

**Town Of Sandwich
Energy Committee
Minutes of Meeting – June 5, 2008
DRAFT – Not yet approved**

Attendance: Voting: Jorgen Birkeland, Kevin Burgess, Anna Burroughs-Merrill, Thomas Doherty, Robert Gottsche, Laura Gregorio-Tanguilig, Damien Houlihan, Eric Nelson, Charles Kleekamp. Not Present: Kathleen Yetman.

Guest attendees: Sarah Murray, Selectman Randy Hunt.

Votes Taken

Article 1: Motion to approve May 1, 2008 Minutes proposed by Anna Burroughs-Merrill. Seconded by Charles Kleekamp. Vote: unanimous.

Article 2: Motion to apply for Clean Energy Choice matching grants to install a solar photovoltaic system at the Human Services Building made by Damien Houlihan. Seconded by Eric Nelson. Vote: unanimous.

General Discussion

Housekeeping Topics: A list was compiled of SEC members phone numbers and mailing addresses. Sarah Murray will be joining the SEC and will go before the Selectmen for official appointment over the next several weeks. She is interested in serving on the Outreach sub-committee. Annual elections for officers of the Energy Committee will be held in August. Jorgen Birkeland will be stepping down from the SEC at the end of his term and not seeking re-appointment. Elections for officers will be held at the August meeting. Laura Gregorio-Tanguilig will be stepping down as chairperson and become a regular voting member. The SEC discussed duties of the various officers. Eric Nelson has agreed to become the new Chairperson. Anna Burroughs-Merrill is willing to continue serving as Clerk. Damian Houlihan accepted the Chairpersons Challenge for August.

ICLEI: The SEC had a conference call with ICLEI member Meleah Houseknecht to discuss what tools ICLEI might provide over and above the EPA program that perhaps weren't leveraged in the sample plan forwarded to the SEC. The cost to join ICLEI is \$600 annually, not a one-time fee. ICLEI's software can quantify what emissions town vehicles emit and aid in decision-making of which vehicles should be swapped out in the coming years. Ms. Houseknecht agreed to forward more extensive ICLEI-generated reports from other towns as well as more information about the software. ICLEI can help identify land use changes needed to cut down on emissions. Although ICLEI has various conferences, only the local ICLEI conferences are free. To attend the larger regional and national conferences, you have to pay a fee. ICLEI prefers to work directly with the Selectmen and/or a designated (paid) town employee, not volunteer committees such as the SEC. Once the call ended, the SEC discussed whether ICLEI would add value to what was already being offered free of charge by the EPA program. Although Falmouth used ICLEI to formulate their Climate Action Plan, members felt the report was a bit "light" on the kinds of information the SEC needs to assist the town in making future energy decisions, especially in regards to fleet management component which the EPA program does not adequately address. Members would like to see the more extensive sample plans Ms. Houseknecht agreed to forward before recommending the program. It appears ICLEI focuses on esoteric topics such as carbon footprint and not enough on nuts-and-bolt economic details the town needs to justify investing in alternative technologies. Most of the recommendations made in the sample ICLEI plan are common sense goals the SEC is already pursuing. The SEC agreed to wait to see what information they still need after completing the EPA program before pursuing ICLEI.

Short-Term vs. Long-Term Goals: The SEC discussed what types of goals it should focus on. Many of the projects it is currently looking at are long-term projects which will take many years to reach fruition. Should the SEC also be setting small, easily attainable short-term goals which can be completed within the upcoming year? The SEC discussed a number of potential short-term projects. SEC members will research a variety of small, short-term projects and discuss them at the next meeting.

Report of the Production Sub-Committee: Production has met several times over the past month to decide how to use Clean Energy Choice funds to site a small renewable energy project in town. Criteria included a highly visible location where residents could examine the technology, offset immediate electricity needs (versus going back into the grid at the “wholesale” rate) use, being sensitive to Historic District concerns, ability to get matching grants, and other considerations such as supporting emergency services. A small wind turbine and PV were considered. Because the current zoning by-law only covers residential wind turbines, waiting to install a small turbine at a municipal building until the zoning laws can be amended will take longer than the SEC desires. Production recommends using \$12,000 of Clean Energy Choice funds be used to install a pole-mounted 2.2 KW solar PV array (2 10x10 arrays) be installed somewhere on the property at the Human Services Building. MTC Community Solar will match that grant and provide up to 10 free hours of consulting to help site the unit via their vendor, Kadmus Group. It is estimated the proposed PV unit will offset ~2,300 KWH per year. A roof-mounted unit was ruled out because the roof is not south-facing and retrofitting the existing roof to accommodate the unit would be an enormous undertaking. The SEC discussed concerns, such as vandalism of the units, future expansion, batteries, and insurance. Without batteries, the solar array will go off-line when the power goes out, but the town does not have the funds to both install the array *and* batteries at this time. It makes sense to plan for future expansion of the system and the eventual installation of battery storage capacity. Because the Human Services Building is also the EOC during a disaster, perhaps the Department of Homeland Security has grants to help with the cost of batteries? The SEC voted to apply for Clean Energy Choice grants to install the system.

