

## Berkshire Wind Power Project Completes Phase Two Expansion

The Berkshire Wind Power Project Phase II, an expansion of the Berkshire Wind Power Project located on Brodie Mountain, has reached commercial operation.

Phase II, consisting of two, 2.3 megawatt turbines, began operating in October.

Construction began in January.

The project is owned by the Berkshire Wind Power Cooperative Corporation (BWPC), which also owns the existing 10-turbine, 15 megawatt Berkshire Wind Power Project.

The new turbines were built adjacent to the existing project, which reached commercial operation in 2011. The site's generating capacity is now 19.6 megawatts.

Improvements in blade technology allow the new turbines to begin operating and generating power at lower wind speeds, further increasing potential output for the wind farm. The two new turbines are expected to reduce greenhouse gas emissions by 7,400 tons of carbon dioxide per year by displacing natural gas generation.

Berkshire Wind was Massachusetts' largest inland commercial wind farm when it began operation in 2011. Today it is the state's second largest wind farm, operating successfully at one of windiest sites in Massachusetts with an average capacity factor of nearly 40%.

BWPC embodies a cooperative initiative of the Massachusetts Municipal Wholesale Electric Company (MMWEC) and 14 of its member municipal utilities participating



*Phase II construction site*

in the first phase of the project, including utilities based in the communities of Ashburnham, Boylston, Groton, Holden, Hull, Ipswich, Marblehead, Paxton, Peabody, Shrewsbury, Sterling, Templeton, Wakefield and West Boylston.

Participants in this second phase of the project include the municipal utilities in Boylston, Chicopee, Hull, Ipswich, Marblehead, Peabody, Russell, Sterling, Wakefield and West Boylston.

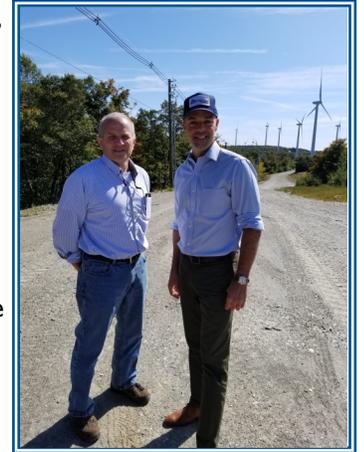
MMWEC signed a contract in 2002 with Berkshire Wind's

original developer to purchase all of the project's output. In 2008, with much of the permitting completed but no turbines erected, the developer sold the project assets to the BWPC. At the project's ribbon-cutting event, then-Governor Deval Patrick called it "a new era of renewable energy development in Massachusetts."

MMWEC Chief Executive Officer Ronald C. DeCurzio said the project is a reflection of the MLPs' commitment to carbon-free energy.

"Municipal utilities have been leading the way when it comes to integrating carbon free energy into their portfolios, and Berkshire Wind demonstrates that," DeCurzio said.

Under contract with BWPC, MMWEC operates the project, manages its output and coordinates operation with the regional power grid. ∞



*L to R: Ronald DeCurzio and Sen. Adam Hinds at a Sept. site visit*

## MMWEC Forecast, Dispatch Program Saves Members \$5M this Year

MMWEC's Peak Forecast and Remote Dispatch programs continue to reap benefits for participating Member municipal light plants (MLPs).

MMWEC Members utilizing the Peak Forecast and Remote Dispatch programs saved a total of \$5 million in avoided transmission and capacity costs from January 2019 through September 2019.

MMWEC's peak forecasting system works by utilizing ISO-NE system load data, weather data from multiple New England load centers, and historical data to forecast the likelihood of a day being a monthly transmission or yearly capacity peak. Based on those forecasts, MMWEC's analyst team, monitors weather data and system load curves throughout a projected peak day to

optimize dispatch of DERs (Distributed Energy Resources) and maximize the financial savings for Members. With capacity and transmission costs now making up nearly 50% of Member wholesale energy costs, the savings from peak load reduction can be substantial.

