



Incorporating stability and resilience in energy policy for the U.S. power sector: Recommendations for the Trump administration



David K. Gattie

University of Georgia, College of Engineering, Athens, GA, 30602, USA

ARTICLE INFO

Article history:
Available online 18 January 2017

Keywords:
Energy policy
Power sector
Trump administration

ABSTRACT

With the impending transition in energy policy, the inevitability of political transitions should be accounted for in order to avoid an unsustainable shift in policy that is short-lived and introduces uncertainty for the U.S. power sector. A policy correction rather than an outright reversal can offer a middle ground for energy-environmental centrists to sustain pragmatic energy policy through political transitions, and engagement in international climate talks independent of the administration's position on climate change.

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1. Introduction

The 2016 U.S. presidential election has generated concern within the environmental community, particularly with respect to climate change, as President-elect Trump has conveyed his intent to address what he considers regulatory overreach in the U.S. energy sector and unleash an energy revolution in America (Trump, 2016a). This includes expanding U.S. oil and natural gas development, reviving the coal industry, rolling back EPA's Clean Power Plan, and withdrawing from the Paris climate agreement (Mufson and Dennis, 2016; Schoof, 2016; Trump, 2016a). All combined, this would extract from current U.S. energy policy the core of President Obama's climate agenda and effectively put the Obama climate legacy into hibernation—a legacy that, if elected, Hillary Clinton would have likely kept intact and expanded upon (Clinton, 2016). How this projects forward remains in question. What is clear is this: the election of Donald Trump has triggered what will be an ideological shift in energy policy. While this may bode well for upstream and midstream oil and gas sectors in the near term, the impact on the power sector is not as certain (Rapier, 2016).

Past U.S. energy policies that impacted the power generation sector were motivated by various circumstances, some domestic and some external. The Rural Electrification Act (U.S. Department of Agriculture, 1936) was implemented to facilitate the provision of electricity to rural areas of the U.S. The Power Plant and Industrial Fuel Use Act (U.S. Congress, 1978a), which prohibited the construction of new oil and natural gas baseload power plants

in favor of coal plants, was a national security measure taken in response to the 1973 oil crisis, but was later repealed. The Public Utilities and Regulatory Policies Act (U.S. Congress, 1978b), also in response to the 1973 oil crisis, was intended to promote energy efficiency and the development of domestic energy resources. The Clean Air Act Amendments (US Congress, 1990) were implemented to address acid rain, urban air pollution, and toxic air emissions, and resulted in significant technological changes and retrofits for power plants. The Energy Policy Acts of 1992 and 2005 created frameworks for wholesale power generation and the consideration of net metering by states (U.S. Congress, 1992, 2005). The Energy Independence and Security Act of 2007 (US Congress, 2007) was, as its title indicates, focused on shifting the U.S. toward less dependence on foreign energy supplies. The Clean Power Plan, which establishes CO₂ emission performance rates for power plants as a measure to ameliorate global climate change, has proven to be one of the most contentious energy-related policies, as there is currently no economically viable environmental control technology available to manage CO₂ (US EPA, 2015). Most recently, the U.S. Senate passed the Energy Policy Modernization Act (U.S. Congress, 2015), which was developed to promote conservation, improve accountability, increase America's energy supply, improve energy infrastructure, and enhance energy efficiency in an overall effort focused on energy security.

These few examples convey the inherent dovetailing of energy and environmental policy with national security, and, in some cases, show how energy policy is oftentimes a proxy for environmental policy. They also exemplify how U.S. energy policy has evolved from a focus on U.S. domestic welfare to one that is now global in scope. While past policies faced their own political and social resistance when originally proposed, most policymakers

E-mail address: dgattie@engr.uga.edu (D.K. Gattie).

today retrospectively support the ideologies of past policies implemented to provide electricity for all U.S. citizens, decrease dependency on foreign energy resources, and protect human health and welfare and the environment. However, energy policy designed to regulate U.S. carbon emissions for the sake of global climate welfare has generated conflict involving U.S. national interests, politics, science, the power sector, and America's leadership role in the world. While a Trump administration will focus on implementing its own ambitious energy policies while likely diminishing President Obama's energy and climate agenda, the realities of political and global ideologies and the inevitability of political transitions should be accounted for in order to avoid an unsustainable shift in energy policy that is short-lived and introduces more uncertainty for the U.S. power sector.

The objective of this article is to offer policy recommendations that can help achieve President-elect Trump's goal of unleashing an energy revolution in America, reduce U.S. and global carbon emissions in the long term, and incorporate stability and resiliency into U.S. energy policy as it pertains to the power sector. The recommendations focus on: [1] policy correction as opposed to policy reversal, [2] development of a middle ground of energy-environmental centrists who can sustain and advance pragmatic energy policy through political transitions, and [3] engagement in international climate talks as necessary actions of diplomacy and leadership, independent of the administration's position on climate change.

