SF Zero Emissions Task Force:
New Construction Work Group Meeting #3

Hosted by SF Environment
Friday, April 3, 2019
Agenda Today

• Welcome and Introductions
• Review of Straw Proposal
  • Revisions from Meeting 2
  • Buildings-in-the-Pipeline Update
• Outreach and Education: Mapping Needs
• What to Expect Next
• Closing Exercise: Who Else?
Introductions

Name, Affiliation, Plus: **One** act of kindness you’ve witness or have been inspired by lately

Name, Affiliation  Name, Affiliation  Name, Affiliation
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Review of Straw Proposal

Cyndy Comerford, SF Environment

Update of Proposal with revisions from Meeting 2; an Update on Buildings-in-the-Pipeline
Building a Zero Emission Future
Contemplating our future
Climate change is still happening
Climate impacts are disproportionate

- Vulnerable populations often hit hardest

- Heat Wave 2017
  - 106° (+37° normal)
  - Record hottest day
  - Surface temps 65–140°
Climate action goals – GHG targets

- **2017**: 25%
- **2030**: 68%
- **2050**: 100%

Reduce as much as possible
Sequester the rest
San Francisco’s emissions sources today (2017)

- Transportation: 46%
- Buildings: 44%
- Private Sector Natural Gas
- Municipal Natural Gas
- Private Sector Electricity
- Landfilled Organics: 6%
- Agriculture & Wastewater: Other...
Methane...a powerful super GHG

Pound for pound, methane traps more heat over 20 years
Natural gas impacts . . .

Safety

Health

Resilience

Equity
Natural gas impacts safety

Image source: ABC7 News (SKY 7)

Richmond District

Image source: Chronicle, Michael Macor

Hall of Justice
Natural gas impacts health
Natural gas impacts resilience

Estimated Time to Restore Utility Service after 7.9 Magnitude Earthquake

- **Gas**

  - 1 WEEK ~
  - 95% Electricity RESTORED
  - ~6 MONTHS
  - 95% Gas RESTORED

Source: Lifelines Council, April 2014 San Francisco Lifelines Interdependency Report
Natural gas impacts equity
It’s time to prepare
Proposed Ordinance
All Electric New Construction
Authority and requirements

**Authority**
SF Building Code Section

**Requirements**
Natural gas infrastructure shall not be extended to any system or device within a new building for which an equivalent all-electric system or design is available.

Also - No permits will be issued that would alter, modify, or otherwise convert all-electric buildings into mixed-fuel buildings.
Applicability and timing

**Applicability**
The new ordinance only applies to applications for building permits for new construction in San Francisco.

**Timing**
The new ordinance would go into effect January 1, 2021.

*Workgroup discussion about extension of timeline for laboratory/life science buildings to be addressed under exemptions portion of presentation*
Applicability - housing pipeline impact

<table>
<thead>
<tr>
<th>Ordinance would apply</th>
<th>Ordinance would not apply</th>
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<tbody>
<tr>
<td>Application Filed with Planning Department</td>
<td>Lapsed Building Permit Application is &quot;re-instated&quot; by Department of Building Inspection</td>
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<tr>
<td>Application Approved by Planning Department</td>
<td>Building Permit Application Approved by Department of Building Inspection</td>
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<tr>
<td>Building Permit Application Filed with Department of Building Inspection</td>
<td>Approved Building Permit Application Issued by Department of Building Inspection</td>
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<tr>
<td>66%</td>
<td>34%</td>
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<td>Project is Under Construction</td>
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Exemptions

Building permit exemptions on a case-by-case basis that would look at:

• Building use
• Availability of alternative technologies
• Emergency circumstances
• Cost-prohibitions
• Other impacts on health, safety, and welfare.
Exemptions

Develop rules and regulation for DBI that would account for known issues:

• Laboratories/life science
• Affordable housing
• Transformer placement for small infill development
• Restaurants

But also allow for flexibility for future unknowns . . .
## Cost and Benefits – Studies

<table>
<thead>
<tr>
<th></th>
<th>Change in Construction Cost ($/Sq Ft)</th>
<th>Lifetime Net Present Value ($/Sq Ft)</th>
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<tbody>
<tr>
<td>Single Family</td>
<td>-$5.01</td>
<td>$3.62</td>
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<tr>
<td>Multifamily 3 floors or less</td>
<td>-$1.18</td>
<td>$4.64</td>
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<tr>
<td>Multifamily 4-8 floors</td>
<td>-$0.13</td>
<td>$0.68</td>
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<tr>
<td>Retail</td>
<td>-$0.98</td>
<td>$6.37</td>
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<tr>
<td>Office</td>
<td>-$1.54</td>
<td>$1.09</td>
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Sources:
- Mid-Rise Residential: Frontier Energy (2020)
- Non-Residential: TRC (2019)
- Supplemental Analysis by Dept of Environment to account for San Francisco Better Roofs requirements
Cost and Benefits – Hard Bid, Local Construction

Key Drivers:

Reductions
- Eliminating Solar Hot Water saved $215,000
- Eliminating Natural Gas saved $168,000

Additions
- Electric DHW added $105,000

Net
- $242,000 lower cost
The future is already here – SF all electric buildings

Maceo May, Treasure Island – Affordable
CCDC, Swords to Plowshares, Mithun, AEA

Southeast Community Center – Municipal
SFPUC, SFPW

SFSU Student Housing Block 6
SFSU, Gould Evans, Point Energy Innovations, BuildGroup

685 Florida St – Infill
Off The Grid Design, RG Architecture

Claire Lilienthal Elementary School – SFUSD
SFUSD, Lionakis

270 Brannan – Office
Pfau Long Architecture
Thank you for listening

San Francisco Department of the Environment
Is the concept of the ordinance clear? Is it clear which buildings it will impact and when? Is it clear what options building owners have?

• *Add notes*
Live Notes: Continued
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Outreach and Education

Mapping Outreach and Education – 1

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<thead>
<tr>
<th>Who</th>
<th>What</th>
<th>When</th>
<th>How</th>
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<tbody>
<tr>
<td>Building Owners</td>
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## Mapping Outreach and Education – 2

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Mapping Outreach and Education – 3

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Live Notes: Other Outreach and Education

Other comments about Outreach and Education...

- Add notes
What to Expect Next

Cyndy Comerford, SF Environment
Live Notes: What to Expect Next

How SFE will be moving forward with your input...

• Add notes
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Closing Exercise: Who else?

Who else should SFE reach out to for insights or help in making this ordinance a success?
Live Notes: Who Else?

Who else should SFE reach out to for insights or help in making this ordinance a success?

• Add notes
Closing Exercise: Who Else?

1. Who else should SFE be talking to?
2. Any appreciations to share or something you learned in this process?
Thank you so much!

Be well, and stay well