ORDER NO. 23-374

ENTERED Oct 20 2023

BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UM 1696

In the Matter of PUBLIC UTILITY COMMISSION OF OREGON, Energy Trust Request for Use of Utility Cost Test for New Buildings Program Cost Effectiveness, and Schedule for Public Comments.	ORDER

DISPOSITION: STAFF'S RECOMMENDATION ADOPTED

At its public meeting on October 17, 2023, the Public Utility Commission of Oregon adopted Staff's recommendation in this matter. The Staff Report with the recommendation is attached as Appendix A.

BY THE COMMISSION:

Nolan Moser
Chief Administrative Law Judge

A party may request rehearing or reconsideration of this order under ORS 756.561. A request for rehearing or reconsideration must be filed with the Commission within 60 days of the date of service of this order. The request must comply with the requirements in OAR 860-001-0720. A copy of the request must also be served on each party to the proceedings as provided in OAR 860-001-0180(2). A party may appeal this order by filing a petition for review with the Circuit Court for Marion County in compliance with ORS 183.484.

ITEM NO. CA5

PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT
PUBLIC MEETING DATE: October 17, 2023

REGULAR ____ **CONSENT** X **EFFECTIVE DATE** October 18, 2023

DATE: October 9, 2023

TO: Public Utility Commission

FROM: Peter Kernan

THROUGH: JP Batmale and Sarah Hall **SIGNED**

SUBJECT: OREGON PUBLIC UTILITY COMMISSION STAFF:
(Docket No. UM 1696)
Energy Trust request for use of utility cost test for New Buildings Program cost effectiveness, and schedule for public comments.

STAFF RECOMMENDATION:

Adopt Staff's proposed schedule for submission of public comments and for Staff's final recommendation to approve use of the utility cost test for the Energy Trust New Buildings Program.

DISCUSSION:

Issue

Whether the Commission should adopt the schedule for public comment and Staff's presentation of its final recommendation to approve the use of the utility cost test for the New Buildings Program.

Applicable Law

Order No. 94-590 in Docket No. UM 551 establishes guidelines for cost effectiveness of energy efficiency measures. The cost effectiveness test required under Order No. 94-590 is the Total Resource Cost Test (TRC).[1] Energy Trust has used this test since its inception to guide what measures can be offered by Energy Trust programs.

[1] *In The Matter Of An Investigation Into The Calculation And Use Of Conservation Cost-effectiveness Levels*, Docket No. UM 551, Order No. 94-590 (April 6, 1994).

Orders entered in Docket No. UM 551 also allow for the use of other cost effectiveness tests. Energy Trust uses the Utility Cost Test (UCT) to set the maximum allowable incentive amount that can be offered to participants.

The grant agreement between the Oregon Public Utility Commission and Energy Trust states that, "Individual conservation programs will be designed to be cost-effective and will be independently evaluated on a regular basis. This guideline should not, however, restrict investment in pilot projects, educational programs, demonstrations, or similar endeavors."

Under ORS 757.613, Energy Trust may conduct whole building assessments for the energy efficiency of the building as authorized by the Commission by rule or order.

Analysis

Background
The Energy Trust's New Buildings Program delivers energy savings above a code baseline for commercial new construction projects. The Program goal is to transform the market such that most buildings are built beyond code. Energy Trust supports the market via engagement along the lifecycle of building design to encourage more efficient technologies. Per industry changes discussed in this memo, New Buildings focuses on a whole building approach which considers the entire building as the efficiency measure.

In 2022, Energy Trust completed 313 projects, saving over 4.6 aMW and 346,000 therms with expenditures of $14.4 million. This performance resulted in a program-level benefit/cost ratio of 2.5 per the UCT. The program contributed approximately 10 percent of total electric savings and 6 percent of total gas savings to Energy Trust in 2022.

