

Net Zero Task Force Working Group: Regulation & Planning Approaches

April 7, 2014 Meeting Notes

Present Working Group Members: Jennifer Stacy (for Heather Henriksen), Shawn Hesse, Alejandra Menchaca, Jane Carbone, Marc Hoffman, Joe Maguire, Sarah Slaughter

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Consultants: Rachel Moscovich, Barbra Batshalom

Roadmap & Process

Working Group recommendations scheduled to be finalized by September 2014. The responsibility of the working groups is to brainstorm ideas and make preliminary recommendations. All recommendations that come from the Working Group will be presented to the full Task Force, who will ultimately decide what the final recommendations will be.

Working Groups will meet once a month. All ideas will be accounted for in a Google Doc, which members will have access to look over or add content between meetings.

Items to address:

1. Defining the current situation – an inventory of difficulties and barriers
2. Based on existing conditions, what does the future look like?
3. Develop vision and objectives- Develop SMART goals (Specific, Measurable, Attainable, Realistic, Timely); what might we need to refine?

Stakeholder Analysis

- Determines who are the partners the City needs to work with
- Address who is the actor – the city? Partners of the city?
- Getting to net zero cannot just be the city's own action – it will require a broad mix of regulation, incentives
- Articulate in final recommendations – identify stakeholders and possible roles
- The working groups will address what the City has direct authority over; what the City can influence, and instances where the City has little to no influence, which will require partnerships
- Also consider creating new entities and collaborations

Working groups will address things that do not exist now, and what it is going to take to get to net zero, which will require a paradigm shift.

Comments from Working Group members

- Thinking is not broad enough- unless there is an even playing field amongst the different property types
- Most developers are savvy
- There is a split between what tenants want and what developers can provide
 - Tenants don't want to pay for energy efficiency solutions
 - Who is in the buildings, expectations of its uses

Defining the Current Situation

Barbra started the discussion by posing the following questions to the working group members:

1. *What are the things that define our situation?*
2. *What are the paramount questions to ask and to answer?*
3. *What currently exists that is aligned with our goal?*

Working Group Member Responses

Local/State/Federal regulations

- The Commonwealth has 2050 emissions goals
- Current regulations that city has that aren't aligned with our goal of net zero
- There is pending state legislation for a number of things (we didn't list)
- Federal pending legislation
- DPU required smart grid plans (expected to be done within 3-5 years)
- Cambridge supported updated stretch code from state (pending)
- What are the ways to plug into state efforts to either influence or accelerate policy?
- Regulation not appropriate for long term framework
- Active stakeholders want net zero to happen and the State is having a parallel discussion
- No regulation or requirement for NZ municipal buildings
- State- control over building and energy code
 - Because lots of cities want to be more stringent developed the stretch energy code option (20%) better than old stretch code
 - State conversation update- 15% better than new energy code
- Social justice issue –some homes/orgs could benefit hugely from energy efficiency upgrades particularly if they are large energy users –how can the city help others to afford ee upgrades?

Existing Infrastructure

- Existing buildings currently dominate the building stock
- There is a high concentration of labs, which are the most challenging building type to make huge reductions to
 - Labs and office buildings won't give you incentives of office buildings
- There is currently no smart grid or microgrids
 - Identifying successes and failures of smart grids in other locations, i.e. in Vermont, what has worked and not worked with smart grids?
- Distribution infrastructure is aging, lacking capacity
 - One-directional – grid is not set up for it
- Not allowed to cross the street with power

Zoning/Code/other

- Existing Green Building ordinance exists and is a good start- a foundation to build upon
- Cambridge has the authority to create special zones (precedent in Kendall Square)
- There are not minimum fit-out standards or guidelines
- There is a pending energy use disclosure ordinance
 - WG members discussed a disclosure requirement focused on tenant consumption, could lead to public "shaming"?
 - Example: Charlotte, NC – full disclosure by tenant
 - How is the city currently going after this data?
- There could be more targeted coordination at the larger planning scale planned development areas

- Carbon budgeting not required or incentivized
- Current code requirements are not “use” specific
- There are no “solar ready” requirements or district energy “ready”
- POE and Cx are not happening a lot and are not required
- Transportation demand management (TDM) ordinance may be a good example to use as a model
- Consider DIS incentives for development that creates barriers to being NZ ready
- Important to address land use issues; micro-climate and landscaping
- City level issue- pooled generation issues to feed multiple properties – now you are a utility- requires a zoning change
- City has authority to zoning
- Zoning LEED zoning standards
 - If zoning slows down – go up to gold, relatively straightforward
 - LEED raising bar, but not houses
- Energy credits – race toward minimum requirement
- No innovative design in Cambridge
- Recommissioning to leverage daylight

Utilities

- Utilities determine “cost effective” which can rule out strategies and create missed opportunities
- MA agency regulation drives utility programs, there are many programs, but some targeted programs don’t exist (labs)
- If you own more than 1 building and want to power them collectively, you become a utility
- NGRID programs are more comprehensive than NSTAR
- Current incentives (mass save) don’t take a whole building approach
- “Deep energy retrofit” did exist but is currently unfunded
- Utility feedback (i.e. how you do next to your neighbor) is good for residential but doesn’t target commercial or labs
- There is a prohibition on doing more than 25% cogeneration – cogeneration is a good way to save energy
- Electrons can’t “cross the street” in order to group or network buildings

Energy Efficiency

- There is currently no requirement for energy audits like NYC’s local law 87, which requires buildings over 50,000 square feet to undergo an energy audit and retro-commissioning every 10 years; each building is its own situation
- There are no targeted ordinances like NYC’s local law 85 requiring renovations to meet current lighting/energy code or Local Law 88: Lighting Upgrades and Sub-metering of common areas
- Current energy audit not a whole building approach; just addressing the envelope is not comprehensive
- Utilities are currently the only provider of EE programs/incentives, no city run programs like Seattle’s model – “cash for clunkers” for appliance upgrades
- Building upgrades are not required upon turnover or sale of building or even for minor changes such as the change of use or expansion of buildings
- Heat recovery in existing buildings and other strategies is not being done and is not required
- Currently no tenant targeted outreach. Tenant goals are not aligned with owner goals
 - Fit out standards? And rent structures?

- When a building is designed, you know what energy use will be; It has energy model 30% range of improvement
- To get beyond 35% tenant has to be part of the equation; tenant may not be in line with energy conservation
- Code allows tenant to act that way- Change behavior – how people are using buildings
- Tenant lifespan is 5-10 years in building – this is a short window
- University internal standards for lab design and operation drive what commercial developers are doing- standards are not uniform or coordinated
 - Clarify safety standards
 - Novartis – successful of reducing air flow due to teamwork by health and safety managers and facility managers

Market Forces

- Rent structure (triple net leases) define the commercial market
- There is currently no offset program
- There are limited “ownership” models in place
- Developers – no incentives from residential

Metrics

- There is confusion and conflict over which metrics are valuable and effective, which reflect reality versus distort (such as EUI) – is it by type or by value?
 - Developing a tool to differentiate buildings by type of space
 - It is critical to recognize different measuring energy use per square foot
 - Use categories to understand building distinctions - to level playing field and public understanding
- Working density has increased, so EUI can be misleading relative to less dense occupancy
- When looking at who is consuming most, it will be important to also look at who can make the most significant cuts within that data? Labs may be a big number, but have a harder time cutting deeply