

# Falmouth Green Ribbon Commission Energy Efficiency & Renewable Energy Workgroup

Draft Minutes of July 24, 2008 Meeting  
Falmouth Town Hall

Meeting convened at 7:10 pm.

**Workgroup Members Present:** Craig Baranowski, Mike Draper, Michael Morrison, Dave Tucker, Bob Welch, Jed Wright

## Workgroup Discussions & Reports

- The workgroup discussed a range of topics including:
  - Improvement of the energy performance of non-vehicle infrastructure (e.g., homes, business and municipal properties).
  - Encouraging increased utilization of solar thermal water and space heating in our local area.
  - Utility level wind power - the Town of Falmouth and Falmouth residents should be encouraged to buy as much electricity as possible from the Maine wind developments now under way.
  - Community level wind power – We should acquire some realistic numbers on the costs/benefits of large/small wind power in order to evaluate the potential and merit of this approach. Preliminary estimates do not suggest that community-level wind will have a substantial impact on Falmouth's energy use or emissions.
  - Smart power grid *and* distributed storage: storage in vehicles - e.g, electric vehicles, plug-in hybrids - *and* stationary storage elements within the electric power grid can reduce peak loads, allow grid power purchases at optimal times and is expected to improve reliability and robustness (e.g., recovery from and/or isolation of local failures)
  
- Another discussion track covered the need to address carbon emissions for the community of Falmouth (e.g., residential, commercial, transportation, etc. as well as municipal). The municipal contribution to GHG emissions is typically a small fraction of that for the total community, perhaps less than 10% (can we get a good estimate of that number for Falmouth, ME?). Substantial emission-reduction contributions from our residential, commercial/institutions and transportation sectors will be needed in order to meet the goals of the Mayor's Agreement.
  
- Brief discussion of possible Town Council issues related to energy performance and renewable energy:
  - Revisions in building code/zoning/etc. to allow solar orientation of buildings; setback variances for solar/wind purposes.
  - Energy performance standards for all new construction (what, if any, relationship to recent State of Maine uniform building code actions?).

- Limitations on homeowner associations' ability to specify requirements for minimum house size and to enact restrictions on solar thermal or PV installations?
- Incentive programs for homeowner/business property owners to make energy performance improvements/carbon emission reductions.
- Make it easier for homeowners and businesses to find qualified contractors to do energy audits/performance improvements/remediation.
- Expos/"rallies"/other events to build awareness of energy technologies and programs (i.e., community outreach).

Meeting adjourned approximately 9 pm.

## References

### Community GHG Inventories

Emissions inventories are typically given by sector, e.g., residential, commercial, industrial, transportation, waste. Not all community GHG inventories consider explicitly a “municipal” sector, which some cities consider to be all waste and non-waste related city operations, including city vehicles, public building and schools, and street lighting. It is uncertain where municipal roads and streets (construction and maintenance) fall in this allocation.

Following are a couple of examples of the small contribution of the municipal sector to overall community GHG emissions:

The municipal GHG contribution for Newton, MA was estimated at less than 3% of that for all sectors combined. This compares to 40% for the residential sector, 30% for transportation and 28% for commercial/institutional.

See the following link: <http://www.ci.newton.ma.us/sunergy/EAP021005.pdf>

In their GHG inventory, Worcester, MA indicates that the emissions contribution of municipal (5%) and waste (4%) sectors compare with residential (26%), transportation (30%), and commercial/industrial (37%). [This adds up to 102%.]

See the following link: <http://www.ci.worcester.ma.us/reports/ClimateActionPlan.pdf>

One distinction that might be made is that the “municipal energy/GHG emission” sector might be considered to encompass every function administered by the town and/or included in the town budget.

### Smart Metering/Smart Grid

- Smart Meters – meters that are referred to as time-of-use or interval meters have been around for some time. Smart meters involve additional capabilities including the ability to provide real time or nearly real-time measurement of power consumption providing incentives for load control by the homeowner and/or remote control loads by the utility (requires homeowner opt-in, we assume, and possibly some financial incentive to the homeowner for allowing such). Smart meters may be applied to all classes of electric power consumers. Smart meters may be a component of a Smart Grid.
- Smart Grid or Smart Power Grid - under the [Modern Grid Strategy](#) project of the National Energy Technology Laboratory (NETL), stakeholders have identified the following benefits of a smart grid:
  - Self-healing from power disturbance events
  - Enable active participation by consumers in demand response
  - Operate resiliently against physical and cyber attack
  - Provide power quality for 21st century needs

- Accommodate all generation and storage options
- Enable new products, services, and markets
- Optimize assets and operating efficiency.

*“[Grid 2030 vision](#)) calls for the construction of a 21st century electric system that connects everyone to abundant, affordable, clean, efficient, and reliable electric power anytime, anywhere. We can achieve this through a smart grid, which would integrate advanced functions into the nation's electric grid to enhance reliability, efficiency, and security, and would also contribute to the [climate change strategic goal of reducing carbon emissions](#). These advancements will be achieved by modernizing the electric grid with information-age technologies, such as microprocessors, communications, advanced computing, and information technologies.”*

See the above embedded links and the following link for additional information

<http://www.oe.energy.gov/smartgrid.htm>

A good description of smart grid concepts from an equipment vendor is:

<http://gridpoint.com> .

Anyone have better information from users on smart meter/grid programs or results closer to home?