

## PUCO announces "grid modernization" initiative

March 13, 2017

At its March 8, 2017, meeting, the Public Utilities Commission of Ohio (PUCO) formally unveiled its grid modernization initiative, referred to as "PowerForward." As described by the commission:

PowerForward is the PUCO's review of the latest in technological and regulatory innovation that could serve to enhance the consumer electricity experience. Through this series, we intend to chart a clear path forward for future grid modernization projects, innovative regulations and forward-thinking policies.<sup>1</sup>

According to PUCO Chairman Asim Haque's introductory remarks, the initiative is a recognition that technology is advancing rapidly in the electricity sector. The PowerForward initiative will, according to Chairman Haque, be guided by two pillars: (1) a comprehensive exploration of new innovation, both from a technological and regulatory standpoint; and (2) enhancing the "customer electricity experience."

### What does "grid modernization" mean?

The PUCO began seriously discussing a grid modernization initiative in 2016. In fact, the prospect of a grid modernization initiative was cited by the commission in deciding a number of cases in 2016. Most notable was the decision to provide FirstEnergy with an annual "credit support" payment of \$132.5 million, collected through a non-bypassable rider, the "Distribution Modernization Rider." To support its decision, the commission relied heavily on the concept of future grid modernization efforts, reasoning that FirstEnergy needed to maintain its "financial integrity" in order to be in a position to make future grid modernization investments.<sup>2</sup>

As part of the underlying case, FirstEnergy filed a "Grid Modernization Plan."<sup>3</sup> The grid modernization initiatives highlighted in the plan include: advanced metering infrastructure, distribution automation, Integrated Volt/VAR Control, and distributed generation and net-metering tariffs.

Other states have also adopted their own grid modernization initiatives that may provide insight on the types of issues that will be examined in the PowerForward initiative. For example:

- **New York** was the first state to adopt a comprehensive grid modernization plan, the Reforming the Energy Vision (REV) plan, which uses regulatory overhaul to encourage clean and efficient power system operation.<sup>4</sup> The plan puts New York on the path to achieving the following energy goals by 2030: reducing GHG emissions by 40 percent from 1990 levels; requiring 50 percent of electricity to come from renewable energy sources; and decreasing energy consumption in buildings by 23 percent from 2012 levels through the use of energy efficiency programs.<sup>5</sup>
- **Rhode Island** launched a grid modernization proceeding "to look at ways distributed energy resources can be used to meet system needs."<sup>6</sup>
- **California** launched an initiative in 2015, under which utilities are moving to default time-of-use rates.<sup>7</sup> Likewise, California has passed four bills that require utilities to increase their use of energy storage.<sup>8</sup> In addition, California now requires its major investor-owned utilities to "submit distributed resource plans that detail how they will value distributed energy resources (DERs) as distribution grid assets."<sup>9</sup>

- **Massachusetts** Department of Public Utilities, in March 2016, “called on the state’s three electric distribution companies . . . to propose how they plan to modernize their grid.”<sup>10</sup> The proposals submitted by utilities have included “additional smart meters, experiments with time-of-use and critical peak pricing tariffs, and DER management systems,” as well as investment in energy storage and extensive grid management and resource integration.<sup>11</sup>
- **Maryland** began its grid modernization proceeding in October 2016.<sup>12</sup> Early reports indicate that the state Public Service Commission “appears focused on more specific technologies and issues” rather than comprehensive reform of its market structure.<sup>13</sup> Interestingly, the Maryland proceeding is not backed by ratepayer funds; instead, Maryland required Exelon and Pepco Holdings to fund up to \$500,000 to retain a consultant for transforming Maryland’s distribution system as a condition of the companies’ merger.<sup>14</sup>

### Phases of “PowerForward”

PowerForward will be implemented in three phases. The first phase will consist of a survey of technologies affecting a modern distribution grid. The second phase will look at the specific technologies necessary to achieve certain enhancements to Ohio’s distribution grid. The third phase will involve the regulatory and ratemaking process to deploy that new technology.

