



Takeaways from the 2019 Solar + Storage Midwest Conference for the Ohio Solar Sector

December 23, 2019

In November 2019, the Solar Energy Industries Alliance (SEIA) and the Smart Electric Power Association (SEPA) hosted the Solar + Storage Midwest Conference. (This conference was formerly named the “Solar Power Midwest” conference.¹) Below is a summary of several conference presentations and panels, along with relevant takeaways for Ohio’s solar sector.

“On the Horizon: Grid Modernization”

This panel included perspectives from a utility executive, an environmental advocate and an energy software company on an increased focus on grid modernization by Midwest utility commissions and utilities. The goals of grid modernization investment include a greater adoption of distributed energy resources (DERs) that can provide new grid services and potentially defer traditional utility investments. Commissions are encountering proposals for very large increases in distribution system expenditures. Much of the discussion centered around the importance of Integrated Distribution Planning (IDP). The IDP process is a method to plan infrastructure investments and managing power quality at the level of the distribution system, anticipating the increased integration of DERs and identify lowest cost solutions for addressing distribution system challenges. A number of the panelists shared their beliefs that IDP processes are a key foundation to enable non-wires alternatives, the aggregation of DERs and new compensation models for DERs.

Takeaways for the Ohio solar sector: Over one year has passed since the Public Utilities Commission of Ohio (PUCO) released its PowerForward Roadmap, which outlines a path forward for the state’s grid modernization efforts.² The Roadmap discusses IDP as a natural component grid modernization.³ Over the past year, the PUCO’s PowerForward grid modernization efforts have

remained in various collaborative and working groups. However, a number of investor-owned utilities (IOUs) have begun to file grid modernization-related plans. In particular, Dayton Power and Light's (DP&L) plan contains a number of solar-related components, including proposals for the integration of DERs on the grid, community solar and customer-sited storage.⁴ Grid modernization is also a topic of interest at the Ohio General Assembly. Recently introduced House Bill 247 authorizes a number of "grid modernization" investments by IOUs, including development and ownership of batteries and customer-sited generation.⁵ This would mark a notable change in Ohio law, which currently prohibits IOUs from owning generation, including customer-sited generation.

"Trends in Financing Renewables"

This panel, which included executives from U.S. Bank and Marathon Capital, provided perspectives on financing trends, structures, deal terms, current market conditions and a forecast as to where the renewables industry is heading in the Midwest. Much of the discussion focused on corporate power purchase agreements (PPAs) as a key driver of new renewables. These PPAs typically look different from traditional utility offtake PPAs, often including shorter PPA terms. This requires a different underwriting approach for the shorter PPA terms and managing the risk from the resulting "merchant tail" of the project. The panel also discussed Investment Tax Credit (ITC) safe-harbor strategies and lessons learned from the wind industry. It identified the primary drivers of robust utility scale development as corporate offtake demand, ITC step-down predictability, low interest rates and plentiful capital raised for infrastructure.

Takeaways for the Ohio solar sector: These financing dynamics are applicable to solar projects in development in Ohio. As discussed in greater detail below, shorter corporate PPA terms are making states and regions with active energy markets more attractive. The PJM Interconnection region is one such top growth market, and Ohio is located in the center of this region.

"Corporate Procurement of Renewables in the Midwest"

This panel, which included the Renewable Energy Buyers Alliance, Level10 Energy, New Edison Energy and Xcel Energy, covered a forecast of commercial and industrial (C&I) customer needs, green tariffs and the growth of corporate procurement of renewables. According to Level10 Energy, in 2019 alone, there have been over seven gigawatts of corporate renewable deals in the Midwest.⁶ Overall, PJM is identified as the greatest growth market for renewables, and the primary driver of this growth is corporate demand.⁷ C&I offtake has been spurred by competitive pricing, the availability of smaller offtake sizes, shorter term lengths and an increase in corporate public renewable energy commitments. The panel also discussed the importance of "additionality" in projects, meaning that corporations are not just looking for offsets and hedges. Rather, corporations are increasingly seeking to drive a new project forward. In addition, the panel discussed aggregation opportunities, in which many smaller buyers form a single buying group in order to access a larger project. Finally, the panel noted that corporations that have achieved their immediate renewable energy goals are shifting focus to their supply chains.

Takeaways for the Ohio solar sector: According to a Wood Mackenzie Power analysis earlier this year, Ohio is among the upper tier of states in terms of projects operating or developing with corporate offtakers.⁸ Technology and data firms, such as Amazon, Facebook and Google, are at the forefront of renewable energy procurement across the globe. For example, AEP Energy Partners, an American Electric Power affiliate that procures and sells wholesale energy in deregulated markets, is currently seeking renewable PPAs of 10 to 15 years to supply, in part, the new Google data center in New Albany, Ohio.⁹

"Overcoming Barriers in the Midwest Storage Market"

States across the country are embracing energy storage due to the falling costs of lithium-ion batteries and its role as a valuable grid asset. But the Midwest storage market is just beginning to gain its footing. In 2018, the Midwest region interconnected just over 6 percent of all energy storage based in the U.S. States, such as Iowa and Minnesota, are investing in studies to quantify the value of adding storage to the grid but still face obstacles in reaching broad implementation.

