

# Net Zero Task Force

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October 8, 2014

## Meeting minutes

**Present Task Force members:** Henrietta Davis, Barun Singh, Julie Newman, Jaclyn Olsen, Tom Sieniewicz, Joe Maguire, Bill Kane, Caitriona Cooke, Paul Lyons, Marc Hoffman, Jane Carbone, Shawn Hesse, Emily Grandstaff-Rice

**CDD Staff:** Iram Farooq, John Bolduc, Ellen Kokinda, Bronwyn Cooke

**Consultant Team:** Dave Ramslie, Barbra Batshalom, George Metzger, Paul Gromer

About 14 members of the public attended

## Presentation

**Caitriona Cooke, Program Director, Conservation Services Group** presented on the present issues, opportunities, and the future for multifamily and single family buildings. Key points:

- Efficiency programs are only good when people take advantage of them
- Challenge of split incentives when owners pay for upgrades and tenants reap the benefits
- Our current programs are measure based; no savings=no incentives
- Important to take a performance approach to efficiency than a measure based approach
- Pay for Performance –a program to incentivize energy savings after a year of energy efficiency measures; addresses building operation after energy efficiency measures have been implemented – are you optimizing savings a year later- if so, you get an extra incentive; \*great model
- Opportunity: More emphasis on performance as opposed to measure based programs
- Opportunity: Benchmarking
- Opportunity: All new construction Net Zero Energy- we should be bold
- Opportunity: Deep energy retrofit – this is not hard to do
  - This creates a new lease on life for a building – even if it is really old – can better handle weather and energy

## Presentation

**Jane Carbone, Director of Development, Homeowners Rehab, Inc.** presented on multifamily barriers and opportunities in Cambridge. Homeowners Rehab is a nonprofit organization with a large mix of building types within their portfolio. HRI began using Wegowise to better understand their building portfolio and energy usage. The buildings that were deemed big energy hogs were targeted after performing energy audits. To upgrade energy efficiency heating and lighting systems were replaced as well as water retrofits. Key points:

- Future opportunities – Race to Solar, City of Cambridge/HEET, generating more energy than the demand; utilities are going to credit other projects in the HRI portfolio
- Challenges:
  - HRI unable to control the plug loads of residents, thus, the building can be efficient, but residents may not operate the building to optimize efficiency

- Lack of roof space for renewables
- Incremental cost for renewables/other building materials
- Plug loads not included
- Design constraints re: envelope
- Benefits:
  - Cost per unit for utilities is significantly lower than other units
  - Deeper reductions in carbon emissions

Question: Is there something that is legally preventing us from setting an energy budget for each tenant?

Response: tenant education is important; not allowed to charge for sub-metering

## Presentation

**Harvey Michaels, Energy Efficiency Lecturer & Director of MIT Energy Efficiency Strategy Project** presented on community efficiency and the collaboration between the City and MIT. Key Points:

- Energy efficiency is a real energy resource option
  - 50% reduction over 20 years is possible without sacrificing comfort or function
  - Efficiency opportunities pay for themselves with energy savings
- Energy Efficiency is a real solution for climate change
  - Efficiency can easily address over half of what we need to do by 2050; it is impossible to accomplish needed carbon reduction without energy efficiency
  - Energy and price challenges have gone away
  - Cities are catalysts to get this done
- Challenge: Deployment is elusive
- Persistent market barriers to energy efficiency improvements
  - Program design- utility incentives and financing
  - Recruitment- community-based marketing
  - Treatment- retrofit technology/comfort
  - Transparency- disclosure, benchmarking, and GIS mapping
- MIT pilot – Multifamily energy innovation project
  - Central Square residential neighborhood
  - Predominantly multifamily housing & rental
  - Pre-1950's housing
  - Used Cambridge solar map & quantitative energy auditing to predict energy efficiency by comparing audited/modeled buildings (similarity, architecture, age, proximity, materials, size)
  - Get a sense of the potential savings in all buildings
  - Got energy data from NSTAR
- It is important to take all the friction out of the process everywhere
- Buildings are the most important vehicle
- Grid storage batteries and buildings able to respond
- New opportunities
  - Energy productivity; reduce friction, carbon benefit funding, integrating financing/big data
  - Energy systems integration – optimizing building and EV energy management to accommodate intermittent solar/wind
  - Community-scale systems – collective intelligence, goal-setting, social networks

- Developments:
  - Dramatically accelerate energy efficiency with big data, financing, no money down, social networks
  - Integrate climate value into efficiency and funding stream
  - Innovate on both sides of meter to integrate renewables

Comments:

- Eventually the grid will get unstable and not be able to support added solar
- Incentivizing LED bulbs – connect them to a network to control
- Cambridge has no vacancy rate
- Demand response- social networks getting buildings to play ball – social pressure

## Presentation

**Dave Ramsle, Consultant, Integral Group**, presented the results of the prioritization exercise from Sept. 17<sup>th</sup> and proposed a draft framework going forward. There are over sixty actions that have been discussed, and we now need to express these actions in a digestible and actionable way.

