Built Environment Efficiency Working Group

EO 17-20 Update
April 16, 2019
AGENDA

1. Introductions & Welcome (5 minutes)

2. Cost Analysis (20 minutes) note: moved up on the agenda

3. Overview of EO 17-20 Progress to date (15 minutes).

4. What is left in the EO and how to get involved? (60 minutes)

5. Q&A and Next Steps
Introductions and Welcome

• Please share your name and your organizational affiliation
• Please remember to sign in
Directive 7: Implementation

“The Built Environment Efficiency Working Group will review directives in this Executive Order, seek input from interested stakeholders, and recommend opportunities to provide equitable access to clean energy by removing barriers to achieving energy efficiency in the built environment to the Governor and state agencies”

These factors overlay agency work on all elements of the EO:

• Equitable access to clean energy
• Removing barriers to achieving energy efficiency in the built environment
Directive 7: Implementation

“The Built Environment Efficiency Working Group will review directives in this Executive Order, seek input from interested stakeholders, and recommend opportunities to provide equitable access to clean energy by removing barriers to achieving energy efficiency in the built environment to the Governor and state agencies”

How can our work:

• Contribute to reducing energy insecurity and energy burden?
• Increase access to benefits of energy efficiency, clean energy, and energy jobs?
• Increase economic and racial justice for energy affordability and access?
AGENDA

1. Introductions & Welcome (5 minutes)
2. Cost Analysis (20 minutes)
3. Overview of EO 17-20 Progress to date (15 minutes).
4. What is left in the EO and how to get involved? (60 minutes)
5. Q&A and Next Steps

Work Summary To-Date
• May 8, 2018 public meeting
• ODOE research, cost tool evaluation
• BCD request to boards to provide input

Partners and Stakeholders
• BCD boards, BEEWG agencies, Earth Advantage, Energy Trust of Oregon, Northwest Energy Efficiency Alliance, others

How To Get Involved
• Participate today!
• Stay tuned for BCD board activity
• Contact agency staff – Blake Shelide (ODOE), Todd Smith (BCD)

Find Out More Information
• Follow BEEWG website

Due Date: 12/1/2019
## Directive 6: Cost Analysis Tool – General

<table>
<thead>
<tr>
<th>Calculator</th>
<th>Protocol</th>
<th>Combination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables - some fixed, some user defined</td>
<td>Defined perspective(s)</td>
<td>Basic calculator, with accompanying description of parameters that need to be included and approaches that need to be standardized (such as building energy modeling approach).</td>
</tr>
<tr>
<td>Defined format (spreadsheet)</td>
<td>List of items that must be included, but calculation framework is custom</td>
<td></td>
</tr>
<tr>
<td>Standardized reports</td>
<td>ID custom variables used (forms still needed?)</td>
<td></td>
</tr>
</tbody>
</table>

### Pros and Cons

#### Calculator

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would be a ready-to-go tool for agencies and stakeholders to use</td>
<td>More development time</td>
</tr>
<tr>
<td>Standardized, consistent</td>
<td>Maintenance/updates</td>
</tr>
</tbody>
</table>

#### Protocol

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don’t need to develop and maintain a spreadsheet</td>
<td>Not-standardized calculator, could be difficult to review input and different products</td>
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</table>

#### Combination

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard format for a basic calculator</td>
<td>need for a more detailed protocol to address a variety of scenarios</td>
</tr>
<tr>
<td>Protocol addresses how to use the calculator, what variables to input, where to source data, etc.</td>
<td>much of the analysis happens outside of the calculator</td>
</tr>
<tr>
<td>Protocol could be customized for various users (agencies, code stakeholders, other)</td>
<td></td>
</tr>
</tbody>
</table>
Directive 6: Cost Analysis Tool

Demonstration
AGENDA

1. Introductions & Welcome (5 minutes)

2. Cost Analysis (20 minutes)

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5. Q&A and Next Steps
Overview of Progress to date

• Directive 3A: Database of eligible state-owned buildings and their energy consumption
  • Energy Star Portfolio Manager for state buildings, ASHRAE Standard 100
  • Summary Report

• Directive 3C: Plug load strategy
  • Multiple stakeholder engagement activities throughout 2018
  • Statewide Plug Load Strategy document

• Directive 3E: State tool for high performance energy use target and carbon neutral requirements
  • SEED Process, Architecture 2030
  • Summary document
Overview of Progress to date

- Directive 4E: Report on key industries with potential for energy and cost savings through energy code
  - “Expanding Industries and Building Code Amendments” report completed, provided to Governor’s Office, and posted to BEEWG website.
  - Overview of indoor agriculture, data center sectors
  - Recognizes inability of code to regulate industrial process uses

- Directive 4F: Analysis and report on appliance standards
  - Oregon can set state efficiency standards for equipment that does not have a federal standard
  - ODOE analysis identified 14 potential equipment standards, plus others in development
  - Improved State Standards for Appliances report
Overview of Progress to date

- Directive 5A: Meter based savings pilot programs
  - In 2018, PUC worked with ETO to accomplish this directive
  - [Report](https://www.oregon.gov/energy/Get-Involved/Pages/BEEWG.aspx)

