

**CITY OF CAMBRIDGE  
CLIMATE PROTECTION ACTION COMMITTEE**

**MINUTES**

**JUNE 10, 2021**

*Present:* Melissa Chan (chair), Tom Chase (Secretary), Rosalie Anders, David Rabkin, Peter Crawley, Paula Phipps, Trisha Montalbo, Lauren Miller, Fred Hewett, Ted Live, Keren Schlomy, Lyn Huckabee, Jerrad Pierce; *staff:* Susanne Rasmussen, Bronwyn Cooke, John Bolduc

*Guests:* Andrea Love, Torrey Spies, Alex Steinbergh

**The May meeting notes were approved.**

**ETP Director's Report**

- Next week, June 17 from 6-8pm, public meeting on the Resilient Cambridge Plan. We will have a plan by next week! It'll be online soon; we're just waiting for web page to be released.
- Review of the Zondervan petition – zoning to require calculation of embodied and lifetime emissions for new projects and translate that into a payment into a fund for climate change-related purposes. It'll be before the planning board and city council soon. CDD is working up an analysis. There's a question of whether the requirements constitute zoning, which would involve certain legal matters.
- We're going back into the office. By late July we'll be at 100% in the office. We're not sure yet how/when it'll affect our meetings.
- Happy news! Seth had a second child in late May (daughter, Lila). He'll be out for the next three weeks, then part time for several months.
- Not so happy news. Bronwyn is moving to Vermont. Her last day will be June 25.

**MIT's Fast Forward Plan - Julie Newman, MIT Director of Sustainability**

- Julie sits on the Net Zero committee. She was accompanied by Nicole Morell.
- As context, this all has emerged since 2014 or 2015, when MIT had no plan.
- The new plan is available at: <https://climate.mit.edu/climateaction/fastforward#NewPlan>

**Core elements of FAST FORWARD: MIT's Climate action plan for the decade**

- 32% reduction from 2014 was the original goal, but MIT is now aligning with the City and with Harvard in its goals. It's aiming for net-zero by 2026 and eliminating direct emissions by 2050.
- Principles for addressing the world's' climate challenge – NOTE THAT our goal is at the WORLD-level:
  - Go as far as we can as fast as we can with the tools we have now.
  - Invest in, invent, and develop new tools
  - Educate and empower the next generation
- Key thrusts in the plan

- Support innovation and startups
- Engage with leading companies to transform the economy
- Foster and inform interdisciplinary research
- Select critical research problems, key solutions to create and scale
- Informing policy, decision-makers, citizens
- Responding to the challenges of the developing world
- Educating a new generation of leaders and innovators
- Reducing MIT's own climate impact, both direct and indirect, including investment
- Climate resiliency planning
- Julie manages a huge portfolio. The goal is to be net-zero by 2026 and eliminate direct emissions by 2050.
  - More solar on campus
  - EV vehicles/infrastructure
  - Carbon offset options with regard to Scope 3
  - Look at other MIT properties (not Lincoln Labs, though)
  - More localized plans for people/parts of the campus
- Strengthening within MIT
  - 20+ new climate/sustainability faculty
  - 100+ fellowships
  - Symposia
  - Fundraising
  - Governance structure to help manage all this activity
- There's a new powerplant that's 10% more efficient than the past plant. It'll produce all of MIT's power, steam, hot water and it'll have lower carbon intensity than the grid for at least the next 15 years. It's a bridge to where we need to go; but we need to plan that.

Questions:

- Julie W: How do you keep hope up, how to address the psychology of this?
  - Julie N: It's a big question. That's what Clark's program (Undertain Human Future project) is all about. It's one attempt. It creates an opportunity for humanities to play more of a role. I tapped into some research on the psychological impacts of CC on students and how to support that; but I haven't seen action. Just research so far.
  - Julie W. points out that if we can do collective action, fewer people will be left behind. If we act as libertarian Americans, a lot of people will be left behind who don't need to be.
- Peter C: With all the goals placed on electrification, in your analysis, have you developed a sense of whether Eversource has the ability to supply all our buildings? Also, in thinking about boundaries and will include Volpe, will all Matimco (?????) properties be part of this?
  - Julie: I can't answer for all properties because of how leases are handled. I'll circle back on that. Some our lessees have more aggressive goals than MIT (e.g., Novartis). I don't have the answer RE Eversource. But there's a lot of concern about it.