In February 2019, Oregon adopted the 2019 Oregon Zero Energy Ready Commercial Code ("2019 Code") as part of the 2019 Oregon Structural Specialty Code effective October 2019 and replacing the previous 2014 Oregon Energy Efficiency Specialty Code ("2014 Code").[2] This code update was driven by Executive Order 17-20[3] and results in a significantly higher baseline of efficiency for new construction and major retrofits. This will have lasting benefits, improving energy use for buildings permitted January 1, 2020, and later.[4]

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[2] See BCD comments at https://www.oregon.gov/bcd/codes-stand/Pages/adopted-codes.aspx.
[3] Executive Order 17-20 https://www.oregon.gov/gov/Documents/executive_orders/eo_17-20.pdf.
[4] 2019 Oregon Structural Specialty Code Adoption documentation is available here: https://www.oregon.gov/bcd/codes-stand/code-adoption/Pages/2019-ossc-adoption.aspx.

While codes are expected to be updated periodically and often incrementally, the 2019 update resulted in more significant changes between versions than usual. The 2014 Code was based off the 2012 International Building Code and the 2019 Code is based off American Society of Heating, Refrigerating and Air-Conditioning Engineers ("ASHRAE") 90.1-2016 standards. Oregon updated the code again in 2021, basing the energy efficiency specifications on the latest ASHRAE 90.1-2019 standards.

Compliance with ASHRAE 90.1 allows a performance-based approach where prior codes relied solely on prescriptive pathways. Via a prescriptive standard, each building component had a specific baseline; energy savings and costs above that baseline could be easily identified. A performance-based standard implies that there is no single baseline. In other words, there are more than one combination of building efficiency features to meet the minimum performance requirements.

The 2019 Code changes impeded the approach to calculating the Total Resource Cost (TRC) cost effectiveness test. Since compliance could be met with multiple equipment, control, lighting, and envelope combinations, there was diminished ability to understand savings and costs at the individual energy efficiency measure level.

The 2019 Code precipitated a paradigm change with a reorientation to focus on a whole building approach, which considers the entire building as the efficiency measure. Often called integrated design, a whole building approach enables flexibility for compliance while simultaneously driving toward deeper energy savings. Due to considering interactive effects of building components, whole building design strategies often identify efficiency that does not cost more.

Due to the 2019 Code, OPUC Staff recommended a cost effectiveness exception for whole building tracks within the New Buildings Program. The exception was intended to give Energy Trust time to study and test ways to modify or redesign the Program to comply with measure-level testing of savings and costs. The Commission granted exceptions in Order No. 20-018 and Order No. 21-293.[5]

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[5] *See,* Docket No. UM 1696, Order No. 20-018, *Approval of Energy Trust of Oregon Cost Effectiveness Exception Requests for New Buildings,* (Jan. 21, 2020) https://apps.puc.state.or.us/orders/2020ords/20-018.pdf.
See, Docket No. Um 1696, Order No. 21-293, *Approval of Energy Trust of Oregon Cost Effectiveness Exception Requests for New Buildings,* (Sep. 10, 2021) https://apps.puc.state.or.us/orders/2021ords/21-293.pdf.

Activities Under the Exceptions
Under the exception for New Buildings, Energy Trust was directed to:

1. Gather data and test cost effective re-design approaches for programs relying on a whole building approach.
2. Dialogue with experts in the field and with Energy Trust's Conservation Advisory Council (CAC) in considering program changes based on field observations.
3. Propose to the CAC and OPUC design changes to the program and/or changes to OPUC's cost effectiveness test(s) for programs relying on a whole building approach.[6]

In 2020 and 2021, Energy Trust hosted a series of workshops that included representatives from Oregon Department of Energy, Northwest Energy Efficiency Alliance, and OPUC Staff. Energy Trust also consulted with experts at Department of Consumer and Building Services, in industry, and the CAC.

Energy Trust workshops explored different design options, considered a range of alternatives, and attempted to pursue options that came closest to determining costs and savings at a measure level. The group concluded that the major challenge was determining the cost of the equipment that would be used in a building if the program did not exist. Energy Trust collected data as advised by stakeholders and tested a proxy approach on specific buildings. Energy Trust used prototype buildings and cost estimates from a third-party cost consultant but found results were too variable to support the use of this approach.