Twelve MLPs utilized MMWEC's Peak Alert and Remote Dispatch services this year and enrolled 20 DERs totaling over 40 megawatts of nameplate capacity. They included batteries, generators, and flywheels. Participating Member MLPs included those in the towns of Ashburnham, Holden, Holyoke, Hull, Mansfield, Peabody, Shrewsbury, South Hadley, Sterling, Templeton, Wakefield, and West Boylston.

## MMWEC Members Participate in Muni Heat Pump Rebate Program

In an effort to encourage cleaner and more cost effective solutions to home heating and cooling, several MMWEC Members have partnered with Mitsubishi Electric for the new Muni Heat Pump Rebate Program. The program, which launched on September 1, 2019, allows customers to receive an instant manufacturer's discount off the cost of a qualifying Mitsubishi ductless mini-split heat pump system and a matching rebate from their light department upon completion of installation. The participating light departments are those in the towns of Boylston, Groton, Holden, Paxton, Princeton, Shrewsbury, Sterling, Templeton, and West Boylston.

Heat pumps are an efficient and affordable way to provide year-round comfort to municipal light plant (MLP) customers. Ductless mini-splits allow homeowners to section their houses into multiple zones with separate thermostat controls for each interior unit. This allows customers to fine-tune their heating and cooling needs throughout their homes, avoid unnecessary heating in unoccupied spaces, and enjoy more efficient comfort control between rooms.

In ducted systems, as much as 25 percent of energy is lost during the process of transporting heat or cooling, which can be avoided by using a ductless mini-split. Heat pumps work by moving existing heat instead of generating new heat, which can cut down energy use by ducted systems, such as furnaces, by as

much as 50 percent.

The potential cost savings for customers switching to a heat pump are substantial. Based on an average home of 2,000 square feet, customers of the participating MLPs using a ductless mini-split would save an average of \$950-\$2,900 annually on their heating bill over oil, propane, or electric baseboard heat.

West Boylston Municipal Lighting Plant General Manager Jonathan Fitch said he hopes WBMLP customers make the switch to heat pumps to save both money and emissions.

"West Boylston's heat pump rebate program will benefit the majority of West Boylston's residential customers," Fitch said. "Over half of our residential customers use either oil furnaces or electric radiant baseboard to heat their homes. Now that heat pump technology works in our climate, our customers will save money converting because of our low electricity rates, and we can reduce greenhouse gas emissions."

Customers are permitted to purchase one or two single-zone heat pumps for a manufacturer's rebate of \$300 each or one multi-zone heat pump for a rebate of \$500. Additional information can be found on the MMWEC Home Energy Loss Prevention Services (HELPS) website, [www.munihelps.org](http://www.munihelps.org). Restrictions apply. The program is expected to run until December 31, 2019 or until all funds are exhausted. ∞

## MMWEC Members Hold "National Drive Electric Week" Events

Several MMWEC members participated in National Drive Electric Week by hosting events in their communities.

National Drive Electric Week is an annual event each fall that highlights the benefits of electric and plug-in hybrid vehicles.

Wakefield Municipal Gas and Light Department, West Boylston Municipal Light Plant, Ipswich Electric Light Department and Ashburnham Municipal Light Plant all hosted events



*Attendees at WMGLD's event check out a Hyundai Kona.*

to promote electric vehicles during the national event, which took place September 14-22.

The Wakefield and West Boylston events both featured a Chevy Bolt courtesy of Quirk Chevrolet in Braintree. The vehicle was available for both rides and test drives. The Wakefield event also included a Nissan Leaf and the new Hyundai Kona. In Ashburnham, the light department

similar "look and learn" exhibit took place. The light department's three new fleet electric vehicles, all Chevy Bolts, were on display all week, allowing the public to get an up-close look at them. ∞

## MMWEC Forecast... continued from page 1

Peak forecasting is provided year round to all members and remote dispatching services are offered throughout the year to Members that have permanent DERs in place. Members that do not have permanent DERs in place but are interested in reducing their capacity charges are able to participate in the summer rental program. This program allows MMWEC to supply rental generators up to 2 megawatts to its Members for the months of June through September to help reduce the MLP's capacity charge in the subsequent year. MLPs in Holden, Holyoke, Hull, Peabody, South Hadley, and Sterling all enrolled in the 2019 summer rental program, which resulted in \$1.4 million in net avoided costs.

