

Gloucester Clean Energy Commission

Summary Report, 2012-2014

To Mayor Sefatia Romeo Theken and City Council

The Gloucester Clean Energy Commission (CEC) was formed as a permanent City commission, and approved by the City Council, in August 2009. As per Section 2-514 of the Gloucester City Ordinance, the tasks of the Commission are to:

- a) Propose and develop strategies to reduce energy costs of city-owned facilities and vehicles through energy conservation, efficiency and renewable energy measures. The strategies may include electricity, vehicle fuel, natural gas and oil conservation and may identify innovative cost-saving measures.
- b) Recommend city-wide programs including participation in federal or state-wide energy initiatives, such as the Green Communities Program, to promote and facilitate smart energy strategies for Gloucester citizens on both public and private real property.
- c) Work with appropriate City departments to track energy usage and costs associated with key assets and operations of the City.
- d) Identify climate adaptation and mitigation issues and strategies to safeguard the long-term economic and cultural vitality of the City.
- e) Follow emerging federal and state mandates, as well as initiatives and funding opportunities for energy conservation, renewable energy, or climate adaptation and mitigation strategies. Recommend strategies to comply with applicable mandatory or voluntary standards.
- f) Provide guidance, in the form of education or information, to the Mayor, City Council and key City departments and personnel, to support their decision-making on recommended strategies and clean energy opportunities.
- g) Serve as a communications and information resource on clean energy issues and city initiatives for the public through:
 - i) Meetings and sponsored events;
 - ii) Maintenance of an active web site;
 - iii) Regular communications to interested parties; and
 - iv) Public/private partnerships.

The CEC is comprised of seven volunteer citizen members and will work closely with key City departments, including the Gloucester School Department. Current members of the CEC include:

Candace Wheeler, Chair

Tom Balf, Vice Chair

Linda Brayton

Sam Cleaves

Tom Kiely

John Moskal

Linda Stout-Saunders

The following update summarizes the activities and priorities of the Clean Energy Commission (CEC). It should be noted that this summary incorporates outstanding work done by the Community Development Office (CommDev) and the Department of Public Works (DPW) in the areas of municipal energy conservation and energy efficiency, and renewable energy development.

I. Energy Conservation and energy efficiency

Background: *Having satisfactorily demonstrated that it met the five criteria for designation, Gloucester was awarded Green Community status by the Massachusetts Department of Energy Resources Green Communities Division (DOER/GC) on 12/16/2010. Meeting Green Communities designation criteria included the adoption by Gloucester, in July 2011, of an enhanced building code (“stretch code”) based on International Energy Conservation Code (IECC) 2009, requiring additional energy conservation for new construction and significant renovations.*

With its status as a Green Community, Gloucester became eligible for \$198,000 in grant funding. These funds were received and accepted on 6/1/2011 for energy conservation and efficiency improvements.

In 2014 Gloucester was awarded an additional \$250,000 Green Communities competitive grant for the O’Maley School oil to gas conversion and boiler project.

The Community Development Department filed Green Communities reports with the DOER in 2012, 2013, and 2014. *These reports are available upon request through the Community Development Department. These reports will be posted on the CEC website when the site is updated.*

Summary of activities supported by CEC in 2012-2014:

- During 2013, with DOER approval, the City used \$177,000 of the 2011 Green Communities grant money to implement energy efficiency projects in three municipal sites identified by the DPW and supported by CEC. These were: (1) upgrades to the O’Maley School’s air handler controls and the building envelope; (2) boiler room and automation controls at the Gloucester High School.; and (3) lighting improvements at the Sawyer Library. Combined, these improvements are estimated to reduce municipal energy consumption by 4%.
- In November 2013 the City used \$12,000 of the 2011 Green Communities Grant to hire Peregrine Energy Group to help guide the City through the process of acquiring ownership of the street light fixtures. Gloucester officially purchased its streetlights from National Grid on October 1, 2014 at the price of \$1. Peregrine estimates that this transfer of ownership to the City will save the City \$190,000 annually. This project was the result of CEC’s work assessing the economics and feasibility of the City’s buying its leased street light fixtures from National Grid. As part of its due diligence, in 2011 the CEC commissioned a Streetlight Ownership Report, which included interviews of several Massachusetts communities that had taken similar steps.
- During 2014, with DOER/GC approval, the City used \$2700 of the 2011 Green Communities grant funding for the purchase of a thermal imaging camera to be used by the building inspector to help the City meet and enforce “stretch code” requirements. The CEC also supported the hiring of additional part time staff to meet increased inspection requirements, including “stretch” energy efficiency building codes.
- In 2013 the City, with DOER/ GC approval, used \$4,290 of the 2011 Green Communities grant to fund the installation of idle reduction technology in a DPW utility truck and

police cruiser. Consisting of a highly efficient lithium ion battery, the technology allows essential emergency lighting and equipment to operate without idling the engine.

