Boston Climate Action Leadership Committee

Meeting Summary

21 July, 2009

Boston Architectural College, 955 Boylston St. Boston, MA

The meeting began at 9 am and ended at 12:30 pm and was attended by 23 people (see list in appendix).

Documents and Presentations

- Boston CAP July 21 Leadership Committee Meeting Agenda
- Boston CAP Leadership Committee Process Update, Parker and Raab
- Chicago Mitigation Strategies, Chicago Climate Action Plan
- Boston Climate Action Plan Leadership Committee: Mitigation Measures, Raab
- Boston Climate Leadership Committee: GHG Inventory and 2020/2050 Targets, Raab
- Mitigation Measures Appendix, Raab

I. Introduction

Opening Co-Chair comments

Mindy Lubber, CERES put the Boston climate discussion into the context of U.S. and global action. Key points included:

- Now is an important moment in time; national and international legislation and framework (e.g. U.S. Federal cap-and-trade and international Copenhagen meeting in December).
- Even if we do everything we can in Boston, we can't attack the problem holistically without thinking of state, federal, international implications.
- Going to Copenhagen without federal legislation would be the weakest position for the U.S. to be in. The opposition and lack of knowledge in some instances is deep. Stakes are high nationally and internationally.
- The context of what we do in Boston is important; Boston needs to be ready to move on a national bill and to be out ahead of cities, leading by example.

Jim Hunt, City of Boston emphasized the Mayor's commitment to reduce GHG emissions and generally improve the environmental footprint of the city while also improving the economy and community. Key points included:

- Mayor Menino is working with the US Conference of Mayors. Over 900 mayors have signed on to the Conference's climate goals and are in the fight in the Senate.
- Business Week ranked Boston as 2nd most attractive clean tech city behind California cluster.
- The City is on track to receive $6 million from federal funds for energy efficiency. RENEW Boston will be a significant part of this work.
- There have been several meetings with state counterparts to coordinate efforts under the Green Communities Act. The Commonwealth has working groups on mitigation and adaptation.

- Staff has been working to form the Community Advisory Committee to give feedback on LC's work and also to engage every neighborhood and resident in climate change and to make sure that economic opportunities flow as well.

After the introductions from the Committee co-chairs, co-facilitator Cynthia Silva Parker provided a brief overview of the norms of collaboration and encouraged all committee members to follow the norms. Consensus was reached that the norms were acceptable.

Meeting Goals

Co-facilitator Jonathan Raab then reviewed the goals for the day's meeting:

- Agreement on 2050 and 2020 goals for carbon reduction for entire city
- Identify and prioritize building and transportation mitigation measures
- Awareness of CAC status
- Solicit CAC liaison working group volunteers
- Develop next steps

Summary of Key Agreements

- RE: Agreement on 2050 and 2020 goals for carbon reduction for entire city

  2020 Goal--At least 20% reduction, with desire for higher 2020 goal (e.g., 25%) if ultimate mitigation portfolio can support setting a higher goal. (Will revisit later in process)

  2050 Goal—Adopt MA goal of 80% reduction

  Base Year--Ok to use 2005 as base year unless we can get better data for 1990

- Re: Identify and prioritize building and transportation mitigation measures
  See detailed notes below.

DETAILED MEETING NOTES

II. Baseline and GHG Reduction Goals

Dr. Raab presented slides regarding the MA and Boston baselines and projects to provide context for a Committee conversation to set a 2020 and 2050 emissions reduction goals

General background on baseline and business as usual

- Business as usual projections are assumed to include the impact of all of the efforts currently underway (at current levels).
- Note that 2005-2006 dip in GHG is mainly due to the aftermath of Hurricane Katrina, reduction in fuel production increased prices causing fuel-switching from oil to natural gas and conservation
- Boston buildings (residential and commercial together) = about 75% of GHG; transportation 25%

- Compared to MA as a whole, Boston transportation is lower % of GHG, buildings are higher

GHG numbers do not include the emissions related to goods we consume in our state that are produced in other places such as food or cars. Conversely, goods that are produced here and consumed elsewhere are included in our GHG emissions calculations.

