

Mason Energy Commission Report -- 2018

The Mason Energy Commission (MEC), formed under RSA 38-D, met for the first time on May 7, 2018. Under RSA 38-D:4, the duties of the MEC are

- (a) Researching municipal energy use and cost and make such information available to the town on at least an annual basis.
- (b) Making recommendations to local boards and committees pertaining to municipal energy plans and sustainable practices such as energy conservation, energy efficiency, energy generation, and zoning practices.
- (c) Working with local, regional, state and federal organizations, schools and municipal departments to identify and assess energy inefficiencies and to recommend practical economic and environmental solutions.
- (d) Acting in an advisory role to other Town boards, committees and commissions to develop and/or amend local regulations and ordinances that would promote energy conservation and reduce greenhouse gas emissions.
- (e) Promoting community-wide energy efficiency practices through education and outreach.
- (f) Forming subcommittees, as necessary, to focus on specific objectives of the committee including, but not limited to, grant writing, public relations, education and outreach.

Having spent several months, before approaching the BOS about forming the MEC, considering how to reduce fossil fuel consumption locally, the MEC came to its first meeting ready to establish connections in the municipal energy community and get to work. In the eight months of 2018 that the MEC was active, in addition to setting the groundwork for efficient committee work such as setting up email accounts and town website document storage (thank you, Garth!), the MEC addressed items (a), (c), and (e) listed above and described below.

The MEC is more than fortunate to have begun with a smart and energetic team of volunteers who stepped up to the challenge of moving the energy needle in Mason towards efficient use and earth-friendly solutions. Mason follows other towns such as Temple, Rindge, and Hancock, in forming an energy commission, and therefore the MEC has invited leaders from those communities, from organizations such as Local Energy Solutions and Community Development Finance Authority, and companies such as Eversource, to the MEC meetings to learn from them. The MEC has formed at a time when there is great interest in southern New Hampshire in reducing fossil fuel use. Organizations such as Local Energy Solutions, Monadnock Energy Hub, Community Development Finance Authority, and Citizens

Climate Lobby, and companies such as Eversource are providing support to individuals and towns that are attempting to take a smart approach to energy consumption. The MEC members are motivated to seek practical energy solutions for our town. MEC members and alternates include Liz Fletcher, Michelle Scott, Dave Morrison, Michele Siegmann, Kathy Chapman, Garth Fletcher, Curt Spacht, Doug Whitbeck, Marina MacIntosh, Mike Mcguire, Darrell Scott, and Diane Varney-Parker.

What the MEC has done in 2018:

(a) Researched municipal energy use and cost and made such information available to the town on at least an annual basis

Garth Fletcher, with the help of Kathy Wile, compiled town fuel and electricity consumption data for 2015 and 2016. Please see <http://masonnh.us/energy-commission-documents/>. In addition to these data, Garth gathered FLIR data that indicate cold and warm spots in the town buildings. Curt Spacht set up a Mason entry in EPA's Portfolio Manager so that Mason's energy use can be easily tracked over the years, and especially before and after weatherization projects are completed.

(c) Worked with local, regional, state and federal organizations, schools and municipal departments to identify and assess energy inefficiencies and to recommend practical economic and environmental solutions.

I. The new highway building

Just as the MEC formed up, the new highway building was being constructed. Possibilities for energy savings at the new building included the heating system, weatherization, and lighting. The MEC invited Margaret Dillon, an energy consultant, to one of our first meetings. Before the meeting, Margaret visited the highway building site and took photos. At the MEC meeting, Bob Bergeron described that fiberglass encased in a membrane blanket or bib was to be rolled over the steel rafters and purlins, and then the metal siding was to be screwed on. Margaret expressed concern about the envelope assembly in terms of both energy conservation and managing moisture. Margaret's advice was to explore the possibility of insulating on the exterior of the framing with rigid foam board. If insulating on the exterior isn't possible, Margaret suggested spraying 2-3" rigid close cell foam or spray foam on the inside of the steel frame before installing fiberglass. Margaret also had suggestions about exhaust ventilation and doors.

The MEC gathered information about lighting for the new building and found that Eversource rebates are available for lighting systems that are more efficient than code.

The MEC gathered information about HVAC for the new building. Eversource approved paying the contract for the analysis of HVAC needs for the highway building. Some systems can qualify for rebates.

II. The Mann House and library

The MEC prioritized the town assets according to the order in which they should be analyzed for energy efficiency upgrades. The order is the Mann House & library, the fire department, the highway office & quonset hut, the police station, and the Town Hall. The MEC has been involved and continues to be involved in lining up energy and lighting audits. The MEC (thank you Liz!) lined up Margaret Dillon to perform an energy audit of the Mann House and library on October 27, and prepared a report based on that audit. The goal of an energy audit is to identify energy saving measures. Level 2 engineering audits help qualify projects for utility weatherization funds and other types of loans. The MEC presented Margaret's report and recommendations to the BOS in January 2019.

III. The Town Hall

Garth gathered data on Town Hall energy use. Garth recommended shutting off water to the upstairs kitchen at Town Hall which is seldom used, then base temperature could be set at 45 instead of 55 as it is now. Garth also recommended getting a programmable thermostat that can be operated remotely from Select Board office so Town Hall heat could be ramped up before meetings. An architectural study of the Town Hall was recently completed which could impact any energy saving measures undertaken at the Town Hall.

IV. Vehicles

The biggest town energy expense is for vehicle fuel at the Highway Department, \$25,813 in 2017 from the Town Report. Dave Morrison and Doug Whitbeck attended a workshop on green energy and found out that there is a clean diesel grant program for acquiring new diesel trucks but the old trucks have to be taken out of service, and can't be sold. Dave applied for a new truck under a diesel replacement program which includes a 25% rebate.

V. How to pay for upgrades

When the recommendations from Margaret's audit are implemented, Eversource will provide funds to pay for 50% of energy saving measures that meet their cost/benefit threshold. For new construction, they may be able to support installed energy efficiency measures above code. The MEC investigated Eversource's NHSaves program for municipalities and residences that has rebates for new equipment (e.g. heating and lighting for new Highway

maintenance building) and street light conversion to LEDs. Conversion is no money down, with immediate savings through reduced electric bills.

The MEC invited Scott Maslansky of the NH Community Development Finance Authority (CDFA), a source of low-cost loans for efficiency improvements (2.5-3% over 10 years), to speak at our meeting. CFDA requires energy audits before applying, an upfront expense. The Clean Energy Fund has \$10.2 million in its revolving loan fund, \$5.3 million is presently deployed. To apply, a level 2 energy audit is required, with cost estimates and energy modeling. (This has been done for the Mann House).

Further research by the MEC has revealed that the NH Public Utilities Commission has incentive grants of 40% for wood boilers, and DSIRE provides a nation-wide data base of funding for municipal energy projects.

VI. Green energy

Mike McGuire provided information about the possibility of solar PV municipal electricity. A ground-mounted system for Mason town use might only need a quarter acre, to site one hundred 350-watt panels to make a 50 KW array. The town could do net metering, possibly fund the array through the state bonding allowance specifically for solar.

(e) Promoting community-wide energy efficiency practices through education and outreach.

The MEC set up an information table at the 250th Celebration and at the primary election. Garth's FLIR tableau banner was displayed, and energy saving information from NHSaves was provided.