Zero Emissions Building Taskforce (ZEBT), Municipal Existing Buildings Workgroup
MEETING 03: March 19, 2020

Member Roster
>> Virtual meeting held via Microsoft Teams.

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<th>PRESENT</th>
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<tr>
<td>X</td>
<td>Anthony Bernheim, SFO</td>
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<td>Julia Laue, DPW</td>
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<td>X</td>
<td>Eden Brukman, SFE</td>
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<td>Kay Kim, SFDPH</td>
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<td>X</td>
<td>Emilie Hagen, MGBTF* Rep., Atelier10</td>
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<td>Masoud Vafaei, RED</td>
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<td>Erin Cooke, SFO</td>
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<td>Richard Berman, SFPort</td>
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<td>Eugene Ling, DPW</td>
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<td>Roberto Lombardi, SFPL (Todd Robinson-proxy)</td>
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<td>X</td>
<td>Heather Green, ORCP (in part)</td>
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<td>Sachiko Tanikawa, RED</td>
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<td>Jaime Seidel, SFPUC</td>
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<td>Soe Thu, DPW</td>
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*MGBTF = Municipal Green Building Task Force

Also in attendance: Daniel Young, SFPUC.

Agenda
- Recap of Meeting 2 (Eden Brukman - SFE)
- Evaluating our current position and progress: How do we know we’re on track? …doing enough? (Lane Burt, Ember Strategies; All)
- System map overlay: How does our process evolve to allow for appropriate action? (Lane Burt, Ember Strategies; All)

References
- 2016 San Francisco Municipal Decarbonization Report

Notes
- Reviewed and refined decision matrix from Meeting 02 (See attached updated diagram)
- Discussed the ‘range of possible futures’ and ‘pathways to zero carbon’ (See slides, copied below)

Range of Possible Futures

![Range of Possible Futures Diagram](attachment:diagram.png)
There are many paths that can lead to decarbonization.

- What trajectory does our current process set us on?
- What process changes are necessary to move from our current path to ‘0 by 2050’?
  - What does the difficult intervention look like?
  - How do we do even better than that?

**Proactive Coordination**

- It would be beneficial to have a comprehensive and centralized documentation of existing municipal building stock that can be queried via a standardized method, flexible to respond to department needs
  - Important to start with what we know about municipal portfolio and electrification requirements
  - Would be helpful to offer guidance on implementation
  - Use a common language for clarity and ease of adoption
  - Use life cycle assessment in early stages to determine building upgrade projects
  - Suggest ways for departments to innovate on project proposals
  - Educate project teams about options and repercussions
  - Reference existing benchmarking requirements (SFPUC annual report) and inventory of natural gas boilers completed as part of the 2016 San Francisco Municipal Decarbonization Report

**What we can control vs. external uncertainties:**

- Internal: design costs, consistent signal
  - Early capital planning stage is competitive with limited funding overall, helpful for electrification and other priorities to be clearly integrated and weighted in assessment criteria
  - Need to provide structure for proposals to include the cost of inaction or total cost of ownership including resilience/loss of functionality
    - SFO planning group builds the budget into the earliest feasibility studies so that concepts and requirements are covered.
    - Port is starting to bring LCA into early stages of defining project requirements.
    - Departments have different funding realities and projects may be scaled back or deferred, as necessary.
- Incentives for fuel-switching would be required through ordinance. That signal has great value for buy-in (to establish the goal a strong signal is needed, but to implement the funding must be available)
- Cost of inaction vs action
  - Need to shift away from a ‘scarcity’ mindset and total budget competitiveness
  - Important to recognize the savings through resilience planning
  - Best to take action when it makes the most sense: lease changes, other upgrades, end of life, etc.
  - Most costly to wait until tough circumstances force action (e.g., earthquake recovery)
- Consider: existing tenant agreements and extended contracts (e.g., restaurants at Port/SFO)

- External: technology availability, access/space constraints, service upgrades, historic preservation requirements
  - Projects with technology limitations should be on a different track
  - Projects that are easier to implement may not have as significant carbon savings
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Mapping Exercise: “Deciding what to do and when to do it”

Updated - Meeting 03: March 19, 2020

*Not only Public Works. Could also be other empowered department per Admin Code Chapter 6

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**STEP 0:** SFE/ORCP establishes a basis for action
- Have the data ready to inform priorities and decision making.
- Standardize data and allow for adjustment by departments based on their needs.

**STEP 1:** Department identifies a need
- TYPICAL TRIGGERS:
  - emergency
  - end-of-life
- NOTE:
  - Very few whole HVAC replacement requests come to ORCP - triggers clarifications/questions about project because marginal costs for whole HVAC replacement can be very high.
  - If goal is 3% replacement per year, will require additional money

**STEP 2:** Public Works* provides a Project Development MOU (Scope) the “plan for the plan”
- OPPORTUNITY: Ask about possibilities for including electrification in scope

**STEP 3:** Public Works* provides ROM $ opps. for triple bottom line analysis
- Software like AutoCase, Archibus (other cities already using - L.A.)

**STEP 4a:** Department determines if budget is available (CAPEX, OPEX) when does it pay for itself?

**STEP 4b:** ORCP negotiates $ available to fit within fixed amount
- 2 yr budget, updated annually
- ORCP tries to solve with cash - goal is to not go back to board to request more $ If debt: CPC→MBO→Board
- No source for long-term “problem” $ If cash: Budget Committee→MBO→Board

**STEP 5:** Public Works* (sometimes private firm) & Department DESIGN
- CONSIDER: Currently externalized Budget impacts
  - (+) Carbon saved: credit?/offset program [set a citywide carbon budget with department allocations?]
  - (-) Health impacts to people/loss of productivity (e.g., CCF pays for healthcare... different bucket)

**STEP 6:** Project Team CONSTRUCTION

**STEP 7:** Department OPERATIONS
- Need expertise of engineers for innovative solutions that can reduce construction costs

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OPEX:
- * Typically spending less on electricity, lower maintenance costs
- * Enterprise departments PUC rates are more $ - how to offset costs?
- * Retrofits = added loads that require panel/T24 upgrades $