City of Cambridge
Climate Protection Action Committee

Meeting Minutes
19 June 2016

Attendees: Lauren Miller (chair), Rosalie Anders, Olga Faktorovich Allen, Keith Giamportone, Quinton Zondervan, Melissa Chan, Tom Page, Ted Live, Lyn Huckabee

Staff: Bronwyn Cooke, John Bolduc, Susanne Rasmussen

Minutes:

- May minutes were not approved – no Quorum.

Director's Report:

- Noted that the building Standards are being reviewed/updated including Stretch Code and Space Code. This is being done collaboratively with Sierra club and towns using stretch code.
- Presentation by ARUP and Owen (DPW) on Greenhouse Gas Emissions for Cambridge.
- LEED Gold update could be influenced by Stretch Code. If Stretch Code adopted ask for Article 22 ahead of schedule.
- The greenhouse gas Inventory group has been selected. They are hoping to start in about a week.
- Georgetown University Energy Prize is in Cambridge June 28 – Competitors Conference organized by Georgetown.
- Data from Eversource is still not accurate, so it is not ready for Georgetown yet.
- 2 City Council events: June 15 - Sustainability Activities, June 30 – Georgetown University.
- Update on Low Carbon Energy Supply Study. Team: ARUP, Urban Ingenuity, Vanderweil, CES.

Municipal GHG Reduction Goal:

- Energy Procurement – Municipal Facilities Improvement Plan – 2020 GHG Emissions Reduction Target.
- DPW team – Paul Lyle, Julie Lynch, ARUP team - Rebecca Hatchadorian, Clara Riley .
  (See report for all data)
- Municipal Facilities Framework and Assessment – GHG Emissions Reduction Goal.
- City Hall Annex/ Kennedy-Longfellow – in depth.
- Four Workshops with 40-50 people to define Vision and Goals.
- 8 Main assessment Categories
- Study not looking at transportation.
- City Portfolio assessment (43 buildings).
- Capital Improvement Plan.
- 2020 GHG Emissions Reduction.
- Scope 1 & 2 emissions from all City Buildings.

- Water Purification.
- 30% reduction by 2020 for GHG Emission – 28% now.
- Establish a 2030 GHG Emission Reduction by the end of 2016.
- There was a 21% reduction from 2008 to 2015. 50% is from the 43 buildings of the city.
- Goal is to increase the % of electric for heating.
- Plan is to establish a 2020 baseline case.
- Test scenarios + sensitivity analysis
- Looking toward 2020: Electricity Emissions Factor, lighting conversion – all streetlights and now focused on parking, water treatment facility – pump improvement project, Installation of new solar PV.
- Fuel switch – oil to gas.
- MLK School uses electricity and natural gas. Large Solar PV. Not net Zero but high performing.
- King Open School + Pool + Library
- Anticipating a 29-31% drop in GHG Emissions from 2008 by 2020.
- With All renewables for buildings it could be as much as 68% reduction.
- HVAC Systems renewal projects focused on top ten "heavy hitters"
- Heavy hitters include: Public Safety, Main Library, K-L, Peabody, DPW, City Hall. Senior Center, Fire Dept Headquarters, …
- Median EVI would only reduce HG Emissions another 2%. Adding renewables has a big impact reducing an additional 47%. Focusing on the top 25% reduces it by about 5%. HVAC renewal reduces it 30-32% (from 2008 baseline).
- The goal is a 30% reduction by 2020. A target has not been set yet for Cambridge for 2030. The goal for 2050 is an 80% reduction.
- The 2030 Goal will target municipal buildings – Scope 1 & 2. Scope 3 Categories to be determined.

Buildings - June 2017

- Existing Buildings
- New Load
- Considerations:
- Programming
- Future technological advances
- Transition of heating and DHW to electric.
- Energy Supply (District Energy, LCEC Planning)
- Other building needs.

Vehicles - December 2017

- Clean Fleet Study:
- Baseline – GHG, miles, efficiency
- Retrofit /replace options by type of vehicle
- Future forecasting
- Finance and implementation plan.

- FY30 GHG emissions.
- Input/acceptance by City Departments.
- Phasing in over 3-15 years and more

Solid Waste - December 2017

- (Zero) Solid waste masterplan. There is an RFP out.
- City current and future waste streams.
- Current and future waste management industry.
- DPW Operational Analysis
- What does DPW need to do?

Water Treatment and Distribution

- Does Commercial part of waste, not factored in yet, get addressed in the Climate Action Plan?
- When will composting go city wide? – Currently 50% participation in test area. Currently at 5%, could go to 20%, over the next year. It could go citywide by fall of 2017.
- Ideally the 2020 goal of 30% would be city wide.
- Does it get subcontracted?
- Are there other options?
- Currently $70/ton-composting, $30/ton-recycling, $84/ton- trash
- Any thoughts of Cambridge digester? – It would need 2 Acres. Deer Island is a good option for a future digester-stalled now.