- The remainder of the 2011 Green Communities Grant funding, again with DOER/GC approval was allocated to the cost of administration; that is, it contributed to the cost of a part-time Clean Energy Project Manager.
- In 2014, CEC chair Candace Wheeler, and CEC members Linda Brayton and Linda Stout-Saunders attended a Municipal Energy Efficiency Workshop sponsored by the Metropolitan Area Planning Council.

Other energy efficiency options the CEC explored during 2012-14 include:

- Community energy aggregation (i.e., municipal purchase of energy in bulk for the City’s residential and commercial customers in order to realize volume discounts). Conclusion: the savings for residents and businesses are small, and the legal and insurance risks for the City large. Furthermore, the City’s electricity cost is already greatly reduced by the wind turbine installations, and many of the larger private consumers have already made their own arrangements. Therefore, this does not make sense as an option at this time.
- Technology to improve the efficiency of municipal vehicles. Conclusion: the City piloted an “idle fuel reduction technology” project in 2014. In addition, the City is committed to purchasing fuel-efficient vehicles in accordance with specified standards per the requirements of its Green Communities status.
- Energy efficiency improvements for City Hall. Conclusion: improvements implemented in 2014.
- The potential for extending natural gas lines in Gloucester. Conclusion: on-going.
- The feasibility of energy efficient lighting at the Dog Park. Conclusion: On-going. Dog Park representatives continue to seek funding sources and ways to reduce cost.
- The potential for providing CEC input and perspectives to the City’s long-term capital plans. Conclusion: CEC meets with DPW and CommDev staff on a regular basis in order to keep communications open re: long-term needs and plans.
- The feasibility of contracting with an energy services company (ESCO) to map out and oversee a program for energy conservation. In consultation with DPW staff and other City officials, the CEC concluded that energy reductions achieved by the City on its own behalf weakened the economic case for contracting with an ESCO, and recommended the City not pursue this avenue at the present time.
- The CEC considered in 2013, but ultimately decided against asking the Metropolitan Area Planning Council (MAPC) Clean Energy division to develop an energy “visioning” plan (Local Energy Action Plan) for the City. The CEC concluded that focusing on identifying and implementing pragmatic energy reduction projects was more efficient in the near-term.
- Discussed role of CEC in the new West Parish School design and development. In discussions with City DPW and CommDev staff, CEC members determined that the clean energy measures and building design were being well-addressed.
- Discussed energy efficiency needs at City Hall with members of City Hall Restoration Committee and toured City Hall to learn about building’s systems and the building envelope.

II. Renewable energy

- After years of exploration as to various payment options, wind turbine models, companies, sites, etc. to determine the best possible way to take full advantage of Gloucester's phenomenal wind resource, Three wind turbines were installed on privately-owned sites in the Blackburn Industrial Park during the Fall of 2012 and went on-line at the end of that year. Varian Semiconductor (now Applied Materials) privately financed the installation of one turbine for its own power use. Equity Industrial Turbines and a consortium of private investors financed and installed the other two turbines. (Gloucester Engineering is a tenant of Equity.) The City of Gloucester entered into a Power Purchase Agreement with Equity Industrial Turbines allowing the City to procure a long-term stable supply of clean power for municipal facilities, and realize a significant savings in energy costs. Over 2,000 citizens signed their names on the blades.
- During and after this process, CEC members participated in many educational and outreach events to promote community understanding and acceptance. For example, the Massachusetts Wind Working Group hosted a forum in Gloucester in 2013 to familiarize other communities about the Gloucester wind turbine project. Candace Wheeler, CEC Chair person, spoke at this event, and other members attended. Also, the Mass Energy Consumers Alliance held a Wind Festival at the Gloucester Engineering site, and Commission Member, Linda Brayton, spoke at this event about the CEC's role.
- During 2012-14 the CEC also explored the feasibility of participating in the state's Solarize Mass program. Conclusion: It is not feasible for the City to join at this time, as success would require the commitment of a substantial amount of time by a number of volunteers.

III. Climate change mitigation and adaptation

- Several CEC members attended a 2012 conference, coordinated by MAPC, on sea level rise and climate change adaptation.
- In 2013 and 2014, several CEC members, including Chair, Candace Wheeler, Vice-Chair, Tom Balf, and members Sam Cleaves, Linda Brayton, Linda Stout-Saunders and Tom Kiely attended conferences hosted by the Great Marsh Coalition. In 2013, the conference focused on coastal ecosystems and extreme weather; in 2014 the conference was on sea level rise.
- In 2014, 2 members of the CEC, John Moskal and Linda Stout-Saunders, were chosen to participate in a working group for the City's Climate Change Vulnerability project. The project will conclude in June 2015 and will identify critical municipal facilities vulnerable to sea level rise and storm surge. The City hired Kleinfelder as the consultant for this project.
- In 2014, Maritime Gloucester hosted a symposium on the impact of sea level rise on the local coastline. CEC Vice-chair and Executive Director of Maritime Gloucester, Tom Balf, led the symposium, and CEC Chair, Candace Wheeler, acted as a group facilitator at it. Several CEC members attended.
- In 2014, the CEC cooperated with the Green Committee of the Unitarian Universalist Church and the Cape Ann Forum to develop a community roundtable discussion titled "From Global Climate Crisis to Local Action: What Next?" CEC Chair, Candace Wheeler, co-facilitated the roundtable and presented as a panelist. CEC member, Linda Brayton, attended.

