Commercial Building Efficiency Advisory Committee

Meeting 2: Benchmarking 101 and Policy Design
1. Welcome
2. Introductions
3. Establishing Ground Rules and Expectations
4. Benchmarking 101
5. BREAK
6. Covered Building Size and Sectors
7. Closeout
Welcome and Introductions

City of Ann Arbor Staff Introductions
Thea Yagerlener, Energy Analyst
Zach Waas Smith, Community Engagement Specialist
Decision Process and Timeline

**Q4 2020**

- Define Opportunity and Develop Evaluation Criteria

**Q1 2021**

- Co-Create Policy Recommendations

**Q2 2021**

- Refine Policy Recommendations Integrating Public Feedback

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**Stakeholder Task Force**

- Open Public Feedback

**Public Input**

- Public Comment Period

**City of Ann Arbor**

- Ordinance Approval Process

- Implementation
Suite of Programs

Public, Commercial and Multifamily
Rentals
Single Family Housing
Round Table Introductions

• Name, Pronouns, Organization and Role
Ground Rules

• Stay engaged
  • Minimize distractions
  • Grab something to write with, a drink, a snack
• Chatham House Rules
  • Share the information, not the person
• Practice democracy of time
• Constructive mindset: Deliberation should be positive and future-directed
Expectations of City Staff

• We will look to you for advice and innovation in formulating a solution and will incorporate your advice and recommendations into the decisions to the maximum extent possible.

• Ensure this time serves the stakeholders in the room

• Be available to answer questions and address concerns

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  Tyagerlener@a2gov.org
  ZWaasSmith@a2gov.org
Expectations of Task Force

• Provide your expertise and lived experience
• Leverage networks to represent a larger group of voices
• Final Product: Co-creating policy recommendations

What do you need to be successful?
Recap: Opportunity Framing
We have an opportunity to:

Significantly increase the energy efficiency in our buildings with an ambitious but feasible program and:

- Improve the experience and impact of *all* occupants
  - Safety, health, and comfort
- Achieve a net positive change considering *all* cost and *all* benefits
- Measure to show financial and performative improvement
- Establish clear goals, steps, and criteria for success
- Reflect the priorities of current and new stakeholders
We hope to achieve:

- Increased resilience of our community
- Reduce operating costs (esp. fixed income households)
- Increased number of buildings benchmarking
- Connect owners with strategies
- Decrease greenhouse gas emissions
  - Energy efficiency
  - Renewable energy
Barriers

We need to address:

- Financial solutions for upfront costs for energy efficiency improvements
- Clear and accurate estimates of payback
- Education: Access to data and understanding the process
- Balancing other priorities/incentives and motivation
- Limited staff time
Benchmarking 101
What is benchmarking?

**Benchmarking:** An established program to understand how a building is performing compared to itself and similar buildings

**Transparency:** Sharing information with the market to value energy efficiency and drive market transformation
Why a Policy?

Current landscape has barriers to energy efficiency
  • Building owner access to whole-building utility data
  • Lack of market awareness of building performance

Participation from entire building population, not just voluntary benchmarking and transparency
  • City Goal: 90% compliance
  • Achieve widespread efficiency (3-8%) and financial results ($2.4 MM savings/year)
### Results

**Chicago**
- 4.4% decrease in energy consumption in properties reporting for 4 consecutive years
- Bill savings: $12.7M/year

**Minneapolis**
- 3.4% decrease in energy consumption from 2014-2016 with cumulative bill savings
- Bill savings: $21 M/year

**New York City**
- 6% reduction over three years

**Denver**
- 4.5% decrease in energy consumption 2017-2018
- Bill savings: $13.5M/year

**Seattle**
- 3% reduction in properties reporting for three or more years

**San Francisco**
- 7.9% cumulative reduction over three years
Typical Process

**BENCHMARKING:**
- On-going review of building energy performance compared to itself as well as other buildings of similar size.

**Performance Metrics and Report**
- Provides space use data
- Submits data to local jurisdiction
- Provides whole building data

**Local Jurisdiction Data Management System**
- Fast and easy process, takes 4 – 8 hours once a year
- Free and web-based tool, no out of pocket costs to comply

**Reporting:**
- Submitting a building’s energy and water use to the City annually

**Financing Programs and Energy Service Providers**
- Identifies underperformers in your portfolio and sets priorities for staff time and investment capital

**Transparency:**
- Public disclosure of specific pieces of benchmarking data

**Public Website**
- Individualized and actionable info

**Public**
Typical Timeline

- Policy Design + Stakeholder Engagement
- Program Implementation
- Establish Data Access
- Municipal Buildings Benchmark
- Largest Commercial Properties Benchmark
- Large Commercial & Multifamily Properties Benchmark

Pilot program and lead by example
Trends and Best Practices

• Energy and Water Benchmarking
• Reporting and Transparency
• Recognition Approaches
• Certification/Verification
• Building Energy and Water Audits and/or Retro-Commissioning
• Green Leasing
• Alignment with Utility Programs
• Partnering with Nonprofits, Industry, and Utilities
What have other cities done that interests you?
What are you concerned by?
What do you need to know more about?
Break
Benchmarking Policy Elements