- Julie Lynch – DPW is responsible for managing building energy use.

Harry Hintlian (Superior Nut Co.) shared his story

- 60 employees started in 1979. His company is 100% carbon balanced through planting of tropical trees. -200% next year
- Started a carbon sequestration forestry project planting first trees in Costa Rica to offset his company's GHG emissions in late 1990's – realized by 2008 they would reach 100% offset.
- Today's cost @ 200% is $266/employee per year.
- He is proposing Cambridge develop a program for schools. Suggests 15 pilot schools.
- Thinks 200% offset can be achieved for those schools at $46/student per year. 25 year amortization.
- Upfront heavy for planting and amortization.
- Use project as a teaching platform and possibly as part of the curriculum.
- "sequester your own carbon in your own rainforest"

Low Carbon Supply Study

- In the interviewing process.
- To decarbonize the energy supply – all consultants think the study will take a year.
- They will map current energy demand.
- Project to 2025 and shooting for a 705 reduction by 2040.
- Data collection and then project forward.

- Full analysis of solar – PV and Thermal
- What levels can we expect to reach?
- Look at Solar thermal technology.
- Mining waste heat – Red Line tunnels, sewer
- District thermal/micro-grids – small area and use.
- Smart grid technology – what barriers and opportunities?
- The study will be asking what roles the city can play: current sphere of influence?, how to expand?, moving in right direction?, how to finance?, how to educate the public, what does a low carbon future look like?
- It is a big study and has an impact on other city measures – electrification, gas to renewable, etc.
- Solar PV & solar thermal
- Will the study generate info for lobbying the State? It will be looking at regulatory barriers as part of the study.
- Municipal aggregation and buying REC's – public meeting to discuss details by end of June. Possibly June 29.
- City owns municipal energy procurement – power-virtual net metering credits (deduct off electricity bill), actually buying renewable energy & REC's.
- Negotiating with vendors, write up decisions, go to purchasing, then open bids.
- Giving community participation in supply.

Update on Climate Change Preparedness Plan

- Vulnerability assessment almost done. Tech reports are done.
- Initial thinking – how to deal with increased flood risk.
- Start with looking at Alewife area first.
- Focus Groups process: experts, city, local residents (30-40 for all three groups). A. Background on future flood risk. B. Initial ideas about Fresh pond flooding from run-off from Alewife. C. Other strategies – building scale, regional scale, heat vulnerability strategies (mitigation).
- Start in July – 2 meetings. By Fall/early Winter – outline for Alewife flooding & vulnerability Plan.
- DPW test resilient audit: look for features of building that are resilient. Is there a a practical , cheap way to do that?
- Regional – with Boston/Somerville for grant. 30% design - near Schrafts / Northpoint – vulnerable surge area.
- More modeling going on for flood risks. Will look at joint probability of simultaneous surge and rain as it is an increasing trend.
- MIT and UMass Boston are working on it with Cambridge. Municipal Facilities as well.

- <u>Metro Mayor Climate Preparedness – Regional Resiliency</u>
- 14 communities – Cambridge signed on.
- Staff task force every other month.
- Capacity building – help communities.
- Boston and Somerville doing one.
- Brookline is looking at Urban Heat Island.
- MMCP – Trust for Public Land – green infrastructure. – Mapping – hybrid, will cover all.

- Grant for Urban Forestry Canopy Assessment. – University of Vermont ??
- Chelsea- how to make it more resilient.

- Cambridge Mayor Resiliency
- Tuesday June 20 @ 6PM – CDD Committee Meeting.
- 12 months and then report.
- Bringing different entities.

Member Report:

- International Conference in Boston – US/China Climate Summit – June 2017. Focus on municipal responses. 2 Day Conference and other associated events.
- Hearing on Climate Congress – October 2016. Last one was 6 years ago. Focus on Climate Citizenship. Sessions over 1 ½ months. At Health Environment meeting.
- Green Cambridge – Solar & Sunbug group - discount available (about 20%) – June 15-Dec.
- Launched Cambridge Tree. Looking at trees on property, watering street trees, biochar.
- Heard from wind developers on project in Martha's Vineyard. House passed 1200 MW plan off MV. Wanted 2 GW.
- There is an amendment (proposed?) to the Energy Bill to insert removed renewables.
- Attorney General's Office – Study on natural gas pipeline –both residential and commercial – we don't need. Debate about net metering.

Notes by Keith Giamportone