning to energy independence and net energy exports, the market—with the help of liquefied natural gas export permitting and the lifting of the crude oil export ban—is already speaking powerfully to move the United States to a net energy-export position. Figure 1, below, shows the US Energy Information Administration’s (EIA’s) reference case estimates of

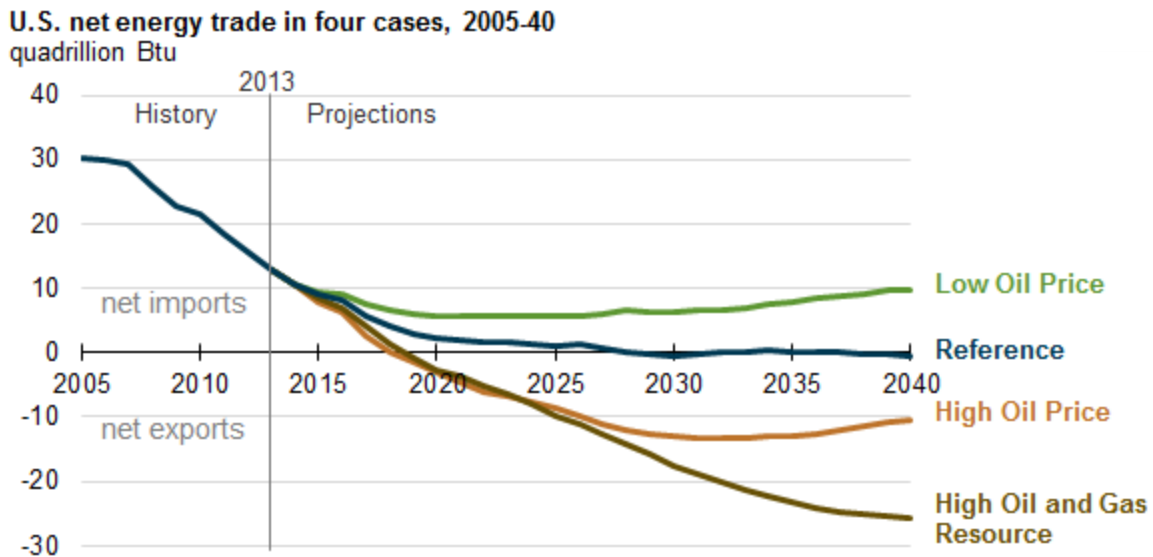
net energy exports by fuel historically and projected to 2040. This shows that net zero (on a Btu basis) is reached by 2028 in the absence of any further policies. Indeed, Figure 2 shows projections if oil prices were to significantly increase and if the oil and gas resource stocks tend to be less costly to exploit. In either case, we reach net exports by 2018.

FIGURE 1. US NET ENERGY IMPORTS TREND DOWNWARD, REFLECTING INCREASED OIL AND NATURAL GAS PRODUCTION COUPLED WITH SLOWLY GROWING OR FALLING DEMAND



Source: Sieminski 2016.

FIGURE 2. US ENERGY IMPORTS AND EXPORTS TO COME INTO BALANCE FOR FIRST TIME SINCE 1950S



Source: EIA 2015b.

Administrative Law

Rhetoric aside, it is not easy to eliminate regulations, environmental or otherwise. Such regulations are created with notice and comment rulemaking, and their repeal or modification requires notice and comment rulemaking. Along with that process come the strong possibilities

of lawsuits and the burden on the government to show why a regulation was incorrect or inappropriate, subject to the court demanding that such changes not be “arbitrary and capricious.” Whatever success will come of this approach, it will be time consuming. Of course delay works in favor if one wants to stop a regulation from being fully implemented. And the alternative strategy of simply not enforcing a regulation is always available, if less symbolic, and, of course, subject to lawsuits.

Some specific regulations and laws are likely to escape such treatment anyway. Renewable tax credits were just extended by law to 2019 for wind and 2020 for solar, so these are unlikely to be removed. And EPA’s rule on methane leaks from new sources was created with industry help and acquiescence and so is unlikely to be a Trump administration target.

