

**City of Cambridge
Climate Protection Action Committee
Meeting Notes - October 12, 2017**

Attendance: Lauren Miller (chair), Johanna Jobin (vice chair), Peter Crawley, Lyn Huckabee, John Ullman, Christopher Nielson, Paula Phipps, David Rabkin, Marguerite Reynolds, Keren Schlomy; *staff*: Susanne Rasmussen, Seth Federspiel, Meghan Shaw

Guests: Eric Grunebaum, Caroline White-Nockleby

Cambridge Low Carbon Energy Supply Study – Seth Federspiel reviewed the results of the LCESS, which was one of the recommendations of the Net Zero Action Plan. (See PPT presentation)

- Been working on LCSS for past year with consultant, Ramboll (Danish).
- Most building heat comes from Natural Gas (and some from oil), which comprises about 50% of the City's Carbon Emissions.
- Heating 56%, Electricity 39% and Cooling 5%.
- Kendall Square is biggest heating & cooling demand area in City, with Alewife and Northpoint areas increasing in future.
- Solution options: Local Scale (rooftops), District Scale (CHP, etc.), Grid Scale (utilities)
- Thermal Energy sources: subways, industries – but too small to make significant impact.
- Grid will be changing/improving carbon intensity over time via RPS/APS.
- 3 scenarios: #1: Individual Electrification – homes with rooftop solar and electric heat pumps/mini splits. Can also be scaled to larger buildings. Also electric boilers for largert buildings avail.
- Scenario #2: District Energy Electrification for commercial zones, like Kendall and Harvard areas. Water sourced heat pumps, drawing heat from Mystic River, for example. Pipes underground will deliver heat & cooling pumped by water pumps/CHP plant(s). Internal building heating infrastructure need to be converted from Nat Gas orientaion to accept the District energy.
- Scenario #3: District Heating and Cooling (primarily using bio-mass from Mystic River natural gas plant being converted to bio-mass). Still a more local solution than the grid. How resilient/redundant? There would be some energy storage via big water heating tanks, etc.
- Stakeholder working group: Public & Private representation (at regional level).
- Feasibility Analysis: What renewable energy mix is required to meet demand profile?
- Emission/Cost Analysis performed. BAU vs 3 Scenarios. (Much depends upon rate of greening of electric utility grid.)
- How does Community Aggregation (REC) program impact these Scenarios (actual energy generation)?
- Is Bio-mass carbon neutral? is a core question. Bio-mass can receive a REC in Mass = renewable.

- Study Recs:
 - Promote electrification of buildings in less dense areas
 - Promote rooftop solar deployment
 - Engage regional partners and stakeholders through opps such as Metro Mayors Compact to address grid modernization and greening. And large scale alternative energy generation (bio-mass, etc.).
- Also looked at Waste to Energy system because Cambridge not generating enough waste and have zero waste plan/trend.

Cambridge Multi-Family Pilot – Meghan Shaw (Cambridge Energy Alliance) presented for discussion the City’s energy efficiency and clean energy in multi-family residential buildings.

- Handouts for program distributed.
- Piloted: collaboration between City and Utility (Eversource).
- 45 buildings participated (over 500 units total).
- RFQ for EE Retrofit Advisor to help building owners implement efficiency recommendations.
- Modeled after Sunny Cambridge program.
- If Heat Smart program is implemented, will integrate into the multi-family program.

ETP Director’s Report – Susanne Rasmussen

- Transportation:
 - Additional separated bike facilities being created. Have already seen increase in bike use, but also push-back from retailers (who lose parking) and seniors, in particular. What’s in place will be measured for 6 months (eg, snow removal and retail impact issues, etc.) before additional separated lanes built. Next area: Lafayette Square to River on Mass Ave.
 - Grants may come in to study exclusive bus lanes in certain parts of City.
 - Grand Junction multi-modal pathway received a commitment from MIT to grant City the Right of Ways on their property and granted \$8.5 MM to City to help with design & construction. Next step is to organize the stakeholders to create political leverage/urgency.
 - Under Net Zero action plan City working on Lab energy efficiency study with lab owners and getting data set from Cambridge and Boston lab landlords. Data sets will allow benchmarking. Finding: Cambridge labs are in-line with EE at labs in other parts of country and region. Consultant working with Cambridge Compact on lab standards. By 2030 new labs need to be Net-Zero under plan.

Notes by Peter Crawley