IV. Community outreach

- Mayor Carolyn Kirk, and CEC Chair, Candace Wheeler, appeared on WGBH radio's *Greater Boston* show, in January 2013, to discuss the Gloucester wind turbines.

- Press release by Tom Daniel, November 2013, giving an update on lighting and energy efficiency measures taken.
- “Wind Turbines 101” was an exceptionally well-attended educational event held at the Sawyer Free Library. Representatives from Equity Industrial Turbines, Varian and the City spoke, and a video of the whole installation was shown. The reaction from those who attended was almost entirely positive. This entire presentation, filmed by Cape Ann TV, is available through the Sawyer Free Library.
- Mayor Kirk spoke about the turbines at the Massachusetts Municipal Association (MMA) Candace Wheeler, CEC Chair, also attended as a member of MMA.
- Cape Ann Time Bank Earth Day, 2013, featuring green initiatives by Cape Ann businesses. Nancy Goodman spoke to members of CEC about this project, and members of the CEC provided input and some outreach and support for the event.
- Mass Energy Consumers Alliance held an award dinner in Boston in 2012. The City of Gloucester was one of three awardees. The award was given to Gloucester for its achievements in renewable energy with the advent of its three new wind turbines. Mayor Kirk, City Councilor Paul McGeary, Candace Wheeler. Linda Stout-Saunders and Linda Brayton attended.
- Planning and creation of a Clean Energy website and blog was initiated. It was determined, however, that due to the Open Meeting Laws, the best approach for CEC was simply to utilize the Clean Energy Commission web page on the City’s website for its outreach and educational purposes.
- In June 2014, CEC member Linda Stout-Saunders gave a presentation at the Gloucester Turbine Wind Festival, sponsored by Mass Energy Consumer Alliance, on the opportunities the CEC assess, the CEC’s interaction with the City, and on the Wind Turbine Project specifically..
- Tom Daniel, Gloucester Community Development Director, wrote and distributed to the media a release on the energy reduction and cost savings achieved by the City’s successful efforts to acquire its streetlights.
- During the last quarter of 2014 the CEC began discussions (on-going) with Next Step Living over the potential for a memorandum of understanding (MOU) between Next Step Living and the City to develop a residential energy efficiency outreach program.
- Cazeault Solar and Home, Home Performance Solutions – Presentation by Tim Sanborn, 2014.
- Petra Systems, Small City Solutions – presentation on proposed pole mounted solar project, 2014.

V. Other public presentations to the CEC during 2012-14

- Paul Marquis, Salem’s Energy manager, [on Salem’s energy efficiency plans??] 2012
- Pika Energy, on the feasibility of small scale wind technology. 2012.
- Global Inc, on the concept of municipal energy aggregation 2012
- Global Montello Group, same topic. 2012.
- Cool Current Consulting, on the economics of small scale solar projects. 2013.
- Susanne Altenberger on green boat design. 2013.
- Dan Hubbard, Chief of maritime Energy and Marine Planning for the U.S. Coast Guard, on New England’s potential for marine hydrokinetics, 2014.
- Mass Energy Consumers Alliance on their clean energy programs and possible options for collaboration with the City to develop a residential outreach program, 2014.

- Next Step Living on possible options for collaboration with the City to develop a residential energy efficiency outreach program, 2014.

VI. CEC membership

- Tom Balf stepped down as Chair in April 2012. The membership elected Candace Wheeler as new Chair, and Tom Balf as Vice Chair.
- In June 2013, Matthew Coogan stepped into the newly created municipal role of Senior Planner and Clean Energy Project Manager, allowing for greater coordination between Gloucester's administrative offices and the CEC on energy efficiency initiatives. The Commission wishes to thank John Rockwell, formerly with Gloucester's Community Development Department, for his valuable contributions as part-time Clean Energy Project Manager and liaison to the CEC from [2011 - 2013].
- Jill Buchanan, CEC member and Clerk since the Commission's inception, stepped down in 2013. Jill was also a long-time member of the CEC's predecessor, the Gloucester Renewable Energy Committee. The community owes a great deal to Jill, and the CEC wishes her well in her new position.
- Tom Kiely joined the Commission as a member in December 2013.