

## The GELD Solar Farm on the Cow Pond Brook Road Landfill is Going Live

**The new solar farm on the Groton Landfill is operational. This farm produces 2.0 megawatts (MW) of power for Groton residents. This is done using 9,310 panels spread over the landfill area.**

On a moderate day with minimal air conditioning load, the solar farm should be producing about 25% of our power needs shortly after noon. As the air-conditioning use increases, the percentage provided by solar will drop to around 10% of our total power needs.

As soon as the solar farm is commissioned and the web site goes “live”, GELD will publish the link so anyone can monitor the solar production.

Many people have asked if this solar power will help to lower our costs. The full answer is complicated, so we will start with providing information to help you understand how we typically purchase our electric power.

With an adequate supply of natural gas and the market soft like it is today, the peak power price ranges from 2 to 3 cents per kilowatt hour (kWh) based on the temperature. When it is over 90° F the price can reach the 4 or 5 cent/kWh range. That is what we pay for our “open position” when we purchase from the day-ahead auction on a daily basis. This summer we have about 65% of our peak power already paid for and under contract. On a daily basis, we look at the temperature

and humidity that is forecast for the next day to anticipate our electric usage. We take that forecast and subtract what we have under contract and then purchase our open position in the day-ahead market. Now that the 2MW solar farm is operational, we will also subtract the expected output from the solar farm from our expected needs in the day-ahead market. On cloudy days, we will not have the full output of the solar farm and we will not have contracts to meet our needs, so we will have to purchase in the real-time market which is the most volatile market for purchasing power.

The contract we negotiated will provide power from the solar farm at a fixed price of 5.5 cents/kWh for the next 25 years. The soft power markets right now, especially in the summer, make our carbon-free solar power substantially more expensive than market power. In addition, we will be at a higher risk position in the real-time markets on cloudy days in Groton. GELD management is confident that over 25 years, the fixed price of 5.5 cents/kWh will be advantageous for the ratepayers.

During the months of December through March the power market does not have an adequate supply of natural gas and the day-

ahead price for power is much higher. During these “winter months”, the sun will be shining for fewer hours each day, the low angle of the sun will cause lower solar production, and there will be more clouds and snow that will contribute to much lower output from the solar farm. So at times when there is a higher value for the power being generated by the solar farm, the number of kilowatt hours generated by the farm is much lower.

### How the solar farm will affect GELD’s peak

GELD’s capacity costs are determined by our contribution to New England’s one peak hour per year. Last year that was 4 pm to 5 pm on July 29th; we don’t know when that peak hour will be this year but it is highly likely to be on the third day of a heat-wave in the late afternoon. By 4:00 in the afternoon, solar production is substantially lower than at noon. We will be closely watching this year to quantify exactly what capacity savings we may receive from the solar generation. One of the downsides of more and more solar power, is the peak hour will keep getting pushed later into the evening when the solar production is declining.

## Barbara Cronin receives the Carol A. Tracey Customer Service Award from Northeast Public Power Association (NEPPA)



**This award is presented to an employee of a NEPPA utility who delivers outstanding service to their customers, either through sustained exceptional performance, or the development of new and/or innovative programs to meet customer needs.**

Barbara Cronin is a superior employee for the Groton Electric Light Department.

She does an exceptional job keeping our arrears at record lows. She has done such a great job guid-

ing our most delinquent customers to reduce their past due balances, that some customers with a long history of financial challenges actually find themselves receiving the early pay discount. This is a true testament to Barbara’s understanding and patience.

She always has a pleasant attitude, even when dealing with unpleasant situations.

Her sustained exceptional performance has been obvious to all since the day she joined the Groton Electric team.

Barbara goes above and beyond every day to ensure Groton Electric’s customers are well taken care of.

Congratulations Barbara—this award is well deserved!

## Groton Electric Light changes a long held position about Heat Pumps

**Groton Electric now endorses heat pump systems that demonstrate good performance at sub zero temperatures.**

Until recently, when asked for advice regarding a primary heating system, GELD would steer customers towards a system that used one of the traditional fuels for heating. In the recent past the order in which we would recommend heating systems would have been:

1. a natural gas system if you have a gas line in front of your home,
2. an oil system,
3. a propane system

Even though our business is to distribute electricity, GELD would discourage customers from purchasing heating systems that primarily use electricity. We did this because we are owned by you—the ratepayers—and your lowest long-term cost option

would not have been electric heat.

Based on recent advancements in the heat pump industry, our new number ONE recommendation for heating systems is using our favorite source of power, electricity. For quite a while, heat pumps have been good sources of heat at temperatures as low as 20° F. One of the problems is we spend many winter nights with temperatures approaching 0° F. Most heat pumps used to have what is called a third stage which operates when the outside temperature goes below a certain point. When the outside conditions reach that point, a heat pump would act like a large hair drier and blow air over electric coils—this is VERY inefficient. The new efficient heat pumps can deliver up to 100% of rated heating capacity at 5° F and 80% at -13° F without the use of electric

resistance. This performance was unheard of just a few years ago.

GELD now endorses heat pumps as a primary heating source in Groton. You still need to be cautious and do your part in researching specific brands of heat pumps. Not all heat pumps are efficient. The quality and pricing should be reviewed and compared because there are a wide variety of heat pump systems to choose from. Be sure to look at the statistics on heat performance at low temperatures for the unit you are considering. Keep in mind our temperatures are more like Nashua, New Hampshire than the south shore of Massachusetts. You want a unit that has a good performance at below 0° F temperatures and you want to look at operating costs based on temperatures in Nashua.

## Commissioner Rodney R. Hersh receives the 2016 Philip W. Sweeney Award for Public Service

This Public Service Award recognizes exceptional service to the public combined with advancing the goals of public power. It is given to an official or employee of an MMWEC member utility who has demonstrated a commitment to public service.

The recipient of this year's award—Mr. Rodney R. Hersh—has been in the public eye for 24 years as Groton Electric Light Department's longest-serving commissioner.

He has been a strong advocate for protecting and advancing the benefits of public power.

As a commissioner, Mr. Hersh dedicates countless hours of time and energy to the

Light Department. Since he receives no stipend, it is apparent his dedication is authentic and self-less. Mr. Hersh is now the longest serving commissioner in the history of Groton Electric which began in 1909. He has graciously served the Groton Electric ratepayers for 24 consecutive years. His steadfast commitment to the ratepayers is apparent in his length of service, his willingness to stand firm in his beliefs, and his fiscal conservatism; although he balances these with his keen sense of humor. Mr. Hersh has made some difficult decisions throughout the years—none of which have been made lightly—and always with the ratepayers' best interest in mind. Groton Electric is honored and privileged to have



Rodney Hersh (left) receives the Philip W. Sweeney Service Award from Manager Kevin Kelly (right) at the MMWEC annual meeting dinner.

such a fine gentleman representing and leading our locally owned and operated electric utility.

We thank you Mr. Hersh for your outstanding service and your exceptional leadership.