Recognizing the limitations of imputing incremental cost with incomplete information, Energy Trust redirected focus to modernizing the New Buildings Program. Energy Trust found that whole building projects currently make up 75 percent of New Building program savings, with that percentage increasing over time as the market adapts to a performance-based code.[7] In its process evaluation of the 2019-2021 New Buildings Program, ADM Associates identified a 50 percent increase in enrolled projects compared to the prior three years, and that the Program reaches 80 percent of all new commercial construction projects.[8] These results indicate that the New Buildings Program continues to have high visibility and influence in the market.

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[6] Order No. 20-018, note 7.
[7] See Appendix A: Energy Trust Proposal for Support of Whole Building Approach for New Buildings.
[8] ADM Associates, Inc. "Process Evaluation of Energy Trust of Oregon 2022-2023 New Buildings Program: Final Report." 2023, p. 1-2, https://www.energytrust.org/wp-content/uploads/2023/07/Process-Evaluation-of-Energy-Trust-2022-2023-New-Buildings-Program-FINAL_wSR.pdf.

In 2022, Energy Trust held three workshops with participants from Northwest Energy Efficiency Alliance, Oregon Department of Energy, and OPUC and discussed New Buildings during three CAC meetings in 2022 and 2023. During the four years since the 2019 Code was adopted, Energy Trust and stakeholders have collectively identified increasing value of taking a whole building approach. Appendix A, attached below, and the two Staff memos associated with Order Nos. 20-018 and 21-293 include additional documentation of activities pursued and stakeholder engagements to arrive at a final proposal.

Request

The exception window provided by Order No. 21-293 will end March 31, 2024. Anticipating that deadline and having further developed the New Buildings Program, Energy Trust proposes to use the UCT for the New Buildings Program and includes an expansion of tools and investments to increase access to and use of the whole building approach.

In a request, attached as Appendix A, Energy Trust asked the PUC to do the following:

- Allow Utility Cost Test as the only cost effectiveness metric for whole building projects in the New Buildings Program.
- Allow cost-effectiveness testing to be done at the building and program level but not the measure level for whole building projects.
- Continue to calculate Total Resource Cost at the measure-level for prescriptive measures only, with no TRC required for whole building projects and no reporting of program-level TRC.
- Recognize the market transformation impact of training and education to produce program savings through future projects.

Staff highlights that this is not a traditional cost effectiveness exception request. The issue is not whether to grant an exception from cost effectiveness due to forecasted deficiencies. Rather, the whole building approach in the New Buildings Program is cost effective via the UCT and likely would be via the TRC if there were a means for applying that test. Instead, this request considers how to treat a cost-effective program where the primary test for assessing cost effectiveness is not available.

Staff preliminarily finds using the UCT plus monitoring Energy Trust's market engagements is a prudent method of ensuring cost effectiveness and maintaining the spirit of the TRC. In this section, Staff outlines the rationale for arriving at this conclusion.

A whole building approach does not enable calculation of incremental costs. The purpose of the TRC as a cost effectiveness test is to include information about costs and benefits experienced by both program participants and the utility. A key input to calculation of the TRC is the incremental cost for participants of selecting the more efficient option over the baseline. With a whole building performance standard, such as ASHRAE 90.1, it is impractical, if not impossible, to calculate the incremental cost.

Energy Trust explored the viability of estimating or calculating incremental cost based on Staff guidance in Order No. 20-018. Energy Trust used prototype buildings and cost estimates from a third-party cost consultant but found results were too variable to support the use of this approach. This conclusion was corroborated by stakeholders who also identified the industry shift to a whole building approach limiting the ability and the need to understand measure level incremental cost.

Staff highlights that the New Buildings Program retains some prescriptive pathway measures. For participants using prescriptive measures, Energy Trust will continue to calculate a TRC. However, since the overall Program is a mixture of whole building and prescriptive measures, there is no way to calculate a program-wide incremental cost or TRC.