2. Policy correction, not course reversal

The energy policies of President Obama are in sharp contrast with the energy policy proposals of President-elect Trump and thus project different outlooks for the U.S. power sector. The contrast can be highlighted based on Obama's focus on renewable energy, climate change, and regulations to reduce carbon emissions, compared with Trump's focus on dialing back regulatory overreach, unleashing "America's \$50 trillion in untapped shale, oil, and natural gas reserves, plus hundreds of years in clean coal reserves," and canceling U.S. commitments through international climate agreements (EPA CPP CEIP 2015; Trump, 2016a, 2016b, 2016c; Volcovici and Stephenson, 2016; White House, 2016a, 2016b). As President-elect Trump considers rolling back the Obama rules, this is likely to be met with a firestorm of protests and litigation, although reversing course on some of President Obama's policies might not be straightforward (Jacobs, 2016). Nonetheless, President-elect Trump's threats are being hailed by some as a long-overdue attack on the regulatory state (Reilly, 2016). If the policy pendulum is characterized as having swung to the left under President Obama, it can be said that it may be about to swing to the right under President-elect Trump. But it may not swing through the middle to get there—it may go over the top.

Energy policy is inherently subject to political transitions and ideological shifts that generally accompany those transitions. While some may say that Obama's energy policies recommend a necessary course correction, President-elect Trump's focus should be on policy stability and resilience and not a complete course reversal. The reason being, just as quickly as President Trump can reverse course on President Obama's carbon rules and climate change goals, the next President may well reverse course on President Trump's, which only perpetuates the risk, instability, and uncertainty for the power sector, as it can't adjust its generation fleet or respond as quickly as an executive order can be issued. In this regard, the U.S. power sector has recently experienced regulatory and policy volatility and is in need of the latitude to develop long-term integrated resource and infrastructure planning and investment strategies that can hold up under future political

transitions. If the direction set by the previous Obama administration is completely abandoned, then a President Trump policy reversal is itself likely to be reversed or abandoned under a subsequent administration; this is precisely what the power sector wants to avoid (Dennis, 2015; NERC, 2014; Eryilmaz and Homans, 2016). As such, the objective should be a resilient energy policy course correction that can be sustained long-term, not a course reversal that will likely be reversed in the future.

This will require a policy framework with institutional strengths to balance energy, environmental, economic, and national security objectives, within the realistic technological constraints of power generation systems. Moreover, it will require a coalition of pragmatists with a realistic view of developing economies and the environmental politics of coal, natural gas, nuclear power, and climate change not only in the U.S. but in a world that is undergoing economic growth and in need of more energy, not less.

3. The pragmatic center: foundation for resilient energy policy

Energy issues are polarized at political and environmental margins. If policy originates at those margins and is enacted based predominantly on agendas at those margins, trench warfare generally ensues as both sides dig in, one in defense and the other laying siege. While ground may be gained or lost over time, it's inevitable that the politics will eventually shift and strategies will be rearranged. The casualty in these shifts is stability and predictability and the resulting uncertainty is problematic for the U.S. power sector, which is at a transition point of its own with respect to infrastructure upgrades and cybersecurity (Campbell, 2015; Lott, 2015; US DOE, 2015).

It remains a matter of perspective, personal politics and individual beliefs as to whether policies are considered extreme or whether regulations are overreaching, but renewable energy and CO₂ regulations are often at the center of the debate. Many in the environmental community lobby for renewable energy as the necessary and proper response to climate change and push for incentives to make it competitive with traditional energy resources and to facilitate a transition toward an energy economy dominated by renewable energy (Council on Foreign Relations, 2016; Lovins, 2013). Some even advocate for a 100% renewable energy economy, primarily wind, water, and solar, not only for the U.S. but for the world, arguing that it can supply the world's energy needs and address climate concerns while meeting economic objectives (Jacobson and Delucchi, 2011). Power sector professionals contend that renewable energy's inherent intermittency characteristics limit its capacity and that baseload power is fundamental to ensuring system reliability (Blade, 2016).

CO₂ regulations interlock with policies promoting renewable energy, as is the case with the Clean Power Plan (CPP) and its Clean Energy Incentive Program, which incentivizes solar and wind as clean energy options to the exclusion of nuclear power (EPA CPP CEIP, 2015). Since the CPP would effectively signal the beginning of the end for coal-fired power in the U.S., President-elect Trump has criticized it as job-killing regulatory overreach (Trump, 2016a). The bottom line is that in a zero-sum game involving coal and renewable energy, the two industries will have difficulty agreeing on a way forward that doesn't preclude the other, and energy policymakers seem to be relegated to a polarized either-or policy space.

This polarization can, and should, be moderated by a middle ground occupied by energy-environment pragmatists who are in broad agreement on technologically sound approaches for meeting energy, environmental, and economic objectives concurrently. Therefore, a necessary component to a resilient energy policy will be a coalition of energy-environment centrists. These are

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