

City of Cambridge  
Climate Protection Action Committee

Meeting Minutes  
12 April 2012  
City Hall Annex, 344 Broadway

**Present:** Quinton Zondervan (chair), Jackie Cefola (vice chair), Marguerite Reynolds (secretary), Milton Bevington, Betsy Boyle, Janet Curtis, Sarah Hill, Barry Hilts, Johanna Jobin, Ted Live, Lauren Miller, Tom Page, David Rabkin, Terrence Smith, Scott Wood; John Moore (associate); **staff:** John Bolduc

**Guests:** Natalie Andrews, MA Department of Energy Resources, Andy Brydges, Massachusetts Clean Energy Center, Jan Gudell, NSTAR

1. Approval of Minutes – March 8, 2012
  - Minutes approved.
2. Nathan Gauthier is resigning from CPAC due to impending move to Rwanda.
3. Expanding the Use of Solar Energy in Cambridge
  - **Presenters:** *Natalie Andrews, MA Department of Energy Resources, Andy Brydges, Massachusetts Clean Energy Center*
  - Andy presented first.
  - MA Clean Energy Center formed through Green Communities Act and Green Jobs Act. Funded by systems benefit charge, \$24 mil/year.
  - Mission to advance clean energy technology, create jobs, develop a trained workforce, and accelerate deployment of clean energy (solar PV, solar hot water, wind, organics to energy, hydro, low income).
  - Solar PV
    - Becoming more competitive. Various incentives available (Federal tax credit, 30%; State tax credit, 15%; Property tax exemption, 20 years; Sales tax exemption; MassCEC Rebates, avg \$2,000; Net metering, SRECs, >30, over 10 years)
    - ~100 MW installed in MA currently.
  - Solar Hot Water
    - Much more design dependent. Excess generation **can't be tied into grid**.
    - Various incentives available.
  - Issued report 2 days ago on renewable heating opportunities and impacts.
    - Investigated ground source heat pumps, small scale biomass, solar hot water, and biofuels.
  - Working on scalable delivery models for solar though competitive pricing, reduced marketing & acquisition costs, community education, and bulk purchasing.
  - 17 new communities have been selected for Solarize 2 program.

- Natalie presented.
- She also discussed solar incentives in Massachusetts and, specifically, how to improve uptake in Cambridge.
- The economic argument in MA for solar projects is improving thanks to:
  - MA has high electricity prices
  - Reduced cost of solar nationally
  - Host of incentives
- Discussed RPS Solar Carve-Out Program (SRECs) and Commonwealth Solar II Rebate, both programs of MA Clean Energy Center.
- Discussed SunShot program
  - US DOE program with goal to get solar to \$1/watt by 2020.
  - Grants issued to Cambridge, Boston, Harvard, Hatfield, and Winchester to reduce soft costs of solar.
  - 1 year program
- Discussed Community Solar Gardens program
  - This model involves a shared, centrally sited solar energy system. This would be an option for people who have homes that are not suitable for solar or are renters.
  - Program of the MA Clean Energy Center
  - Can be on the ground or roof.
  - Issued RFQ this week to select a consultant to explore financing, insurance, utility interconnection, tax considerations and structures, federal and state regulations, potential buy-in costs and fees, incentives, profits, and control of RECs
- Other ideas for renewable energy opportunity in Cambridge
  - Micro inverters for solar arrays
    - Allows all modules to be controlled independently as opposed to entire system being affected by soiling, shading, or module defects. Prevents entire system from shutting down.
- Q&A
  - What can we do in MA to get to a point where we have solar panel manufacturing that is powered by solar (as opposed to the Chinese manufacturing panels by burning coal)
    - It is a concern of the industry that there is not panel manufacturing in MA right now. Need proper incentives. Encouraged by international companies setting up shop in MA.
  - Can you get power purchase agreement on single family homes?
    - There are options for 3<sup>rd</sup> party ownership for solar p/v for single family homes (represents 67% of solar installations) – leases, PPAs, others. There are some consumer protection issues with these models.
  - How does solar work with multi-family?