Emissions per capita

- Boston emissions per capita are the same as Chicago, not as good as NYC or Copenhagen (where 36% of people commute to work on bikes)

State and City projections

- How MA got to the overall projections:
    - Transportation projected to increase emissions.
    - Electricity consumption projected to decline.
    - Residential, commercial, industrial project to decline slightly.
- So State total looks like an almost straight line, but is sum of different factors.
- Used the same assumptions to project the city emissions through 2020, assuming we're roughly constant with the current policies in place (flat line emission projection)

Current targets

- In 2007, Mayor Menino established a GHG reduction target of 80% reduction below 1990 by 2050 for municipal operations. MA adopted the same goal for the entire state in 2008.
    - The question is whether we want to agree to the same target for the city as a whole
- Why this goal nationally and internationally?
    - Based on current models, to keep temps to no more than a two-degree rise over whole planet and allow limited growth in some developing countries, industrial countries need to reduce emissions by 80%.
- MA is required under Global Solutions Act to pick a number between 10% and 25% for its 2020 interim goal by January 2011
- To get to 80% by 2050, what trajectory do we want to be on to get there?
    - If we start with 2010, straight line reduction is 20% by 2020.

Reductions from existing policies and programs

- New policies in Green communities Act and other programs to expand energy efficiency and renewable energy programs and recent agreement between President Obama and care manufacturers re: CAFÉ standards. "Pavley" standards (named after Senator Pavley)
- If all of this is implemented as intended, we could get roughly a total of 13% additional reduction.

Questions on targets

Question: If you take NYC and Denver, goal of reduction from 2005 levels, what would that mean compared to 1990?

Answer: In MA, 1990 and 2005 are about the same. For Boston, also assume about the same but don't have good 1990 Boston data set.

Q: Why 2005 baseline instead of 1990 for some cities?
A: A lot of the international agreements center on 1990; however often not good data tracking that far back. That's why some cities track from 2005.

Q: What would it mean to MA to reduce 80% by 1990?
A: 80% of 94 for MA would mean we can only emit about 19 million tons, which is a huge decrease. However, that is already state law in MA through Global Warming Solutions Act.

Q: Are we assuming 1990 = 2010?
A: Yes. We're assuming a flat line from 2005 to 2010, and that 2005 is around the same as 1990.

Goal Setting Discussion

James McCarthy opening comments

- The slope of reduction line matters, especially in terms of sea level concerns
- The aspiration should be to do everything that can be done, that makes economic sense, as soon as possible.
  - Recognizing that in some areas we can't change the trajectory for vehicle efficiency, probably can't get more aggressive over next 5-10 years. Those have some rigid constraints.
- From our personal experience on university campus, energy efficiency in buildings can see major gains.
  - Harvard goal is 30% reduction from 2006 by 2016.
- Sitting back and waiting seems like a dangerous strategy. Lose competitive advantage.

Q: Is 80% reduction by 2050 still the accepted goal for industrial countries?
A: Yes. When we get started and see how easy it is and what innovation it spawns it may be possible to get more aggressive. If we see by 2020 that the decline is not steep enough, we will see what to do.

LC Discussion on what 2020 and 2050 goals should be (following are points made by one or more Committee members of goals)

- "20 by 20" is an easy number to talk about. Balance of science and economic feasibility.
- Don't want to let economic downturn impact GHG reduction target (i.e. already significant reductions due to slow economy, so need to be more aggressive to reduce well beyond this as economy recovers).
  - Maybe 20% isn't aggressive enough
- Limited mitigation options might prevent aggressive 2020 targets:
  - Limited opportunities in energy supply, and not enough new construction to matter by 2020
  - Transportation—Lucky if we can just keep the VMT from going up to not offset the gains from more efficient vehicles

    - Most of the reductions would need to come down is what we can squeeze out of the existing building stock beyond what's already embedded in energy efficiency programs

- Operational aspects of the building often overlooked and offer significant energy and GHG savings.
    - Take existing equipment, make it work better, 8-20% savings potentially in average commercial building.
    - If you look at building stock nationally, only 5% have been commissioned up front.
    - At EnerNOC, looking to mine the building for data, find opportunities to make it more efficient, there are other ways to get at more energy efficiency that is available today.
- Concur that VMT issue is going to be really hard. Will be hard to get the 4% out of transportation. Also not sure we'll be sustaining alternatives to cars, not planning to add transit capacity by 2020.
- Even though there might be more technology to get to a more aggressive goal by 2020, not sure we should go there. There are things that are known that could jeopardize getting even to the 20%.
- Question of people's behavior. Capital structure of buildings, and how people behave in buildings.
- The question is not whether existing buildings can reduce at least 20%, but how we roll out to get as close to 100% of buildings as possible.

