

**City of Cambridge
Climate Protection Action Committee
Meeting Minutes
Thursday, November 8, 2012**

Present: Quinton Zondervan (chair), Jackie Cefola (vice chair), David Rabkin, Keren Schlomy, Milton Bevington, Betsy Boyle, Jan Dillon, Peter Crawley, Janet Curtis, Ted Live, Tom Page, Bill Zamparelli, Steve Lanou, Scott Wood, Barry Hilts, Lyn Huckabee; Kyle Greaves, Robyn Tsukayama, Lauren Miller *staff*: Susanne Rasmussen, John Bolduc

Guests: Joyce Klein Rosenthal (Harvard Graduate School of Design), Travis Sheehan

1. Approval of Minutes – October 11, 2012

The Committee unanimously approved the minutes from the October 11th meeting with a single amendment regarding correctly referencing the King School.

2. ETP Director's Report

- Climate Change Vulnerability Assessment: An expert panel is being formed for the assessment's technical advisory committee. The group includes Terry Smith, Peter Crawley, and Barry Hilts from CPAC. John Bolduc is the City's project manager for the assessment.
- DOER Grant: Two consulting projects are in progress, the first is a condo/rental guide for solar PV to help make the process of installing solar PV easier and a feasibility study for hosting shared solar facilities on city property. Both reports are due at the end of January 2013.
- Progress on CPAC vision and goals needs to be completed. To do so, we should start a subgroup to finish it. The Director will contact CPAC by email to seek participants in this work.

3. Sustainability in Cambridge Public School

Objective: Discuss presentations on climate change and sustainability in Cambridge Public Schools and possible followup actions.

This was a follow-up conversation to the last meeting, with a particular focus on questions developed by the CPAC Executive Committee in response to the analysis of rebuild/renovate options for the King School building. The questions were:

- How can the City establish sustainability and/or energy performance goals for new construction and major renovations of school buildings? When is it appropriate to set a net zero energy goal?
- Is there a practical approach to evaluating building materials on a life cycle carbon or energy basis? Should the City be specifying low-carbon or carbon absorbing materials?

- Can the City establish an energy strategy or plan that includes acquiring its municipal energy supply from renewable sources through its electricity supply contract and other sources so that direct installation on buildings is not as necessary? What is the appropriate approach for integrating solar PV systems into school building projects?
- What standards can we adopt for doing the re-build vs. re-model analysis in a more rigorous and comparable (between projects) way?
- Will the City set and then prioritize achieving a baseline for environmental management across all school buildings (e.g., all schools will have composting, high efficiency HVAC, auto-sensor lights, and bike racks...)?
- Should climate change be integrated into the curriculum beyond science? If so, what can be done to make this happen?

Key points from the conversation included:

- State funding for school facility projects requires LEED certification (or CHIPS). Enhanced reimbursements are available if projects are LEED Silver.
- City facilities that build to some higher standard include: the City Hall Annex (LEED Gold); the War Memorial, W. Cambridge Youth Center, High School, new police station (LEED Silver).
- Other standards to consider: ASHRAE 189.1 – it’s a ready-to-go standard. And of course, we are following the stretch energy code here in Cambridge. LEED EBOM (existing buildings, operations and maintenance) includes energy-related items.
- We need to differentiate between new construction and renovations.
- The recommendation that we use 3rd-party standards that others maintain is preferable to determining our own.
- We question what we, or others, mean by the term “net-zero.” There is an EPA net-zero standard. The EPA also has a “tech max” standard, which aims to indicate the best one can do using all conservation technology.
- An important question is whether RECs (Renewable Energy Certificates) count.
- Travis Sheehan from Linnean Solutions (which did the King School life cycle assessment) was present at the meeting and offered that it makes sense for the City to consider small on-site generation. By that, he meant the use of combined heat and power that could heat the school and provide power to the school during the day and to local residences during the school’s off hours. Although cooperatives are challenging to run, he indicated that there is considerable expertise in Cambridge on the use and operation of “energy districts,” clusters of facilities that complement each other in terms of the energy needs and/or the timing of those needs.
- The recommendation was voiced that we as a committee support the selection of a life cycle assessment (LCA) method and that the City use and/or require its use by others for certain kinds of projects and that these analyses be subject to peer review. We didn’t

specify what kinds of projects (beyond large proposed tear-downs) or an LCA methodology

- Can we develop a plan for the city to acquire its municipal energy supply from renewable sources through its electricity supply contract and other sources so that direct installation on buildings is not as necessary? Our current city goal is 20% of the City's electric consumption from renewables, but that includes on-site, renewable power via the RPS (Renewable Portfolio Standard), and RECs.
- There are green power companies with whom the City could contract. Our current agreement is with TransCanada, which does have substantial hydro power. We don't know how much more renewable power would cost the City, so we could solicit proposals.
- We need to determine whether we would count RECs.
- We learned a bit in the last meeting about sustainability as it relates to the science curriculum. Further, new science standards are being developed nationally that will include sustainability and climate-change related topics. Neither we, nor our guests, at the last meeting (Kristen Von Hoffman and Lisa Scolaro, both from the school dept.), knew if these items are part of the social studies curriculum or what's actually being done in our classrooms. It might be interesting to survey teachers.

4. Urban Heat Island

Objective: Discuss how the urban heat island effect affects the city in terms of ambient temperature, public health, and the implications with climate change.

Joyce Klein Rosenthal, Assistant Professor of Urban Planning, Harvard Graduate School of Design

- Warming trend and tendency toward extremes from climate change interacts with land use/building standards to create extremes of urban heat island effect.
- She recommends the book Hot Time in the Old Town, about a heat wave in NYC in 1986 that is attributed with killing over 1500 people.
- Her presentation outlined a number of risk factors for people experiencing extreme heat, including: age, medical/mental illness, income/poverty, homelessness, social isolation, access to health care and cooling, and neighborhood-related factors such as crime rate and land use.
- The mortality curve she presented shows a rise starting just below 60 degrees with an elbow at, and higher slope above, about 75 degrees.
- Transportation infrastructure – airports, major roadways, parking lots – and industrial areas as well as building height and density are major contributing factors to heat island. Tree cover and parks, are strong positive influences, as are the use of reflective materials and the presence of water in rivers, lakes or ponds.
- Access to air conditioning is very important, particularly for senior citizens.

- Cool pavement is rarely used in the Northeast; we didn't know why.
- Her students have studied Cambridge and found areas with high(er) degrees of heat island, particularly areas of North Cambridge and around Central Square.
- She mentioned the effectiveness of a program in Philadelphia that used a mix of white roofs, insulation, and ceiling fans, to make a difference both indoors and out.
- NYC has a green roof tax credit if >50% of a roof is covered, and has had a cool roof requirement since 2008.
- Parking lots are a significant source of heat. Trees are important (as are swales to help control runoff and pollution). The Design Trust (<http://www.designtrust.org>) has guidelines about this.

Notes prepared by David Rabkin