



June 19, 2017

The Honorable Rick Perry  
United States Secretary of Energy  
U.S. Department of Energy  
1000 Independence Ave. SW  
Washington, DC 20585

Dear Secretary Perry:

Basin Electric Power Cooperative submits the following in response to your recent memorandum directing the Department of Energy (DOE) to study the extent to which wholesale electricity markets and federal policy influence baseload power generation and reliability. The cooperative appreciates this opportunity to discuss this important issue.

Basin Electric is a generation and transmission cooperative based in Bismarck, N.D., serving approximately 3 million consumers through 141 rural electric cooperatives across nine states. Currently, about 45 percent of Basin Electric's 6,031-megawatt (MW) generation capacity is coal based, and more than 20 percent comes from renewable sources, most of which is wind generation.

Basin Electric was one of the first utilities in the country to implement environmental stewardship into all of its practices. The cooperative required coal mine reclamation as part of our coal supply contracts more than 50 years ago, before any state required reclamation. Through 2016 the cooperative has invested more than \$1.6 billion in state-of-the-art environmental controls on all of its power plants, plus nearly \$1 billion over the last eight years to comply with new rules. Even more, Basin Electric's subsidiary, Dakota Gasification Company, is home to North America's largest carbon capture and sequestration project – capturing 34 million tons of carbon dioxide (CO<sub>2</sub>).

Even with all of the investments in renewable and natural gas generation, Basin Electric still relies on its baseload power plants for the bulk of its energy deliveries. The cooperative believes there are three factors that negatively affect baseload generation and its intended primary function as a sustained power source: Regional Transmission Organization (RTO) market rules, tax incentives, and regulatory uncertainty.

### **RTO Market Rules**

Wind and coal generation assets are treated differently in the markets. It is clear that forecasting wind is difficult for market operators. Given various registration types of units, market participants are able to reduce generation from certain wind assets at any time with little to no market-related penalties. In other words, wind generation doesn't have to play by the same rules that apply to other generation sources such as coal-based generation. Accounting for these contingencies leads to price spikes, increased reliability concerns, and inefficient operation of market resources.

With the volatility of wind generation comes extreme uncertainty for daily resource operation in the marketplace. Unlike natural gas generation, coal units cannot cycle on and off the same way as natural gas generation. They need potentially days' notice to come on and offline. So when wind is significantly high on a given day, resulting in very low or negative market prices for energy, coal units will be backed down to minimum generation levels (which may still be significant volumes) and, subsequently, incur financial losses. The units, however, cannot be taken off line because the very next day, when wind drops to very low levels, they may be needed to supply energy in the market. While wind is subsidized through tax incentives, the market provides no subsidy for coal to be on standby as an offset to the losses incurred when the wind blows. Additionally, wind levels can change abruptly throughout the day, forcing other generation, primarily fossil fuel-based, to start up or "ramp up" from lower generation levels. The markets currently provide compensation for various ancillary services such as assets in reserve, but do not compensate for the value of "ramping up."

Coal plants typically have a fuel supply of about 30 days or more on site or are mine-to-mouth facilities with the fuel supply capability to enable uninterrupted service during fuel-supply issues. This capability is not available with natural gas. What happens if gas prices spike and there is no reliable large baseload generation with a stable-priced fuel? What happens when there is a fuel delivery disruption or another "polar vortex" event, and fuel is not available to operate gas generation?

To respond to these unique challenges, Basin Electric believes there should be a fair and equitable market structure for all fuel types to include the following:

- Equivalent market rules and penalties for all types of fuel assets.
- New "stand-by" product compensation for assets that cannot come online and offline quickly, but are required to stay online to handle the day-to-day volatility of wind, and, therefore, incur financial losses.
- New "ramp" product compensation for assets that can provide the needed energy-ramp capability to handle the abrupt changes in wind levels.

### **Tax Incentives and Subsidies**

Right now there are many incentives to install wind. In the absence of a unified federal policy, states have adopted their own renewable mandates. Given the interstate nature of the electrical grid, this means utilities like Basin Electric must deal with multiple diverse state regulations that put pressure on how much generation the cooperative builds and where it is built.

In the late 1970s and early 1980s, federal policy prohibited the construction of natural gas generating facilities. In response, utilities were encouraged to build new coal-based power plants to provide the inexpensive, reliable electricity America needed to prosper. Many of the power plants Basin Electric built at that time have decades of useful life remaining, but are now being targeted for closure.