LC discussion on choosing a base year of 1990 or 2005

- Other cities using 2005, would give us something to compare to
- Don't have good data for 1990; but what we do have suggests Boston and MA are pretty much the same 1990 and 2005
- May be a way to get some data to see if numbers match up (emissions and population numbers)
- 1990 has been the framework for MA and also what City has used, e.g., 2007 Exec Order sets targets around 1990
- Good to acknowledge the work folks have been doing since 1990
- Note that this is still remarkable—Flatness of 1990 to 2005 and beyond under "business as usual" indicates that programs we have put into place, have halted GHG growth.

Dr. Raab led the LC in a discussion about what the 2020 and 2050 targets should be as well as which base year to use. After some discussion the LC unanimously agreed to the following:

2020 Goal-- At least 20% reduction, with desire for higher 2020 goal (e.g., 25%) if ultimate mitigation portfolio can support setting a higher goal. (Will revisit later in process)

2050 Goal—Adopt MA goal of 80% reduction

Base Year--Ok to use 2005 as base year unless we can get better data for 1990

Following the LC's agreement on goals, Mindy mentioned that she will be spending ½ day with Adelle Simmons, Chicago, and will try and find out what led them to selecting a 25% by 2020 goal and report back.

III. Mitigation Programs and Policies

Dr. Raab assisted by several LC members who participated in the Buildings and Transportation work groups, presented a series of slides illustrating background building and transportation data, existing and planned programs and policies, and brainstormed ideas from the work groups.

Dr. Raab stated at the outset that both MA and Boston have a myriad of mitigation programs and policies already in place, and are looking for additional mitigation measures to improve or supplement the existing portfolio.

Existing federal and state programs and policies

- Utility energy efficiency programs: NSTAR has been aggressively running efficiency programs for 20 years; funded by charge on all utility bills. Consultants to MA estimate utilities could triple this and still have cost effective efficiency.
- Building codes/Green Communities Act requires MA to adopt new efficiency codes within 12 months of IECC adoption (which is on a 3 year cycle). These apply to new construction and major renovations for both residential and commercial construction
- Federal and state appliance standards. Obama Administration fast tracked this. Will probably see more federal standards and fewer sate standards
- State lead by example: build to LEED Silver standard
- Renewable system benefit charge: on electric bill to invest in renewables

Boston programs and policies

- RENEW Boston-one stop shop to participate in efficiency programs (not on street yet)
- Federal Energy Efficiency and Conservation Block Grants approximately $6 million to spend over next 36 months
- Boston Green Building Article 37—for large new construction to meet LEED certifiability or better
- By executive order, municipal buildings must meet LEED Silver standards
- Green Affordable Housing Program, to build to either LEED Silver or Energy Star standards

Buildings Presentation (Dr. Raab with Bryan Koop, Boston Properties)

- More focused on commercial than residential
- Green Building Programs and Policies
  - Building and zoning
    - Support enforcement
    - Put in 'stretch codes'

- Rating, labeling, benchmarking – HERS or Energy Star rating for residential; similar rating scheme on commercial. If building is not doing well, also give advice about how to improve rating.
    - Benchmarking is the language of business. We love benchmarking and achieving goals. Good to get those things together.
- Green roofs
    - Computer simulations with BRA to find impact of aggressive promotion of green roofs. Can include light color roofs, PV, or vegetation. A lot of debate about how much it helps.
- Performance-based incentives -- How do we make the economics work with us?
    - Dr. King said two things are important for social change: (1) government/laws and (2) the economy.
    - Options to get the economics working for us:
        - Density bonuses
        - fast track permitting
        - fee reimbursement
        - grants
- Economics of solar PV better now than several years ago, and more creative financing options
- Additional issue of how to connect small-scale, on-site renewable energy (distributed generation) to the NSTAR-downtown network

Buildings Discussion—following are comments made by one or more CAC members following the buildings presentation

- Bring in financial community more broadly
    - E.g. Power Purchase Agreements (PPA) for solar PV (and look into for solar thermal)--contracting solar project out to third party who will install and operate the system. Contingent on long term contract for facility to buy electricity at a reduced rate, and potentially third party to buy the RECs
    - Bringing banking institutions together, providing loan guarantees--that's what the federal government is doing, to backstop the risk; maybe we could emulate
- Lighting retrofit = big impact for existing buildings
- Buildings are often not owner occupied; economics don't always make sense when owner doesn't occupy.
- Need more/better/different incentives for small businesses
- May need to differentiate residential programs by building size, and ownership.
- Like benchmarking. Building owners want to see return on investment. E.g., be able to communicate the value of a green building to tenants.
- Green roofs—Government Center Garage redevelopment project (Bob Fox, NYC developer with a lot of green roof experience and information)
- Consider how to incentivize/regulate tenant-based efficiency improvements in Boston's building code.
- Need emphasis on commercial buildings since that's where most of energy in Boston is consumed
- Schools – Important energy saving opportunity, and also helps with building a culture of sustainability-- as kids take projects home, another way to move things back upstream