The States

Probably the biggest roadblock to affecting actual change will be the states. Oil and gas regulations are primarily created and enforced by states, with the federal role (other than on federal lands) mostly limited to issues addressed by the Clean Air Act and Clean Water Act. States, on their own, have been tightening rather than weakening standards and making them more directly applicable to modern oil and gas development involving fracking, multiple wells on a pad, and other considerations. Many of these efforts, even on issues arguably of federal concern, such as methane rules in Colorado, have involved state–industry collaborations. So these will be immune to changes at the federal level unless the administration and Congress seek to preempt state jurisdiction—an unlikely scenario.

The states are also mostly in the driver’s seat when it comes to oil pipeline approvals, unless they cross international borders or major bodies of water (which gives the Army Corps of Engineers authority under the Clean Water Act—a provision also on a Trump administration chopping block list). Gas pipelines are the concern of the Federal Energy Regulatory Commission, and thus these types of pipelines can be influenced by an administration’s choices.

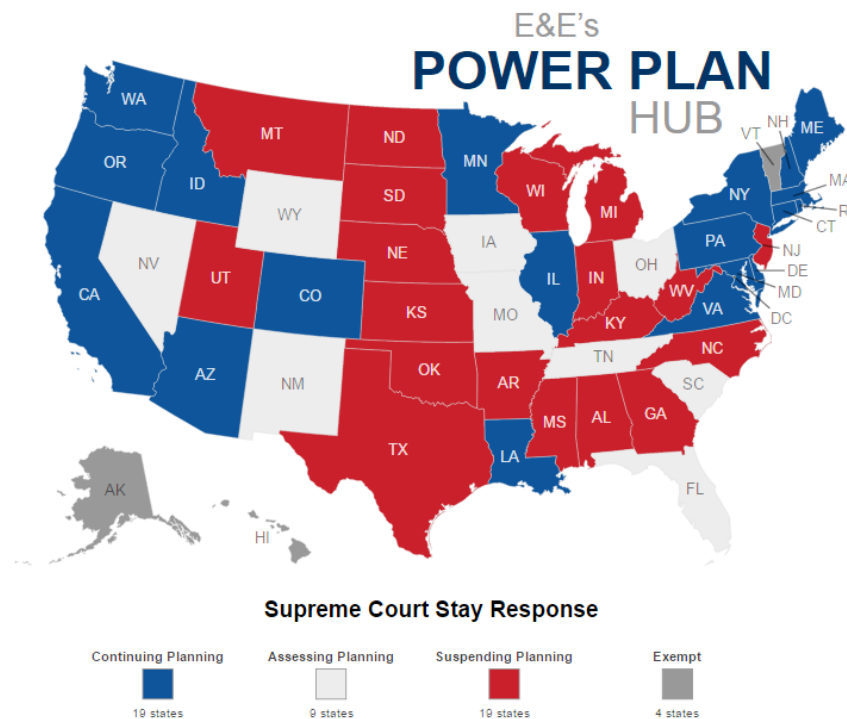
As for development off the Atlantic coast, it is actually coastal localities that could conceivably force delays in such development plans, rather than the governors, as the latter had previously approved leasing and development activity.

In the electric power sector, 29 states have renewable portfolio standards that place mandates on the fraction of power generated by renewable energy (Durkay 2016). The federal government has no such policy. As utilities seek to meet these mandates with electricity demand growing slowly or not at all, something has to give. Because natural gas is more flexible than coal in its ability to take up the slack when the sun is down and the wind slows, these mandates further weaken coal demand.

Finally, some states are actively pursuing their own green agendas and are likely to continue irrespective of Trump administration policies. This includes California, which writes its own vehicle emissions and fuel economy regulations in addition to administering its own CO₂ trading program, plus the northeastern states comprising the Regional Greenhouse Gas Initiative (RGGI), another CO₂ trading program. Indeed, the map of states who, before the election, were actively pursuing planning for their participation in the Clean Power Plan (Figure 3) looks quite similar to the electoral map. Doubtlessly, some states were doing this to get a

head start on implementation and may turn to other pursuits if the new administration follows through on its repeal pledge. But others may well continue with their own planning and implementation, or may join together to do what they can to reduce CO₂ emissions from the power sector. Similar steps by the states might follow an attempt by the Trump administration to roll back planned increases in fuel economy standards (see below). Nine states have already adopted California’s Zero Emissions Vehicles (ZEV) mandates, and more could join (C2ES n.d.). The ZEV program requires major manufacturers to accumulate a certain number of ZEV credits, depending on the number of battery electric or hydrogen fuel cell vehicles, for example, produced and delivered for sale in the state as well as credit trading and differing levels for compliance (C2ES n.d.).