Wind is a mature industry, yet the Production Tax Credit (PTC) is slated to provide incentives until 2020. The PTCs are used for 10 years from the date of project start-up and impact the market for the life of the resources. At this time the PTC only serves to artificially lower already low wind costs.

State and federal regulations make it difficult to build coal power plants. Utilities have a 10-year planning window and generation facilities can have a 40- to 60-year facility life. In many cases, state and federal rules contradict each other or are constantly changing. Simply put, there is no regulatory certainty. If utilities can't predict what will happen to coal or CO<sub>2</sub> over the next 10 years, there is little incentive to invest in coal, which, in turn, moves utilities to choose intermittent sources like gas and wind that are easier to permit. Meanwhile utilities with a diversified portfolio that includes coal, such as Basin Electric, are forced to either upgrade existing plants to comply with increasingly stringent emissions regulations, or place them on the path to shut down. Current Clean Air Act regulations, e.g. New Source Review, would place even larger burdens on plants that implement upgrades, making this an impossible decision. As a result, many utilities have chosen to shut down their plants.

Carbon constrained does not mean zero carbon. It is imperative that large, coal-based generators remain online. Coal-based units play an important role in providing high-quality power along with stability and reliability to the bulk electric system. Markets are increasingly requiring baseload generation to constantly ramp up and down, which is opposite of what they were designed to do – operate at full load. This will lead to more plant outages, increased operating and maintenance costs, and grid instability. Small generators like wind turbines simply cannot replace large generators. Coal is abundant in the United States and provides energy security and fuel supply diversification.

### **Regulatory Uncertainty**

Basin Electric's members support an "all-of-the-above" energy strategy, but the lack of a cohesive national energy policy has led to a disjointed mix of regulatory mandates and tax incentives. Adding in fluctuations in electricity markets and consumers' desires for clean power creates a recipe for considerable challenges for the utility industry. Basin Electric believes policymakers need to take an active role in responding to these challenges. The cooperative encourages our elected leaders to work together to find reasonable, common-sense solutions that accomplish goals, rather than constantly redefining those goals and moving the goal posts.

Our policy leaders in Washington, D.C., need to respond to this current conditions by definitively establishing a path for baseload generation, especially coal. Early shutdown of baseload generation with useful life remaining does nothing to protect America's future energy position while increasing the current cost of electricity to consumers. In fact, consumers pay for these facilities whether they run or not. Even when a baseload plant closes, the consumers may continue to pay for the closed plant in the form of stranded costs. Additionally, the Federal Energy Regulatory Commission (FERC) and RTOs should vary their pricing methodology based on the type of power offered in the market: intermitted, peak or short-term, and baseload.

The government should invest in technologies to speed deployment of next generation coal technologies. As next generation coal technologies are developed, federal and state incentives that support the development and deployment of these technologies are needed to secure energy supply diversity, baseload power generation, and electric reliability. The Department of Energy is best positioned to respond to these challenges.

For example, Basin Electric is investing in efforts to boost research, demonstration, and commercialization of technologies for new large-scale coal-based facilities with near-zero emissions, as well as solutions to retrofit existing facilities. This technology allows for the utilization of lignite coal through carbon capture and sequestration and enhanced oil recovery. Accomplishing this in a cost-effective manner is the only pathway to give utilities the long-term certainty they need to reinvest in baseload generation.

In order to ensure baseload reliability and a future for the coal industry, the federal government must continue to support the industry's efforts to commercialize such technology in the coming decade. Given President Trump's stated goal of energy dominance and independence, a public-private partnership on these and other transformative technologies that promote the use of coal will secure America's role as an innovator on the world stage.

Again, Basin Electric believes a fair and equitable market structure for all fuel types should be available, and energy incentives should consider the economic and reliability benefits to end-use consumers that baseload energy provides. Given that wind is already subsidized through tax credits, wind costs should truly be reflected in markets, and the markets should provide compensation mechanisms for assets that support the grid when wind is not available.

Thank you for considering this important issue. As you review current and future policies regarding electricity markets and baseload power, Basin Electric urges you to consider a more measured approach, one that neither discriminates nor promotes any one fuel over another. Any generating or emission control technology that reduces CO<sub>2</sub> emissions should be viewed equally in regulatory and tax policy. Basin Electric remains committed to its members and advocates for a future path forward for coal as a key fuel powering the United States economy.

Sincerely,



Paul Sukut  
CEO & General Manager

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