- Documented behavior changes—where is the data on how to encourage behavior change and response to incentives, i.e. data to show that behaviors actually changes as a result of specific incentives?
- How to use vacant land: urban farms/orchards as carbon sequestration potential
- Need to provide ***feedback to people on energy usage and comparative energy usage***; commercial and residential "smart meters"; Google dashboard, glowing orbs, etc.. Studies show that is compelling for people. "How am I doing relative to my peer group?" "I'm doing better/worse than my neighbors."
- Look at universities for evidence re: how behavior change has worked and role of information in creating self-motivation to change behavior.
- Offer options for different kinds of buildings separately
    - Create matrix of building types and incentive program/policy options

Jim Hunt: summary comments

- We will ultimately need to focus on what's in city's toolbox, which will largely come down to requirements on the building sector.
    - Some programs are more voluntary through education approach. E.g., solar, 200% increase in participation. But that barely scratches the surface on reductions.
- From a policy point of view, we need to deploy the most cost effective options first. E.g.:
    - Benchmarking
    - Stretch code for new construction
    - Cost/benefit analysis re: payback and how to educate business and development communities re: recouping those costs. That's where green lease comes into play. Particularly for anything we're requiring.
- We're at a time where incentives have never been better. How to be sure businesses can recoup investments?
    - E.g., when I hear green roofs—great on storm water reduction maybe not as much on GHG reduction

Transportation Presentation (Dr. Raab with Stephanie Pollack, Northeastern University and Rick Dimino, A Better City)

General background info

- Car ownership rising in Boston faster than state.
    - > 1/3 households have no car, seeing increase in 1-3+ car households.
- Vehicle miles traveled is going up. Usual expectation is 2-3% increase/year.
    - It's considered aggressive to get it down to 1% increase/year.
    - Miles/car is increasing and # cars are also increasing.
- The # 1 determinant of mode of transportation is your destination, not point of origin. E.g., if you live near T but work away from it, you drive to work. Have to figure out the jobs piece or serve job-dense locations with new transit options.

- Only 1 in 10 trips go to/from work. But, if you don't use car to get to work, your whole travel behavior changes. Getting people to walk/bike/transit to work is lynchpin for changing driving behavior.
- Boston is one of the only major cities with no control over its transit system--T runs everything. The city doesn't own a bus. Our transit future is hinged to the T.
- Boston is only major US city with parking freeze
- Bike share program-just about to issue contract; and Boston plans to create 10 miles of new bike lanes/year (some will require removal of parking spaces)
- One of the things we have less control over is commuters; city's population doubles by day, but city doesn't influence those transportation options as much as other cities can.
    - About 60% of those trips are via alternatives to cars. That explains why our mobile source pollution is lower than other parts of state.
    - Future job growth will mean that we have to still work on getting more and more folks to take alternative modes of transportation. E.g., job growth strategy related to sprawl vs. growth in relationship to existing transit infrastructure.
- How to become a "transit first" city. E.g., Cambridge has a policy around collecting info from workers about how they commute. Having that info has actually changed behaviors.
- "Complete street' design for pedestrians, bikes, buses, not just cars

<u>Goals we discussed in working group:</u>

- How do we think about 2020 and beyond?
- How to influence people to make the investments?
- How to reduce # vehicles/household or keep it to 1?
- How to shift away from single occupant vehicles?
- Private parking is not part of parking freeze. Do we want to change that? Influence that? Impose fees to generate funds to pay for other measures?
- Relationship between green buildings and transportation?

<u>Synergies between transportation and buildings</u>

- As we reconsider what we mean by green building, think about the transportation piece simultaneously. e.g., location, use mix…
- Concentrating population and jobs growth in the city is a carbon reduction strategy for the region and state.

Transportation Discussion--following are comments made by one or more CAC members following the transportation presentation

- Consider school related transportation.
    - A lot of students ride T to get to school.
    - How to improve the efficiency of getting kids to school, filling buses, promoting rather than prohibiting biking…
    - When you involve schools and universities you always have double benefit (educational component of students and carrying message home)
- Consider influencing fleets in addition to taxis (great hybrid candidates)—including other private fleets, moving vehicles, UPS, postal, etc., hotel shuttles, MASCO,
- Looks highly unlikely that any new major transit asset will be completed by 2020, except maybe Green Line to Somerville.