FIGURE 3. STATE PLANNING FOR CLEAN POWER PLAN PARTICIPATION BEFORE THE ELECTION



Source: E&E Publishing 2016.

The Private Sector

The oil and gas industry is, like most industries, populated by a few large multinational companies, a larger number of midsize companies, and thousands of small companies, many running marginal wells. While seeking goodwill and being active in the corporate responsibility movement is not perfectly correlated with size, the fact remains that companies operating in countries with very active climate policies are likely to continue these policies in the United States. For example, at the recent COP 22 climate talks in Marrakech in November, 365 companies and investors—including large businesses such as DuPont, Unilever, Kellogg, Starbucks, and Hilton—called on Trump, as well as President Obama and other politicians, not to abandon the Paris climate deal and expressed support for continued low-carbon policies and investment (LowCarbonUSA 2016).

Many of the midsize companies also have strong environmental cultures (e.g., Southwestern Energy developed the ONE Future program,¹ which now comprises several companies with operations across the natural gas value chain, to reduce methane emissions by the industry and is implementing its own methane reduction program voluntarily [Mark Boling, Southwestern Energy, pers. comm.]) and could be expected to keep their programs in place on a voluntary basis. At least some of the larger companies and maybe others use CO₂ “shadow prices” in their investment planning to help them account for future regulatory risks. While those risks in the United States will probably fall short under a Trump presidency, they are still real, even in the United States, as investments can have very long lives (such as pipelines, refinery units, and deepwater drilling operations). In addition, the growing shareholder pressure concerning climate change and the divestiture movement are likely to be further fueled by many NGOs and climate change activists. So, it is likely that many of the publicly owned firms in the industry will continue to actively seek to reduce methane leaks and take other climate friendly steps on their own, irrespective of derailment of regulations and regulatory processes.

Another area where industry may be less interested in pursuing an anti-climate change agenda is corporate average fuel economy (CAFE) standards. EPA and the National Highway Traffic Safety Administration are now actively reviewing the plan to tighten new car fuel economy standards to 55 mpg by 2025. One could easily imagine a Trump administration attempt to abort this increase. How enthusiastic will the auto companies be? Certainly the companies have been arguing that low oil prices have pretty dramatically increased the demand for bigger and heavier vehicles, making many in the industry concerned that they won't be able to sell their most fuel-efficient vehicles at a profit.

On the other side, vehicles have already been made more fuel efficient since the regulation went into effect in 2011 and investment plans for future model years are already in place to further increase the fuel economy of the fleet. Industry won't want these investments to be stranded. In addition, there is the interplay between California's standards and the federal CAFE standards. The companies never liked the two-market strategy: having to produce California vehicles responsive to that state's more stringent standards, and producing vehicles for the rest of the country that meet the weaker federal standards. A growing gap between the federal standards and California's standards might increase the industry's costs and reduce profits.

The Public

Actions by the states and to some degree the companies will be governed, at least in part and certainly over the longer term, by the “will of the people” and shareholders, respectively. When it comes to climate change, public support for taking steps to reduce greenhouse gas emissions is overwhelming. Over three-quarters of Americans expressed support for the US government limiting greenhouse gas emissions in a 2012 survey, with the

¹ <http://www.onefuture.us/who-we-are/>

majority of residents in every state expressing “green points of view” (Krosnick and MacInnis 2013; Morrison 2015). Additionally, in a joint survey by RFF, the *New York Times*, and Stanford University, most respondents—78 percent—said the government should limit greenhouse gases that US businesses emit (2015). And two-thirds of respondents thought actions to mitigate global warming would either not affect or would help the US economy (RFF, *New York Times*, and Stanford University 2015).