Thanks to accurate forecasting, MMWEC was able to identify the yearly capacity peak in July and capture it, resulting in significant savings for its participating Members. In addition to avoided monetary costs, the program also saved energy. MMWEC has offered peak forecasting services since fall 2016 and dispatching services since October 2017. MMWEC plans to continue its summer rental generator program in 2020 and hopes to broaden the base of Member MLPs operating permanent DERs. ∞



*WMGLD staff member Sylvia Vaccaro, left, and WMGLD Commissioner Philip Courcy, right, with a local family checking out the EVs.*

put its new department Chevy Bolt on display. In Ipswich, a

## Holyoke and Sterling Light Departments Recognized for Solar, Energy Storage Performance

Two MMWEC Members have been recognized by the Smart Electric Power Alliance (SEPA) as top performing utilities in its annual Utility Energy Storage Market Snapshot.

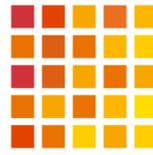
Sterling Municipal Light Department (SMLD) and Holyoke Gas and Electric (HG&E) were honored on the “Top 10 Utilities by Annual Energy Storage Watt-Hours per Customer” list, ranking second and third respectively, and on the “Top 10 Utilities by Cumulative Energy Storage Watt-Hours per Customer” list, ranking third and fifth.

The 2019 Snapshot summarizes 2018 energy storage interconnections based on the data collected from electric utilities, supplemented with SEPA’s trend analysis and insights that include market developments in the first half of 2019.

Since 2007, SEPA has recognized the U.S. utilities that interconnected the most new energy storage capacity in their service territories. It began as a collection of solar power, but was expanded three years ago to include energy storage data. Only utilities with at least 500 customer accounts are considered for the customer ranking. Participation is voluntary and the participating utilities represent more than 82 million customer accounts, or approximately 56% of all customer accounts throughout the country.

Both HG&E and SMLD utilize MMWEC’s Peak Forecast and Dispatch services to monitor the towns’ projected energy use, which saves them money on capacity and transmission costs by dispatching the distributed energy resources to operate during peak hours.

This is the first year HG&E has been recognized by SEPA, which is due to the municipal’s energy storage growth in recent years. Its energy storage numbers went from 0 megawatts (MW) in 2017 to 3 MW/6 megawatt hours (MWh) in 2018 due to the installation of HG&E’s Mt. Tom Energy Storage System, the largest utility-scale energy storage system



Smart Electric Power Alliance

in Massachusetts. HG&E General Manager James Lavelle said he expects that number to increase to 8 MW/16 MWh of installed capacity by May 2020.

“Over two-thirds of HG&E’s electricity portfolio is currently derived from renewable resources and over 90% of the electric portfolio is sourced from carbon free resources,” Lavelle said. “Our objective is to get to 100% carbon free as quickly as we can without impacting rates.”

SMLD has served as a leader in energy storage in both the state and region. SMLD installed a 2 MW, 3.9 MWh utility-scale battery, the first of its kind in Massachusetts, in 2016. In 2018, SMLD installed a 1 MW, 2 MWh battery that pairs with a 1 MW community solar installation, representing the first community solar project in the state.

In March 2019, SMLD celebrated over \$1,000,000 in avoided costs, a result of its two energy storage projects. According to SMLD General Manager Sean Hamilton, the department’s batteries have served as an example for other utilities throughout the region and internationally. The department has given nearly 100 tours of its energy storage systems to utility professionals from more than 17 countries and the projects have been presented in webinars, conferences, and meetings.

Hamilton said SMLD is taking the knowledge they learned on the job and through partnering with MMWEC and applying it to potential future projects.

“We are learning new ways to operate our system, save our customers’ money, and become more efficient with the batteries,” Hamilton said. ∞

## Two MMWEC Members Purchase Fleet EVs

Two MMWEC Members have purchased electric vehicles using MMWEC dealer incentives.