- You could have system on roof w/ joint ownership/net metering. Alternatively, you could set up solar gardens and use that to offset your consumption.
  - Under sale of home, contract can be reassigned.
- Where do solar gardens need to be relevant to owners?
  - Needs to be in the same load zone and under the same utility. There are 4 load zones in MA. So a solar garden installation could be located outside the city and still serve Cambridge ratepayers.
- What can we do to support this?
  - Cambridge is a partner for solar garden grant. Would like Cambridge to help with review of consultant and provide input on project development. Would also be looking to do pilot installation.
- When you look at a city like Cambridge, how do you compare energy reductions compared between solar p/v and solar thermal? How should we think about incentives?
  - With natural gas prices depressed, solar thermal is going to be tough sell economically despite being more efficient.
  - Potential exists for solar thermal to reduce landlord barriers because they oftentimes pay for hot water.
  - John – MIT professor developing solar radiation map of Cambridge, which will enable us to estimate overall solar p/v potential. Application to solar thermal would have to be developed.
- Is it possible to design a municipal solar hot water system for community?
  - Dramatic efficiency loss would likely make this ineffective.
- Could a landlord act as a utility?
  - In a way, if they want to net meter.
- How did the town of Harvard support the growth of their solar market?
  - Volunteers, municipal support, and support from the state.
  - Local energy committees took the lead on moving idea forward through social media, word of mouth, participation in events, some marketing.
- Where did the funds come from in these towns?
  - Direct owners – likely local banks for home equity loans or personal savings
  - 3<sup>rd</sup> party ownership
- Are people only doing these as stand-alone projects or as part of other renovations/additions?
  - Majority are stand-alone; however, many folks getting home energy assessments are educated about solar potential.
  - Solar thermal – a key point of entry is plumbers. Potential for them to educate home owners when addressing other plumbing issues.
- Are there any towns with programs that bring together roofers, installers, and financiers in some sort of package to encourage solar installation?
  - Not aware of any examples; however, some roofers have entered solar market.

#### 4. Expanding Participation in NSTAR Green

- **Presenter: Jan Gudell, NSTAR**
- Two options for both residential and small commercial to use NSTAR Green – 50% Green or 100% Green
- NSTAR Green launched in May 2008 with large marketing push. Since launch, mainly relying on word-of-mouth.
- At peak, 8500 customers (0.7% of customer base), now at 6600 (0.6% of customer base)
  - NSTAR Green customers have dropped by ~1300 since Feb 2011., likely result of economic downturn and confusion regarding price hikes.
- Increased natural gas supply has lowered gas and generation costs, requiring increased premium (despite lower base rate)
- Q&A
  - How can NSTAR Green break even as a program?
    - The company has lost money. DPU allowed for some cost recovery. To raise premium, company has to make rate change. There was a delay in this process.
  - Why not eliminate the program and use resources towards RPS?
    - Point of the program is to encourage customer involvement for those who are interested in being green or want alternative option to traditional energy mix.
  - Why are folks so willing to buy a Prius vs. pay premium for green energy?
    - Likely related to tangibility and that people more aware of cost of gas than kWh.
  - Jan suggested the **EPA's Green Communities** Challenge as a potential motivator for increased green energy adoption in Cambridge.
    - It is a competition to see which community can use the most green power. No cost to participate. Technical resources are available through EPA.
  - When fossil fuels go up, what happens to NSTAR Green premium?
    - It will go down. NSTAR Green price changes twice per year (Jan 1 & July 1). Theoretically, it is possible for green energy to be cheaper; however, highly unlikely in the near term.
  - NSTAR Green created a 10 year voluntary contract with wind power producers. Was not driven by RPS.
  - What evidence exists for NSTAR Green being low cost low carbon option?
    - Good option for people who cannot install their own solar or other renewable option.
  - What can Cambridge/CPAC do to educate people on cost confusion of NSTAR Green premium?
    - Education. Present information and clarify confusion around pricing. Could be done during energy audits? via HEET? via CEA? Others?

- Is there a way to change the model for customer wind power stake, similar to how other renewable investments are viewed with respect to ROI?
  - This may be the model they use in Denmark.
- 5. Discussion ensued regarding CPAC members meeting as a subgroup next week to talk about the **content of tonight's meeting as it relates to CPAC's goals**. John will explore the idea and send an email to the group.
- 6. Meeting Adjourned.

*Notes prepared by Scott Wood.*