- Covered Market Sectors
- Covered Building Size
- Benchmarking and Transparency Exemptions
- Party responsible for reporting
- Schedule for initial benchmarking and transparency
- Data verification
- Transparency approach
  - Beyond benchmarking
  - Implementation
Benchmarking Policy Elements

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Policy Variable: Building Type

- Commercial
- Multifamily
- Public
Ann Arbor Composition

- Multifamily: 49%
- Office: 18%
- Retail: 12%
- Hotel: 6%
- Industrial: 4%
- Service: 2%
- Other: 9%
Available for over 15 building types, including:
- Multifamily housing
- Office (office, bank branch, financial office, etc.)
- Hotel
- Retail store
- Hospital and medical office
Policy Variable: Building Size

- 50,000 ft\(^2\) and up
- 25,000 ft\(^2\) and up
- 10,000 ft\(^2\) and up
- All
## Example Covered Buildings

<table>
<thead>
<tr>
<th>Threshold (ft)^2</th>
<th>% Buildings Covered</th>
<th>% (ft)^2 Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,000</td>
<td>32%</td>
<td>87%</td>
</tr>
<tr>
<td>20,000</td>
<td>19%</td>
<td>77%</td>
</tr>
<tr>
<td>30,000</td>
<td>15%</td>
<td>72%</td>
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<tr>
<td>40,000</td>
<td>11%</td>
<td>66%</td>
</tr>
<tr>
<td>50,000</td>
<td>9.6%</td>
<td>62%</td>
</tr>
</tbody>
</table>

### Building Sizes

![Building Sizes Graph](image)
Current Benchmarking

Bar chart showing the distribution of total area across different building size categories:

- <10,000: 67
- 10,000-25,000: 67
- 25,000-49,999: 49
- 50,000-99,999: 47
- 100,000-149,999: 37
- >150,000: 77
<table>
<thead>
<tr>
<th>City</th>
<th>Buildings Included</th>
<th>City</th>
<th>Buildings Included</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlanta</td>
<td>Com &amp; MF &gt; 50k, 25k</td>
<td><strong>Evanston, IL</strong></td>
<td>557 Buildings, 45.6 M SF</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Com &amp; MF &gt; 100k, 50k, 20k</td>
</tr>
<tr>
<td>Austin</td>
<td>Com &gt; 10k</td>
<td>Kansas City, MO</td>
<td>Com &amp; MF &gt; 100k, 50k</td>
</tr>
<tr>
<td></td>
<td>MF &gt; 5 units</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Berkeley</strong></td>
<td>257 Buildings, 13.7M SF</td>
<td>Los Angeles</td>
<td>Com &amp; MF &gt; 100k, 50k, 20k</td>
</tr>
<tr>
<td></td>
<td>Com &amp; MF &gt; 50k, 25k</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boston</td>
<td>Com &gt; 50k, 35k</td>
<td>New York City</td>
<td>Com &amp; MF &gt; 50k, 25k</td>
</tr>
<tr>
<td></td>
<td>MF &gt; 50 k/50 units, 35k/35 units</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Boulder</strong></td>
<td>457 Buildings, 26 M SF</td>
<td>Orlando</td>
<td>Com &amp; MF &gt; 50k</td>
</tr>
<tr>
<td></td>
<td>Com &gt; 50k, 30, 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>New Com &gt; 10k</td>
<td></td>
<td></td>
</tr>
<tr>
<td>California</td>
<td>Com &gt; 50k</td>
<td>Philadelphia</td>
<td>Com &amp; MF &gt; 50k</td>
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<tr>
<td></td>
<td>MF &gt; 50k</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cambridge</strong></td>
<td>1,100 Buildings, 78 M SF</td>
<td>Pittsburgh</td>
<td>Com &gt; 50k</td>
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<tr>
<td></td>
<td>Com &gt; 50k, 25k</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MF &gt; 50 units</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chicago</td>
<td>Com &amp; MF&gt; 250k, 50k</td>
<td><strong>Portland, ME</strong></td>
<td>285 Buidlings</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Com &gt; 20k</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>MF &gt; 50 units</td>
</tr>
<tr>
<td>Denver</td>
<td>Com &amp; MF &gt; 50k, 25k</td>
<td>Portland, OR</td>
<td>Com &gt; 50k, 20k</td>
</tr>
<tr>
<td>San Francisco</td>
<td>Com &gt; 10k</td>
<td>Washington, D.C.</td>
<td>Com &amp; MF &gt; 50k</td>
</tr>
<tr>
<td>Seattle</td>
<td>Com &amp; MF &gt; 20k</td>
<td>Washington State</td>
<td>Com &gt; 10k</td>
</tr>
</tbody>
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Next Meetings

**Thurs, Dec. 17 (3:30 PM):** Policy Design Recommendations

- Responsible party
- Schedule
- Data Verification
- Transparency approach

**Friday, Jan. 8 (11 AM):** Confirm and Refine Policy Design Recommendations

Open to public comment

Final Meeting (TBD): Responding to public comment and finalize recommendations
Thank You for Your Time!

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