- Collect company/building-specific info on how people commute to work
    - Make that part of developing company/building carbon footprint; a more holistic way to look at building and transportation.
    - Encouraging, educating, taking corporate responsibility bridges building and transportation
- Need to also consider water transportation
- Congestion pricing –
    - General agreement from group that parking freeze serves as a congestion pricing model.
    - Roadway pricing is banned in new legislation—can't use a toll for anything other than the road the toll is collected on.
- Google application for transit coordination (e.g. coordinate car pools and ride shares via iPhone)
- Look at electric vehicles;
    - City is working with M IT lab, led by Bill Mitchell and GM, re: how to make parking meters electric car recharging stations; filed for stimulus funds

Next Steps

- Focus on 3-4 of the potential mitigation options in buildings and transportation with the most opportunity for impact in each area and think about how to make them work
    - Voluntary is good, but moving categories of people vs. inch by inch to get to goals.
    - Need to look at big opportunities and with each how to execute in most effective ways
    - Make a list of these options along with a strawman proposal for implementation and impact for the next Committee meeting
- Create matrix of building types and incentive program/policy options to further the conversation about pursuing different options for reductions in different building types and for different owners and tenant types
- Form new Working Group to act as Leadership Committee liaisons to Community Advisory Committee--John Connolly, Rebecca Park, and Vicki Bok volunteered. Cynthia will send out invite to other LC members not at meeting
- Schedule follow-up Buildings and Transportation WG meetings
- Follow-up questions
    - What does the city project for employment and population in 2020 and 2050?
    - Can we get reasonably good GHG baseline data from 1990?
    - Do residential housing figures include on-campus housing?
    - Where is the data on how to encourage behavior change and response to incentives? Look at universities for evidence about how behavior change has worked and the role of information in creating self-motivation to change behavior.

Feedback from Members on LC Meeting

- Many LC participants expressed that they liked the level of detail and information, including useful graphics, provided by the presentations

- Many also suggested that due to the large amount of information it would be useful to receive more data prior to future meetings to allow them to better prepare
- Others suggested it would be useful to explain jargon and acronyms so that the whole group understands all information being presented
- The suggestion was made to avoid bottled water

Boston Greenhouse Gas Plan Update Process – Leadership Committee Meeting				
Second Leadership Meeting, July 21, 2009, Boston Architectural College, 955 Boylston St. Boston, MA				
Last Name	**First Name**	**Organization**	**5.26.09**	**7.21.09**
Barnett	Kalila	Alternatives for Community & Environment	X	
Bok	Viki	Jamaica Plain resident	X	X
Buckley	Mark	Staples		X
Connolly	Hon. John	At-Large Boston City Councilor	X	
Coyle	James	Boston Building Trades		X
Dimino	Richard	A Better City	X	X
Escarfullery	Galicia	Hyde Square Task Force	X	
Hammond	Rev. Ray	Bethel AME Church/Ten Point Coalition		
Healy	Timothy	EnerNOC	X	
Hegland	Olav	EnerNOC		X
Hunt	James, III	City of Boston	X	X
Koop	Bryan	Boston Properties	X	X
Landsmark	Ted	Boston Architectural College	X	X
Lubber	Mindy	CERES	X	X
McCarthy	James	Harvard University and UCS		X
McDermott	Chuck	RockPort Partners	X	X
Nitsch	Judith	Nitsch Engineering	X	
Park	Rebecca	Climate Action Network	X	X
Pollack	Stephanie	Northeastern University	X	X
Queeley	David	Trust for Public Land	X	
Ris	Bud	New England Aquarium	X	X
Saunders	Tedd	Lenox Hotel/Eco-Logical Solutions	X	X
Williams	Margaret	The Food Project	X	
Facilitation/City Staff				
Raab	Jonathan	Raab Associates	X	X
Spector	Carl	City of Boston	X	X
Swing	Bradford	City of Boston	X	X
Glascock	Bryan	City of Boston	X	
Glickel	Jake	City of Boston	X	
Larsen	Walker	Raab Associates	X	X
Rivo	Susan	Raab Associates	X	X
Other				
Menino	Mayor Thomas	City of Boston	X	
Frumhoff	Peter	UCS	X	
Grogan	Paul	The Boston Foundation	X	
Griffin	Jill	The Boston Foundation	X	
Kleiman	Scott	CERES	X	
Puerto	Mariella	Barr Foundation	X	X
Reddy	Matt			X
Robinson	Samantha	BU student		X
Schwob	Olivia	City of Boston intern		X

Skelton Rogers	Mary	Barr Foundation	X	X
Straus	David	ABC	X	X