The New Buildings Program design informs participants about costs and benefits. The TRC can reasonably be perceived as an informational asset for consumer protection. By including participants costs, the TRC considers, in a combined utility and consumer view, whether the additional cost incurred by the consumer is recaptured via benefits. Without the ability to calculate a TRC, Staff directed the Energy Trust to consider how participants would weigh the costs and benefits of energy efficiency investments in their commercial new construction projects.

In the past four years, Energy Trust has further developed its New Buildings Program to use training, education, and new program offers to ensure participants are making good investments in energy-efficient buildings. Energy Trust empowers decision makers in the commercial new buildings space with valuable cost information and trusts customers to make sound decisions with that information.

Staff is confident that there are sophisticated entities in the commercial building space that will make cost-informed decisions about efficiency. Beyond those actors, Staff appreciates the efforts undertaken by Energy Trust to engage the entire market including smaller and more diverse participants. Energy Trust's program development has increased access to early design assistance and energy modeling services, receiving interest from both small and large firms.

Staff highlights these successes as identified in a recent process evaluation completed by ADM Associates in 2023, which can be found on Energy Trust's website.[9] The evaluation found that early design and technical assistance were critical support to customers in identifying cost-effective energy efficiency. Early design and technical assistance also helped identify opportunities to pursue Net Zero designs including on-site solar opportunities. Energy Trust further benefits commercial new construction actors by connecting them with Energy Trust solar incentives and informing them of other funding sources. This is an increasingly valuable proposition with a variety of local, state, and federal programs and incentives now available.

Staff finds that Energy Trust has successfully built a program that provides the commercial new construction market with valuable information about costs and benefits of energy efficiency. Staff notes that use of the UCT and consumer education lends some additional benefits beyond reliance on the TRC. Inclusion of participant cost often reduces the TRC below a benefit/cost ratio of 1.0 before the UCT falls below that threshold. For such measures, Energy Trust's reliance on the TRC may preclude it from pursuing savings where the UCT remains above 1.0. Consumers may make different decisions when empowered with the same savings and cost information, which would then lead to greater overall cost savings to the utility system and all ratepayers.

The New Buildings Program is cost effective and delivers meaningful savings. In 2022, New Buildings had a UCT of 2.5. Due to inability to calculate a TRC, Energy Trust is intending to ensure the New Buildings programs and incentives pass the UCT. This benefit/cost ratio greater than 1.0 indicates that from the utility perspective and subsequently that of all ratepayers, investments in efficiency from the New Buildings Program cost less than comparable investments in supply side assets.

A high UCT indicates that the New Buildings Program is putting long-term, downward pressure on rates by not having to pursue alternative, more expensive investments. As mentioned earlier, the New Buildings Program was 10 percent of electricity savings and six percent of gas savings in 2022. Staff finds that reducing or eliminating savings from New Buildings would not align with least cost utility planning, particularly in light of ambitious decarbonization requirements in House Bill 2021 for electric utilities and the Climate Protection Program (CPP) for gas utilities.

Discussion and alignment with energy efficiency planning. Staff finds Energy Trust's proposal balances cost effectiveness scrutiny with pursuit of valuable savings.

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[9] ADM Associates, Inc. "Process Evaluation of Energy Trust of Oregon 2022-2023 New Buildings Program: Final Report." 2023. https://www.energytrust.org/wp-content/uploads/2023/07/Process-Evaluation-of-Energy-Trust-2022-2023-New-Buildings-Program-FINAL_wSR.pdf.

While Staff is not proposing a typical exception pathway, Staff notes that the proposed approach aligns with Criteria D from Order No. 94-590. Inclusion of the measure helps to increase participation in a cost-effective program.

In several Commission dockets including utility integrated resource plans, Staff is highlighting opportunities to modernize energy efficiency valuation. In consideration of State decarbonization policies like House Bill 2021 and the CPP, Staff has been raising attention to how avoided costs may not be capturing the full value of energy efficiency in the new planning environment. Staff is currently working with Energy Trust to update the Grant Agreement which is the contractual obligation with the OPUC. This includes consideration of how cost effectiveness is determined, which tests should be used, when exceptions should be offered, and at what level (measure, program, portfolio) cost effectiveness should be considered. OPUC Staff will track the administrative effectiveness of program level cost-effectiveness and how that approach may be deployed by Energy Trust in the future.