Takeaways for the Ohio solar sector: According to SEPA, Ohio had less than two megawatt hours (Mwh) of energy storage deployment in 2018, with a cumulative total of just over 35 Mwh of storage in service.¹⁰ After the release of the PowerForward

Roadmap, the PUCO initiated a distribution system planning working group. In part, the working group is charged with examining non-wires alternatives and energy storage. Just recently, the working group held a session on examining energy storage applications and planning considerations.

“Finding a Renewables Mix in the Midwest – Optimizing Wind, Solar and Storage to Meet Capacity Needs”

Co-location of technologies has the opportunity to create projects with great grid and customer benefits, as hybrid projects of storage, wind and/or solar can have complementary characteristics. These projects can be more economical and mitigate the limitations of intermittency. The panelists discussed the need for queue reform in PJM Interconnection in order to promote hybrid and colocation of projects. There is currently no process to co-locate projects via a single interconnection process, making it difficult to estimate timelines.

Takeaways for the Ohio solar sector: Although Ohio experienced a wave of wind development earlier this decade, this type of development has slowed as a result of increased turbine setbacks requirements passed by the Ohio General Assembly in 2014 and more recent legislation allowing local referendums over approved wind projects.¹¹ Areas originally identified for future wind development and areas next to existing projects for future wind expansion may now be attractive for co-location of solar, which has not faced the same political barriers as wind in Ohio.

“Land Use, Permitting, Siting and Agriculture in the Midwest”

This panel of developers, a regulator and a consultant discussed how the development of solar projects is often met with land use issues and opposition to development. The panel shared best practices and risk mitigation strategies, as well as trends in siting, permitting and land use. In addition, the panel shared innovative civil engineering and vegetation strategies designed to generate local support for solar projects.

Takeaways for the Ohio solar sector: In just a few years, Ohio has gone from almost no solar utility scale solar development to many projects in advanced development (see the “Ohio Solar Market Update” below to learn more). Some of this development has led to opposition from local landowners. For example, two recent cases at the Ohio Power Siting Board (OPSB), the state permitting body with jurisdiction over solar projects greater than 50 megawatts, were recently heavily litigated as a result of organized opposition.¹² There has also been increased coverage of this emerging tension by local media in Ohio.¹³ In addition, the OPSB articulated concerns about a solar project at a recent meeting, questioning whether the information present in the permitting application provided sufficient detail for local stakeholders.¹⁴ Whether the OPSB will place additional requirements on solar project applications is still unknown, but development best practices of early local public information, a design process that proactively considers neighbors’ concerns and local stakeholder engagement will be increasingly important in Ohio.

¹ View the [2018 conference summary](#).

² <https://www.puco.ohio.gov/industry-information/industry-topics/powerforward/>.

³ Roadmap at 18.

⁴ In the Matter of the Application of The Dayton Power and Light Company for Approval of Its Plan to Modernize the Distribution Grid, Case No. 18-1875-EL-GRD.

⁵ The text of the legislation, as-introduced, can be accessed here: <https://www.legislature.ohio.gov/legislation/legislation-documents?id=GA133-HB-247>.

⁶ See, “As PPA price drops slow for wind and solar, developers see PJM, ERCOT as top markets,” Utility Dive (Oct. 17, 2019), available at <https://www.utilitydive.com/news/as-ppa-price-drops-slow-for-wind-and-solar-developers-see-pjm-ercot-as-to/565208/>.

⁷ Id.

⁸ “Which State Leads in Corporate Renewable Offtake Deals? Hint: It’s Not California,” Greentech Media (April 11, 2019), available at <https://www.greentechmedia.com/articles/read/which-state-leads-in-corporate-renewable-offtake-deals-its-not-california>.

⁹ See, “AEP Energy Partner seeking proposal for solar, wind,” Daily Energy Insider” (Nov. 20, 2019)

¹⁰ “2019 Utility Energy Storage Market Snapshot,” SEPA (August 2019). A previous Bricker & Eckler overview of Ohio’s energy storage landscape can be accessed here: <https://www.bricker.com/industries-practices/energy/insights-resources/publications/the-energy-revolution-of-2018-a-look-at-ohios-energy-storage-landscape>.

¹¹ For example, Ohio House Bill 401, proposes to allow townships to override, via referendum, state-granted permits of wind projects.

¹² In the Matter of the Application of Alamo Solar I, LLC for a Certificate of Environmental Compatibility and Public Need, Case No. 18-1578-EL-BGN and In the Matter of Angelina Solar I LLC for a Certificate of Environmental Compatibility and Public Need, Case No. 18-1879-EL-BGN.

¹³ “Massive solar farms divide neighbors in rural areas,” Dayton Daily News (June 23, 2019), available at <https://www.daytondailynews.com/news/local/massive-solar-farms-divide-neighbors-rural-areas/ffhCkCoEA01UawiCCM9tBL/>.

¹⁴ “Environmentalists and others worry as state board pulls plans for solar project,” The Columbus Dispatch (Oct. 19, 2019), available at <https://www.dispatch.com/business/20191019/environmentalists-others-worry-as-state-board-pulls-plans-for-solar-project>.

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