- Susanne: The City is engaged with Eversource on their forecasting and capacity to meet future needs. They don't yet have a plan to reflect the changing climate or increasing electrification. They do know that they need one, though. We have the utilities presenting to the Planning Board every year. Right now, they're planning with a 5-year horizon (that's not enough), and they're forecasting GREATER gas consumption in the city coming up. They are engaged with Offshore Wind as a major effort in renewable energy. It seems unlikely that we can do enough in the way of efficiency improvement to eliminate the need to further develop the electricity distribution infrastructure in Cambridge.
- Paula P: We see a role for ecosystems preservation and restoration in urban areas. There was something I missed around nature-based solutions.
  - Julie: The Environmental Solutions Initiative has launched a program called Nature-based solutions. It's part of the emerging research agenda, and I'd be happy to follow up with it.
- Tricia M: How has alignment with Harvard worked?
  - Julie: We're connected to Harvard, in that there's a group of institutions working with aligned goals. We can make greater progress, faster, when we collaborative in research and on campus improvements. The alignment creates more opportunities for collaboration. There's a lot of work going on in parallel around climate justice.

### **Embodied Carbon – Andrea Love**

- Proposed plan, within NZAP:
  - NZAP focused on operation carbon, but because of its significance, we are proposing short, medium and long term goals related to embodied carbon.
  - Short term actions (1-2 years): Every project provides an embodied carbon narrative. Policies to encourage reuse of existing structures. Education, assessments of impacts of different kinds of building materials, peer learning.
  - Medium term (3-5 years): Require whole building lifecycle analysis and demonstrate 20% reduction in embodied carbon.
  - Long term (5+ years): Lifecycle analysis showing 50% reduction in embodied carbon.
- Two approaches are needed for thinking about embodied carbon:
  - Different materials and their intensity of embodied carbon
  - But you also need to look at the larger picture which considers reuse, too.
- Suggestion from John: Can there be some kind of guidelines from the City about what should be included in the narrative? That could be helpful.
- David asks: What is the baseline that we use for assessing reduction? And don't we need to put a lot of emphasis both on reuse of existing structures? Also, don't we need to think about the longevity of the structures we build?
  - There's research that's getting us to the point where we have some data for establishing baselines for different kinds of projects. But we don't have good data.
- Tom C: Are you seeing shortcuts that help people get up to speed with the tools for doing material quantity assessments?

- Andrea: There are tools being developed, some free. A challenge is that we don't use many of the tools until late in the design process. There are new tools that help move thinking about embodied carbon earlier in the process.
- Paula: Is there anything currently in our policies that drives reuse of existing buildings?
  - Melissa: No. This might be the first of it's type.
- Peter: What about the punitive part of this petition? How should we think about integrating parts of the petition into NZAP?
  - John: Concern that the petition relies on the ability to do a lot of calculations. Data availability is a constraint. And the mapping into financial penalties raises questions about consistency. Can we really require calculations to that high a standard?
  - Suzanne clarifies: The petition requires facilities above a certain size to report emissions from production and delivery of all building materials used and for on-site construction. Doing that well, and consistently across projects, is challenging to say the least. If it's approved as zoning, it requires conformance NOW. Can that standard be met now? That doesn't seem to be where things stand now.
  - John: Operationally, we have a sense of how to get to zero emissions. But how can we get to zero emissions of embodied carbon? Seems we can move toward zero, but not get there, unlike with operations.
  - Melissa: Could there be 3<sup>rd</sup> party review? That's pretty standard in some energy industries.
    - Susanne: For LEED you need 3<sup>rd</sup> party certification. So we put that kind of thing into regulations. It's one thing to certify compliance to a standard. But there isn't an established standard for embodied carbon assessment.
  - Bronwyn: It's important to remember that our goal is to send market signals that shift the market rather than to accurately measure embodied carbon.
- David asked whether commissioning and maintenance need to be part of how we think about life cycle assessment. It clearly relates to operations, but if lack of maintenance shortens the lifetime of a building, then we're prematurely paying a big embodied carbon cost when we [prematurely] replace it. Is this something to consider at this point?
  - Andrea and John discussed that there's some work on some commissioning of building facades to ensure they're functioning as designed. But it's not ongoing or focused on maintenance.
  - Susanne: Zoning requirements must be fulfillable by the time the permit is granted. So you can require a plan or a contract be in place.
- John asked: Are their concerns about this for affordable housing?
  - Andrea: No concerns raised so far.
  - Peter: It's mentioned under equitable design.

No announcements from the group.

No questions/comments from the public.

*Notes by David Rabkin*