Stakeholder Engagement
As referenced throughout this memo and in additional detail in Appendix A, Energy Trust has frequently and regularly engaged stakeholders on the New Building program and use of the UCT since Oregon's adoption of the 2019 Code. As a result, Staff finds that Energy Trust's proposal reflects the collective views of many entities. Staff looks forward to reviewing additional stakeholder feedback prior to presenting a final Staff position.

Staff's Recommendation

Staff preliminarily proposes allowing Energy Trust to exclusively use the UCT for assessing whole building cost effectiveness for the New Buildings Program. This direction includes no longer requiring measure-level cost effectiveness testing for buildings using the whole building approach. If approved, Energy Trust will no longer report TRC for the New Buildings Program as a whole.

Staff invites stakeholders to comment on the proposed changes and Staff's assessment. Staff proposes that the Commission adopt a schedule to allow the filing of public comment through November 1, 2023. This will allow stakeholders ten business days after the October 17, 2023, public meeting to review and respond to Energy Trust's request. If the Commission adopts the proposed schedule, Staff will receive and compile comments, and return at the November 16, 2023, public meeting with a final recommendation.

Proposed Schedule

Event	Date
Deadline to file written public comments in Docket No. UM 1696 or contact Staff on Staff's recommendation discussed herein	November 1, 2023
Staff's final recommendation at Commission Public Meeting	November 16, 2023

Conclusion

Staff's preliminary conclusion is the Commission should approve the use of the UCT for Energy Trust's New Buildings Program. Staff proposes that stakeholders have until November 1, 2023, to file comments or contact Staff regarding the recommended changes. Staff will present stakeholder comments and its final recommendations at the November 16, 2023, Public Meeting.

PROPOSED COMMISSION MOTION:

Adopt Staff's proposed schedule for submission of public comments and for Staff's final recommendation to approve use of the utility cost test for the Energy Trust New Buildings Program.

CA5 – UM 1696

Appendix A: Energy Trust Proposal for Support of Whole Building Approach for New Buildings

Memo

To: Sarah Hall, Peter Kernan
From: Fred Gordon and Shelly Carlton
cc: Tracy Scott, Alex Novie, Oliver Kesting, Spencer Moersfelder
Date: September 27, 2023
Re: Proposal for Support of Whole Building Approach for New Buildings

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Purpose
This memo proposes a long-term solution for aligning the Energy Trust New Buildings Program with Oregon's New ASHRAE-based Commercial Code by supporting a whole-building approach throughout the program. The content below summarizes work to date under an existing exception and provides supporting language for the opportunity to continue to bring in cost-effective savings for the program.

Proposal
Energy Trust seeks support from the OPUC related to Orders 21-293 (adopted August 11, 2021) and 20-018 (adopted January 15, 2020) which granted exceptions to the Total Resource Cost (TRC) cost effectiveness requirements for projects in the New Buildings Program that use a whole building approach to analyzing savings and informing project teams.

To deliver on this opportunity, Energy Trust asks the OPUC to:

- Allow Utility Cost Test as the only cost effectiveness metric for whole building projects in the New Buildings Program.
- Allow cost-effectiveness testing to be done at the building and program level but not the measure level for whole building projects.
- Continue to calculate Total Resource Cost at the measure-level for prescriptive measures only, with no TRC required for whole building projects and no reporting of program-level TRC.
- Recognize the market transformation impact of training and education to produce program savings through future projects.
- Issue a memo to memorialize this agreement and address the outstanding questions in the current exception

This proposal continues current practice. The program uses the Utility Cost Test (UCT) to assess utility cost effectiveness and limit incentives for whole building projects. The exceptions to the TRC were needed to continue to deliver whole building projects that brought in energy

savings through an increasing proportion of the portfolio. The program currently delivers an overall UCT of 2.