Production has also been researching the MTC Small Wind program. Production considered using the Clean Energy Choice funds to install a small wind turbine. The MTC’s vendor, Kadmus Group, analyzed the electrical output of 19 small wind projects in Massachusetts (*not* including the turbine at Upper Cape Tech) and found many of them were underperforming due to poor siting. SEC members discussed that Upper Cape Tech is so pleased with their turbine that they are now planning a second, larger one and reasons why the UCT site may be successful, including the turbines siting high on a hill. Damien spoke to Tyler Leeds at MTC and he feels the cost-effectiveness of installing PV versus a wind turbine would be about the same. Damien will obtain and forward the Kadmus Group study to other members of the SEC.

Production would like to see the town take the next step and draft suitable municipal and commercial zoning by-laws. Production has learned an apartment complex behind Shawme Pond is interested in putting up a wind turbine to offset their utility bills. Charles knows of several companies in Falmouth (Webb Industries; Notice Clean Energy) as well as the Town of Falmouth who have plans to install larger-scale projects in their town.

Report of Outreach Sub-Committee: Sarah Murray will be joining the SEC and Outreach. Outreach is currently focusing on three programs, “Safe Routes to Schools” which promotes sidewalks, the “Way to Go Commuter Challenge” which encourages residents and town employees to walk or telecommute to work, and the “Mow Down Pollution” program which encourages ways to cut down on pollution from lawn and gardening power equipment.

Laura Gregorio-Tanguilig discussed whether the SEC should host an open forum sometime in the future to encourage questions and answers from the citizenry? The SEC discussed whether this should be done as a separate meeting, part of a regular meeting, or a joint public meeting with the Selectmen. Selectmen meetings are televised, enabling outreach and education about energy topics to citizens who might not otherwise be able to attend. The SEC agreed it would probably be prudent to ask Selectmen Randy Hunt to obtain the BOS’s opinion about how they would like to do this prior to planning the forum.

Laura learned that although the school-aged population of Sandwich is shrinking and there has been some talk of school consolidation, the school department estimates closing one of the schools would not be feasible anytime within the next 20 years. Also, the Sandwich Community School preschool program is moving into the Wing School. Therefore, all four school buildings should be considered when examining town buildings for energy savings.

Report of Efficiency Sub-Committee: The Board of Selectmen approved the SEC’s recommendation to join the US EPA Community Energy Challenge and the application was forwarded to town hall for completion. It may be possible to have a local honors student enter the data free of charge. Efficiency will assist the town with completing the EPA program.

Tom Doherty will be meeting with Buildings Director Ted Hamilton to get data he needs to recommend which energy audits RISE should conduct. Mr. Hamilton has many of the reports the SEC needs to analyze buildings for RISE and the EPA Challenge. He does not oversee school buildings, so Tom will get those reports separately from the school department. Tom and Kathy Yetman will continue researching which buildings are the best candidates for more extensive energy audits.

Jorgen Birkeland discussed his research into fleet management. Prior to the meeting, he forwarded electronic links regarding fleet management issues to credible scientific studies conducted by MIT <http://fsee.mit.edu/metadot/index.pl>. Two reports, LFEE 2008-02R and EL 00-03, address ethanol and light duty automobiles. The SEC discussed how much of the current press about ethanol causing world food shortages was accurate and which sources of information are most reliable to aid the SEC in its decision making process. Government studies (such as the EPA, Dept. of Energy, or Dept. of Transportation); studies by universities such as MIT; or studies published in credible scientific peer-reviewed journals tend to be much more reliable than information published by newspapers, manufacturers, or industry advocates. When recommending which town vehicles to swap out for hybrids, the SEC should consider not just the immediate cost/benefit, but also cradle-to-grave issues such as the environmental implications of scrapping a big car early for a hybrid. According to Jorgen's research, "premature scrappage" is going to be a huge issue in the future. The SEC discussed whether there might be other fleet management tools out there besides ICLEI. Selectman Randy Hunt suggested speaking to Paul Tilton, DPW Director. He may have already investigated or be willing to help investigate fleet management issues. He also may have money in his budget to help purchase analysis tools.

Anna Burroughs-Merrill met with Doug Lapp, Ted Hamilton and John Johnson regarding potential GSHP at the Sandwich Hollows Golf Course on May 16th (meeting notes previously distributed to SEC). The town needs detailed information before altering its current plan of upgrading to a gas-powered forced hot air heating system. Production member Bob Goettsche did a preliminary estimate of GHSP versus gas and thinks it may be viable, but needs detailed information contained in the gas heat proposal. Mr. Hamilton has that proposal. Tom Doherty will request Mr. Hamilton include a copy of the gas proposal when he meets with him next week.