- Directive 5B: Energy assessment in affordable housing and 10 year energy burden plan
  - OHCS, ODOE, PUC, in consultation with ETO and BPA
  - Energy burden of low-income Oregonians (<80%AMI) is $345 million
  - Multiple recommendations for ongoing and future work identified in comprehensive report
  - [https://www.oregon.gov/energy/Get-Involved/Pages/BEEWG.aspx](https://www.oregon.gov/energy/Get-Involved/Pages/BEEWG.aspx)

- Directive 5D: Evaluation of distributed resources and resilience
  - [Report](https://www.oregon.gov/energy/Get-Involved/Pages/BEEWG.aspx)
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## Directive 3B: Carbon-Neutral State Buildings

**Due Date:** buildings permitted after 1/1/2022

### Work Summary To-Date
- Agency research
- Potential utilization of “Zero Energy” code framework
- Planning on how to incorporate into the SEED process

### Partners and Stakeholders
- State agencies, energy analysts, engineering/architecture design community, contractors, trades, utilities, Architecture 2030, others

### How To Get Involved
- Follow BEEWG website

### Find Out More Information
- State agency SEED report for new construction (as they are published)
- Contact agency staff (Blake Shelide)
Directive 3C:
Statewide Plug Load Strategy

Work Summary To-Date
• Conducted best practice research
• Engaged agency working groups, core advisory group
• Published strategy document

Partners and Stakeholders
• Multi-agency advisory group, Chief Information Officer Council, state agency facility managers, ODOE, DAS

How To Get Involved
• Strategy document available on BEEWG web site

Find Out More Information
• Strategy document available on BEEWG web site

Due Date: January 1, 2019
### Directive 3D:
Energy Efficient State Equipment Procurement

**Work Summary To-Date**
- Convened sub-group of BEEWG, identified equipment types and categories
- Researched certification criteria and screened equipment list
- Identified procurement process/pathways for implementation

**Partners and Stakeholders**
- DAS Procurement, ODOE, agency facility managers, Chief Information Officer Council, other agency procurement officers

**How To Get Involved**
- Follow BEEWG web site

**Find Out More Information**
- BEEWG web site

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**Due Date:** June 30, 2019
Directives 4A, 4B, 4C, 4D, 4G, 4H

Directive 4B: EV Ready Residential & Commercial Buildings
Directive 4C: Zero Energy Ready homes for Residential code
Directive 4D: Commercial code that exceeds IECC/ASHRAE 90.1 and meets/exceeds ASHRAE 189.1
Directive 4G: High efficiency water fixtures
Directive 4H: Standards for water capture and safe reuse

Due Date (if applicable):
Directive 4A:
Solar Ready Residential & Commercial Buildings

Stakeholder Input and Discussion Session

What does “solar ready” mean?
What are its critical elements for Residential? Commercial?

Find Out More Information
• Follow BCD code update process and board activity

Due Date (if applicable):
Directive 4B: EV Ready Residential & Commercial Buildings

Stakeholder Input and Discussion Session

What does “electric vehicle ready” mean?
What are its critical elements for Residential? Commercial?

Find Out More Information
• Follow BCD code update process and board activity

Due Date (if applicable):
Directive 4C: Zero Energy Ready Homes for Residential code

Stakeholder Input and Discussion Session

Find Out More Information
• Follow BCD code update process

Due Date (if applicable):
Directive 4C: Zero Energy Ready homes for Residential code

Work Summary To-Date
• Evaluation of specific elements in US DOE ZERH that differ from Oregon Code
• Begin to look at how energy efficiency program data can support transition

Partners and Stakeholders
• OHBA, code boards, Energy Trust of Oregon, Northwest Energy Efficiency Alliance

How To Get Involved
• Participate in code development process

Find Out More Information
• Follow BCD code update process

Due Date (if applicable):
Directive 4D:
Commercial code that exceeds IECC/ASHRAE 90.1 and meets/exceeds ASHRAE 189.1

Work Summary To-Date
- BCD, board recommendation for adoption of ASHRAE 90.1-2016 + “Net Zero Estimate” as base code for Oregon
- Rulemaking hearing to accept comments on proposed process moving forward

Partners and Stakeholders
- Boards, engineers, architects, contractors, ASHRAE, Architecture 2030

How To Get Involved
- BCD board, rulemaking meetings

Find Out More Information
- Follow ASHRAE update process
- Follow BCD code development

Due Date (if applicable):
Directive 4G:
High efficiency water fixtures

Find Out More Information
• Contact BCD

Due Date (if applicable):
Directive 4H:
Standards for water capture and safe reuse

Find Out More Information
• Contact BCD

Due Date (if applicable):
Directive 5C: Coordination of Data to inform energy use reduction

Work Summary To-Date
• ODOE and OPUC are in initial stages of defining scope and outreach strategy

Partners and Stakeholders
• Energy Trust, NEEA, BPA, NW Power Council (RTF)

How To Get Involved
• Contact agency staff

Find Out More Information
• As we scope this effort and begin to set milestones, look to the BEEWG website for schedule

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