

**Built Environment Efficiency Working Group  
Cost Analysis Sub-Committee  
Tuesday May 8, 2018  
2:00-4:00pm  
550 Capitol Street NE, Salem OR 97301  
Room Meitner**

**Agenda**

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|--|------------|
| 1. Introductions   | 10 minutes |
| 2. BEEWG Activity Update   | 10 minutes |
| a. Purpose of the cost analysis tool   |            |
| b. Agency activity to date   |            |
| c. Timeline for engagement   |            |
| 3. “Listening Session” for public input and ideas to share   | 90 minutes |
| a. Questions for consideration   |            |
| i. What are elements of cost for consideration?  |            |
| ii. What are elements of benefits for consideration?   |            |
| iii. What are primary variables to make clear?   |            |
| iv. What is your understanding of a “tool” in the context of the EO – protocol, calculator, other? |            |
| v. How can various perspectives be incorporated into a common tool?                                |            |
| 4. Next steps  | 10 minutes |
| a. Agency work   |            |
| b. Coordination with other public bodies   |            |
| c. Opportunity for feedback on work product draft  |            |

**Call-In Information**

**USA Toll-Free:** (877) 873-8017

**USA Caller Paid/International Toll:** (636) 651-3181

**Web Conference URL:** <https://www.connectmeeting.att.com>

**Meeting Number:** 877 873 8017

**Access Code:** 8476489

## Meeting Notes

### 1. Introductions

- Attendees: Blake Shelide (ODOE), Warren Cook (ODOE), Ann Hushagen (ODOE), Amy Cortese (NBI), Dave Wortman (DAS), David Heslam (Earth Advantage), Dan Elliot (OHCS), Andrew Shepherd (ETO), Jason Eisdorfer (PUC), Dirk Larsen (Passive House Northwest), John Terpening (LFO), Ruchi, Jennifer Joly (OMEU), Rob DeIMar (ODOE, by phone), Jennifer Sharp (Housing Development Center), Laura Tocheny (Dalton Advocacy), Brendan McCarthy (PGE), Jeff McNeily (OHCS)

### 2. BEEWG Activity Update

- Review of EO language, purpose of cost analysis tool
- Facilitate implementation of EO *using least cost methods available*
- Many directives are being implemented using existing and in-house resources to facilitate least cost implementation
- Vision for the tool is to provide a common framework if cost is identified as a significant issue for implementation
- Agencies have reviewed various agency-specific cost analysis methodologies and tools across 5 agencies in EO (ODOE, PUC, OHCS, DAS, BCD).
- Agencies have existing cost analysis methodologies. Purpose of this tool is not to replace existing agency protocols or statutory requirements for existing agency programs
- Tool will inform implementation of directives related to EO 17-20, and be used to document cost findings related to EO action

### 3. Public Input / Discussion

Presentation from Earth Advantage (David Heslam), with open discussion, included discussion of the following:

- Some cost tools look at costs on a societal cost level, others on a project basis
- Reference to other state work (WA, CA) and federal FEMP work, which includes energy escalation (regional)
- WA has developed a cost analysis tool for energy code that was based upon a calculator developed for state investments, which was based on Fed tool
- Don't need to re-invent the wheel for this exercise
- Provided highlights of state comparisons
- Oregon code process doesn't have a specific cost analysis protocol
- Providing a common LCCA tool could make cost and savings analysis process very predictable for proposers and consistent for reviewers

- 1200 ft<sup>2</sup> home (as required in Oregon) is a relatively small home. What is the background for this being in statute?
- Earth Advantage has developed a cost tool (based on the WA spreadsheet) for Oregon housing to research and set variables for OR housing tool (discount rate, escalation, etc.). A group met over the course of many months to discuss variables for OR, done with a focus on helping affordable housing teams prioritize resources
- This spreadsheet uses a life-cycle cost analysis (LCCA) to analyze and compare measure options or packages
- WA spreadsheet (that has been adapted for OR) is a relatively complex spreadsheet
- Social costs of carbon can be incorporated in the WA spreadsheet, but need to be specified.
- Inputs can include: energy consumption baseline and upgraded designs, construction costs, utility rates, maintenance costs, etc.
- Outputs can include total lifecycle costs, NPV, GHG impact, year by year expenditure report
- WA uses a 50 year study period (both for state investment and code analysis)
- WA has resources (videos) with instructions for LCCA tool
- Earth Advantage has used WA-based tool for past code proposals
- WA tool has ability to incorporate financing (different models) into lifecycle analysis

#### General Discussion

- Tool is from the perspective of the buyer/long term user
- Builder/contractor could run a parallel tool
- Could be used for ownership vs. leasing decisions
- Soft costs and hard costs can be inserted into cost tool
- Concept of decoupling, who pays and who benefits, considering both can be part of the analysis
- How broad does cost tool apply to state? Mainly for buildings related portion of EO
- Inputs into cost tool are still most critical piece – have to be accurate to get a meaningful output
- OHCS used a similar LCCA tool for programs
- Some inputs may cause greater sensitivity than others
- Historical FEMP escalation rates vs. actual. FEMP escalation rates can be used, but it could be useful to see how accurate they have been over time.
- “Lens” matters, need to look at things interactively. Lens at a measure level makes it difficult, limits applicability and ability to achieve system-wide cost effectiveness.
- Stacking of measures makes a difference
- Important to map to ongoing energy savings in the building
- It could be possible to back into a cost budget given known savings from a code lift or measure implementation

- Focus on absolute energy targets in addition to “% better than”
- Some questions around if a “package” of code proposals would fit in the current code development process. Does it need to be measure by measure?
- Would be helpful for future code cycles if there were a clear tie between code proposals and achievement of goals – how far do code changes get us? Avoid doing a look-back to see where we got, but instead to an analysis that clarifies what we need
- Need clarify on timeframe for cost consideration (first cost, first year, etc.)
- Discussion of calculator vs. protocol
- If only a protocol, may have difficulty policing or verifying someone else’s spreadsheet
- Opportunity for simplification of cost calculator, doesn’t need to be as large/complex as WA tool
- Utility consideration for incentives directly related to EO goals (include in cost effectiveness calcs, look at market transformation component as well).
- Help programs develop measures that prove out cost effectiveness of items directly related to EO
- ETO: there is a place for the Zero Energy Ready Home in ETO programs
- EO requires “equivalent performance to” US DOE Zero Energy Ready Home Program

#### 4. Next Steps

- Agencies will continue with drafts of cost analysis tool
- Coordination with other public bodies in Oregon who are looking into cost analysis tool. BCD has asked boards to consider what should be included, so there will be a need to work together and combine elements into a common tool
- ODOE and BCD will develop a framework and working draft of a tool that can be reviewed by stakeholders. This will be another opportunity for public input
- Potential for survey of cost tool considerations for prioritization. Group can look for this in the near future.