Sandwich Hollows is connected to the Oak Ridge School by a contiguous corridor of land approximately ½ mile long and, beyond that, the Human Services Building. This would enable the town to directly tie two major end-users to a utility scale wind turbine sited at the golf course (as was done at Mass Maritime Academy) and thus avoid the economic penalties of a grid-tied system.

Anna passed out information regarding solar chimneys, fabric samples of energy-savings heat and solar window blinds, and information and directions regarding a volunteer-staffed swap shop in Harwich (the "Treasure Chest") she believes would be a good model for Sandwich to adopt. Solar chimneys work best on brick, stone, or masonry buildings, which many town buildings happen to be. Passive solar techniques, such as where trees are located and good blinds, can make a substantial difference in energy usage for very little money. SEC members discussed how popular the Sandwich Swap Shop had been, why it had been discontinued, and ways it might be brought back into existence.

Anna proposed setting up an interactive website where SEC members could post articles they have written about energy topics and invite the public to voice their opinion. Perhaps a "blog" site? SEC members possess much expertise which would be helpful to the average resident struggling to reduce their environmental impact and pay their utility bills. They'd also like to invite local newspapers to publish any article they like free of charge to reach a larger audience.

Conference News: The Cape Light Compact breakfast was a success. Laura Gregorio-Tanguilig opened the meeting with a summary of how the SEC had been formed, including gratitude for Selectman Randy Hunt's help in birthing the SEC into existence. Maggie Downey of the CLC did a presentation on the CLC's work, the Forestdale School's student S.P.I.T. team presented a summary of their work, and Anna Burroughs-Merrill moderated a discussion amongst Cape-wide energy committees about what they were pursuing, successes and speedbumps, and where they hoped to go. Eric Nelson, Bob Goettsche, and Selectmen Randy Hunt also attended and obtained much useful information from attendees. The Sandwich Enterprise published an excellent summary of the meeting if people wish more information.

Laura Gregorio-Tanguilig, Anna Burroughs-Merrill, and Charles Kleekamp attended a lecture hosted by CIRENEW with guest speaker Greg Watson of the Mass Technology Collaborative regarding the future of wind power in Massachusetts. The Cape Cod Times published a summary of the lecture if people wish more information.

Damien Houlihan attended the Third Party Power Purchase Agreement conference on May 13th in Boston. The concept is that towns can enter into third-party agreements to install solar panels on the roof of their buildings. The third party installs, maintains, and reaps tax benefits of the panels which towns aren't eligible to get, while the town buys the electricity at a set price. After 15-20 years, the town owns the equipment outright. SEC members recalled seeing a PBS video explaining such an agreement on a local Whole Foods supermarket, "Saved by the Sun." Members questioned whether using the grid/net-metering would affect residential electric rates? Charles Kleekamp believes 4C's did a third-party agreement to install a fuel cell sometime in the past. He believes the fuel cell broke and was never repaired, but unfortunately nobody ever did a report on why the venture failed. The state is only pushing solar third-party agreements right now.

Upcoming Conferences: CIRENEW is sponsoring a Community Energy and Climate Caucus at 4C's on June 19th from 5:00-6:30 p.m. The SEC has been asked to submit a slide summarizing its work. At 6:30, food will be served from local growers. At 7:00 p.m., Dr. Peter Frumhoff of the Union of Concerned Scientists will give a lecture about local climate change. Interested attendees should RSVP to Chris Powicki of CIRENEW.

The Cape Light Compact will sponsor a person to go to the Third Annual Northeast Retro-Commissioning Summit. The SEC feels Buildings director Ted Hamilton will be an excellent candidate to attend the summit. Tom Doherty will give him the flyer when he meets with him next week.

Blue H USA is sponsoring a conference about deepwater wind turbines on June 12, 2008 at 7:30 p.m. at the Cape Codder Resort & Spa on Route 132 in Hyannis.

Deepwater Wind Turbines: Charles Kleekamp pointed out that Blue H has only constructed one 80 KW wind turbine off the coast of Italy and has never connected it to the power grid. Blue H uses 2-blade, not 3-blade wind turbines. Siemens has also developed a similar project. Anna Burroughs-Merrill has an article published in Mother Earth News outlining why 3-bladed wind turbines may be superior to 2-bladed turbines which she will forward to SEC members.

Proposed Topics for Next Meeting: (subject to change prior to posting of official Agenda):
Reappointment of all members and election of officers.
Select Energy Topics

Adjournment: moved to adjourn the meeting at 10:03 p.m. made by Damien Houlihan Motion seconded by Bob Goettsche. Unanimous vote.

Next Meeting: Thursday, August 7, 2008 at 6:30 p.m. at the new classrooms at Greenbriar Nature Center.