**Objectives:**

- To define the “big moves” in the recommendations – the foundational course for other actions to follow
- To identify the areas that need more discussion and definition
- Define “quick moves”

**Framework:**

- “Big moves”- new strategic actions
  - Set the trajectory for other actions to follow
  - These would not happen if it weren’t for the Task Force process
  - For each big move, there will be 1-2 pages of detail
- “Quick moves” regular business; tweaks to already implemented strategies
  - Impactful course correction (e.g. communication strategy)
- 1-3 year actions
- 4-10year actions
- 10 years + actions – the further out in time, the less detail the recommendations will have

**Big Moves: (see presentation for detail)**

1. Create a compelling incentive program for net zero buildings
2. Energy Supply strategy
3. Study and evaluate the development of a “carbon fund”
4. Develop a retro-fit and continuous optimization strategy
5. Develop an approach to community renewable energy that catalyzes local investment
6. Develop an MOU with the utilities to work on net zero emissions target and programs

**Quick Moves: (see presentation for detail)**

1. Review LEED policy
2. Communications strategy on net zero – put into a cohesive strategy
3. Solar ready roof requirements moving to renewable requirements – target new construction

- a. Important not to overlook cultural institutions & engaging 3<sup>rd</sup> sectors (schools, museums, etc.)
4. Develop ongoing capacity to maintain project
  - a. Use existing committees to support/carry out some of these action items
5. Multi-family retrofit pilot program

#### Next Steps:

- Further develop actions for Task Force review
- Further consolidate and group actions
- Run additional iterations of the model
- Stakeholder engagement
  - Utilities & regional authorities
  - Commercial tenants
  - Public

#### Task Force member responses to the draft framework:

1. Impressed with the direction
  - Big moves actionable
  - Jury out on how it plays out – good to see numbers/data for each of the moves and understand how much savings we expect to get from each move
2. Solid plan
  - Important not to overlook cultural institutions and engaging school age children (school department, museums, etc.)
3. Process looks great- still wondering about editing and feedback opportunities
4. Scared
  - Engaging the commercial environment – challenging & critical to success of buy in
  - Data itself doesn't tell the story
  - Data and identification of inefficient users does not tell the full story
  - Important to categorize more specifically to Big Move #4 (Develop a retrofit & continuous optimization strategy)
5. What is going to be the process in place ?
  - Very concerned about communication and opportunities for input
  - Cannot endorse or agree with any of the moves at the moment – abstaining from comment at this moment until time to digest
  - Can't make assumptions about the meaning of certain actions – thus, it is key to have enough detail so that representatives can discuss these actions with their teams
  - FAQ for different concepts
6. Like the framework
  - Set the right expectations
  - Haven't talked at all about the cost burden
7. Want to see the quantification of each move
  - Do another iteration of the model and set our NZ aim to 2050 and then work backwards to understand both ends of the spectrum
  - City should take a leadership role in operations and policies – set an example
8. Based on this framework, it is unclear what the ramifications are and the cost burden
  - Concerned about cost shifting – more work on the commercial side

- EU policy – looking into excluding industry/research from carbon tax
9. Quantifying things – recognize this is a moving target
    - When approaching City Council ask them what they have thought about labs and Kendall Square in regards to NZ community and Cambridge’s economy
    - Important to see the pie chart of the big moves – snapshot- how much this move will move us forward toward our goal
    - Develop a Municipal Energy Plan for the City’s building portfolio
    - It is important when communicating the City’s plan to get to NZ, that people are taking part of the *Getting* to Net Zero – clarify that this isn’t NZ, but people are helping to get there
    - Good to have an FAQ for many of the actions
  10. Worry how long are quick moves going to take?
    - How long to ask Council
    - Concerned about funding and staffing – where are we going to get the resources to target the short term
  11. This is not the end
    - What will make this outcome exceptional is at *the rate* of acting; way to make this successful is to speed up our actions
    - We have to be very clear – why – how we are going to be doing things
    - The rhetoric is very powerful – we can do this; recapture the spirit when this Task Force started in the rhetoric
    - Create urgency
  12. Worried about money
  13. Longer term primary thing - not clear on process to iron out details
    - Don’t have it figured out
    - At the end of the day there is a tendency to err on the side of cautious – instead, we have to be upfront – this action/move is going to be painful in x,y, z way

## Public Comment

- Fear of this framework going to the City Council –
  - it is possible that the Council do the first set of actions and then when new city council members are elected, the other actions would then not be enacted;
  - put more teeth into the things you are proposing
- Echo on climate change as the support for all of these actions
  - Burlington, VT – energy management – someone on foot pointing out hemorrhages in buildings; importance of jobs – is there a way to set up something similar
  - Education and outreach to children is key- get them on board at an early age and ideas about conserving energy
- The quicker moves would be great to see in action
  - There are many large buildings being permitted – quick moves would be great (e.g. LEED gold) –yet, how might some of these quick moves affect what is proposed by developers based on added allowances (e.g. wind tunnels, shadows )
  - Want to see the community/residents well represented
  - Concern about money and cost & city council