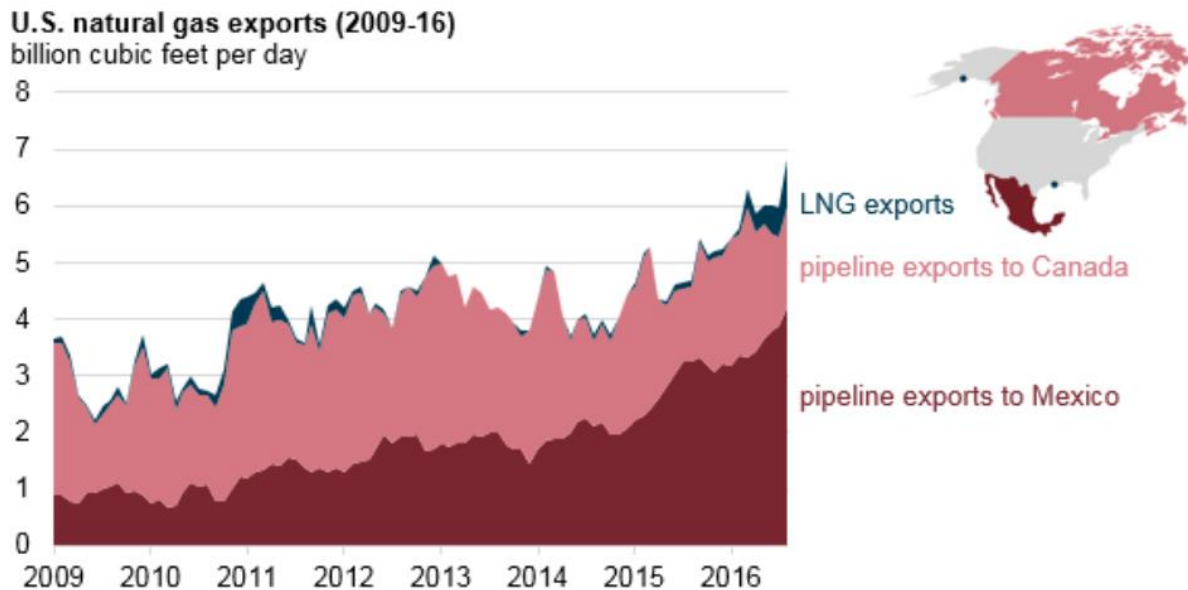
What a Trump Administration Can Easily Do

In spite of these roadblocks, a modern US president retains much power. What can the Trump administration easily do regarding its energy and climate agenda?

First and foremost, it can take the United States out of the Paris Agreement, at least in spirit and deed. While it will take several years to unwind our formal participation, there are no sanctions for not fulfilling our pledge for greenhouse gas emissions reductions. Other countries might react to this by, as France has threatened, placing carbon content duties on US imports. But it is unclear whether all EU countries would also implement such policies. And the administration could reduce or eliminate funding for the UN-sponsored IPCC, which underpins the international climate effort.

Further, the administration could immediately rescind President Obama’s energy and climate-related executive orders. One stands out—the BLM’s Programmatic Environmental Impact Statement and the accompanying moratorium on coal leasing. Plans to regulate methane from existing sources also could be easily shelved, as formal rulemaking hasn’t begun. And proposed rules to reduce methane emissions on federal lands could be pulled back, unless they are finalized before the end of the Obama administration. Economic incentives to capture this valuable gas, however, still remain.

Finally, a cautionary note about the policy statement above: there are many tradeoffs inherent in such a broad brush agenda on energy and climate. For instance, any efforts to promote natural gas production are likely to further lower its price and make coal even less competitive as a generation fuel. And, although Mexico hasn’t been brought up in this essay, if trade subsidies with Mexico over issues with immigration and NAFTA, US natural gas and pipeline suppliers will be hurt. Needless to say, it is in the US interest for Mexican economic growth to increase (therefore making Mexico a more attractive place for would-be immigrants)—and US natural gas is playing and will continue to play a major role in helping this growth along (Figure 4). Avoiding these and other perverse effects of otherwise priority administration policies will not be easy.

FIGURE 4. US NATURAL GAS EXPORTS TO MEXICO CONTINUE TO GROW

Source: EIA 2016.

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