The Ipswich Electric Light Department (IELD) purchased three Chevy Bolts from Quirk Chevrolet in September. One Bolt is being used by the light department. The other two vehicles are being shared amongst town departments, including the Department of Public Works and the health inspector. The three Bolts are the first electric vehicles in the Ipswich municipal fleet, and will take two Ford Explorers and one Ford Fusion off the road.

IELD purchased the vehicles in time for the light department’s National Drive Electric Week event in September.

“We showcased them during EV week in front of our office and we had some good touchpoints with customers,” said Dylan Lewellyn, IELD Strategic Project Manager. “The ELD hopes that, in addition to jumpstarting the electrification of the

municipal fleet, the visibility of these vehicles around town will encourage residents and businesses to consider an EV for their next vehicle purchase as well.”

Lewellyn said the initiative to incorporate EVs into the



SMLD Chairman of the Board Joe Curtin passes the keys to the new EV to Veronica Buckley, of the Sterling Senior Center

## Mansfield Light Department Launches New Voluntary Renewable Energy Program

**M**ansfield Municipal Electric Department (MMED) customers can breathe easy knowing they now have an easy way to reduce carbon emissions as a result of their energy usage and incorporate renewable resources into their homes. The Go REO (renewable energy option) program is an optional service that allows customers to pay a small fee to help reduce their impact on climate change.

Through participation in the program, customers' energy consumption will be matched with Massachusetts Class I Renewable Energy Credits (RECs). A REC is generated each time one megawatt (MWh) hour of renewable energy is generated and delivered to the grid.

Participating customers have the option to contribute to make their energy sources either 20, 50, 80, or 100 percent comprised of renewable resources. Rates are varied per tier based on customers' average kilowatt hour (kWh) usage per month. Customers will pay \$3-\$6 for 20 percent renewable energy, \$8-\$15 for 50 percent, \$12-\$24 for 80 percent, and \$15-\$30 for 100 percent.

The amount of emissions that will be offset through participation in this program equates to the amount of carbon emissions it takes to drive a car for roughly three months to more than a year, depending on the tier. Carbon offsets are based on an average electric usage of 750 kWh per month. "MMED is proud to offer Go REO to customers who share our

commitment to support clean, renewable energy," said MMED General Manager Joseph Sollecito. "Go REO allows customers to decrease their carbon footprints in an easy and measureable way through a customized, flexible program. All of these investments will directly support renewable projects through the purchase of Massachusetts Class I RECs."

Every 12 months, MMED will use the Go REO program collective funds to purchase Massachusetts Class I RECs for investment in future renewable projects. The RECs will be purchased and retired through MMWEC. Facilitating the procurement of RECs through MMWEC allows the organization to aggregate purchases for more efficient REC pricing on behalf of MMED.

Participating in the Go REO program is voluntary and the contributions are separate from MMED's customers' personal utility bills. Customers can begin enrollment now and the additional charge will start to appear on their January 2020 bills. To participate in the program, customers must commit for a minimum one year period. One hundred percent of the funds collected through the Go REO program will be used towards retirement of renewable energy certificates. ∞



## Two MMWEC Members Purchase Fleet EVs.....continued from page 3

municipal fleet resonates with a fundamental theme of the ELD's Sustainability Charter – to support strategic electrification paired with the continued decarbonization of the grid.

The Sterling Municipal Light Department (SMLD) purchased a Bolt from Quirk Chevrolet in August. The vehicle will be used by the town's Senior Center to transport seniors to medical appointments and for its Meals on



*One of the Ipswich light department's new fleet electric vehicles.*

Wheels program.

"The new EV helps with our mission to lower carbon emissions, and is another way for the SMLD to continue to provide services to the town," said Sean Hamilton, SMLD General Manager.

Both light departments took advantage of the current MMWEC-negotiated incentive with Quirk Chevrolet offering up to \$10,000 off the MSRP for MMWEC Member light departments and their customers. Earlier this year, the Ashburnham Municipal Light Plant purchased a Chevy Bolt to replace an aging light department pickup truck.

Customers of participating Member light departments can also receive dealer incentives on the Nissan Leaf and Leaf Plus at participating dealers. For more information, visit [www.munihelps.org](http://www.munihelps.org). ∞



### Massachusetts Municipal Wholesale Electric Company

#### MMWEC

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