The PUCO will kick off the first phase of PowerForward, entitled “A Glimpse at the Future,” on April 18, 19 and 20 at the commission’s offices in Columbus, Ohio. According to the commission, this phase will feature presentations examining technologies that affect a modern distribution grid; what our future grid could offer consumers; and what technologies are in development to realize such enhancements.” An agenda and schedule is available on the PowerForward website.<sup>15</sup>

(No schedule or agenda has yet been released for the second and third phases of PowerForward.)

### Implications

The PowerForward initiative could have significant implications for smart grid implementation, microgrids, battery storage technologies, electric vehicles, distributed generation, virtual net-metering and time-of-use rates.

On multiple occasions, the commission has indicated that the grid modernization efforts will be an opportunity to “frame the future of Ohio’s grid.” The early phases of PowerForward will be an opportunity for stakeholders to share their vision for Ohio’s grid. As the vision and objectives are established, the PowerForward initiative will examine how the new technologies will be regulated and paid for. This process will inevitably give way to additional questions, such as:

- What new technologies should be given priority?
- Who should deploy the technology: the incumbent distribution utilities or competitive service providers?
- What will be the role of distributed generation and energy storage?
- How will rates be designed?
- How will low-income consumers access these enhanced technologies?
- How will electric vehicle infrastructure be developed?
- How much upfront investment is needed to upgrade the distribution grid so that it can support new technologies?
- What are the cybersecurity needs of a modernized grid?

<sup>1</sup> The commission has established a website for PowerForward: <http://www.puco.ohio.gov/industry-information/industry-topics/powerforward>

<sup>2</sup> For more discussion about this case, see “Consequences of FirstEnergy’s Electric Security Plan rehearing decision,” at <http://www.bricker.com/insights-resources/publications/consequences-of-first-energys-electric-security-plan-rehearing-decision>

<sup>3</sup> Case No. 16-0481-EL-UNC. It should be noted that AEP Ohio filed a similar plan.

<sup>4</sup> <https://www.ny.gov/sites/ny.gov/files/atoms/files/WhitePaperREVMarch2016.pdf>

<sup>5</sup> <https://static1.squarespace.com/static/576aad8437c5810820465107/t/5797fc6ff5e231d942a2d880/1469578352695/2015-overview.pdf>

<sup>6</sup> <http://www.utilitydive.com/news/4-us-governors-roll-up-sleeves-to-tackle-grid-modernization/433033/>

<sup>7</sup> <http://www.utilitydive.com/news/the-top-10-utility-regulatory-commission-issues-of-2016/431164/>

<sup>8</sup> <http://www.utilitydive.com/news/facing-stricter-climate-goals-california-passes-4-bills-to-boost-energy-st/425671/>

<sup>9</sup> <http://www.prnewswire.com/news-releases/3rd-annual-grid-modernization-index-finds-california-illinois-texas-maryland-and-delaware-leading-the-charge-300206676.html>

<sup>10</sup> <http://www.westmonroepartners.com/Insights/Newsletters/West-News-Energy-and-Utilities-April-2016/Grid-Modernization>

<sup>11</sup> <http://www.prnewswire.com/news-releases/3rd-annual-grid-modernization-index-finds-california-illinois-texas-maryland-and-delaware-leading-the-charge-300206676.html>

<sup>12</sup> <http://www.utilitydive.com/news/marylands-rev-how-utility-regulators-plan-to-tackle-business-model-der-r/427681/>

<sup>13</sup> *Id.*

<sup>14</sup> *Id.*

<sup>15</sup> <https://www.puco.ohio.gov/industry-information/industry-topics/powerforward>

# Authors

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**Dylan F. Borchers**

*Partner*

Columbus

614.227.4914

[dborchers@bricker.com](mailto:dborchers@bricker.com)

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