This support would recognize energy improvements to the whole building as the most meaningful measure of savings, and the fact that it is not feasible to calculate Total Resource Cost (TRC) at the building level, under the new code, because incremental cost cannot be identified. Continuing these changes will make it easier for customers to participate, produce more energy savings, and simplify program delivery. Ongoing code changes will make it even more challenging to calculate measure level cost effectiveness, meaning the program cannot provide market value without this support.

About Energy Trust New Buildings
Energy Trust New Buildings program delivers energy savings via whole building, prescriptive and market development strategies, primarily using a code baseline. As a market transformation program, New Buildings increases the network of design professionals who are trained and committed to high-performance buildings and supports design teams to go beyond code compliance to advance commercial construction and bring new, more efficient technologies and strategies to market. The program also works with renewable energy programs to deliver Path to Net Zero construction.

The long-term goal of the program is that most new commercial buildings are built beyond code or net zero, resilient, and comfortable. To achieve that, the program works with market partners to advance knowledge and provide the necessary tools to deliver high-performance buildings that help achieve the goals of the program and those set by recent legislation.

The Energy Trust New Buildings program uses a diversity of tools, resources and technical assistance to improve efficiency in new construction. The program engages with customers along the lifecycle of building design, as well as long before, providing internships, fellowships, education and training for professionals in the commercial design and development community, while creating strategic partnerships with culturally specific professional organizations to increase the diversity of professionals designing high-performing buildings in Oregon.

The Opportunity
Achieving carbon reduction goals and Oregon's 100% clean energy policy goal by 2040 requires a deepening commitment to efficiency in the building sector to reduce demand on the grid. Through national industry carbon commitments, the architecture and engineering profession seeks to reach net zero carbon emissions by 2030. Integrated design (i.e., whole building design) is the future of high-performance buildings. Oregon code recognizes this and has moved the market in that direction. Policy and industry context trends toward more savings coming from the highest performing buildings, which are generally whole building projects.

Whole building projects currently make up over 75% of the New Buildings program savings, and this percentage is increasing over time as the market adapts to the new code. By supporting this transition and aligning with these trends, New Buildings can more effectively transform the

region's new construction market through higher performing buildings that have more energy savings, increased renewable energy generation, and reduced carbon emissions.

An intentional shift from calculating savings at a measure level to a whole building approach will 1) Support the market transition toward higher-performing buildings with increased focus on integrated design; 2) Improve customer satisfaction and program access with reduced costs and participation barriers; and 3) Ensure that customers make cost-informed decisions.

Proposed Approach
To deliver on this opportunity, New Buildings must:

- View the whole building as the measure, for the purpose of claiming energy savings in alignment with Oregon code. This eliminates the need for design teams to spend resources on modeling individual technologies and many combinations of technologies (this is not in practice in the market), which reduces barriers to program participation.
- Continue to meet OPUC cost effectiveness requirements for utility system investments by offering incentives that pass UCT cost effectiveness.
- Use training, education, and new program offers to ensure that participants (including building owners) are making good investments in energy-efficient buildings.
- Trust customers to make sound decisions about energy and costs when they have valuable information on hand.
- Continue to invest in research to help refine offers and ensure this approach is influencing design.

At a practical level, this includes the following activities:

- Build and strengthen training partnerships (including coordination with Northwest Energy Efficiency Alliance for above code training and alignment with Oregon Department of Energy for code compliance training)
- Integrate cost information into training and resources with the following themes:
    - Whole building design strategies
    - Specific strategies and technologies that are typically cost-effective.
    - Early planning and integrated design mean that efficiency may not cost more.
- Increase access to early design assistance and energy modeling services and resources through a simplified method developed by Pacific Northwest National Labs (PNNL)
- Set incentives to motivate deeper savings (within UCT)
- Expand reach, eligibility and promotion of Net Zero Grants

- Track emerging technologies and design strategies.

Market research findings
A recent process evaluation compared projects in 2019-2021 to those in 2016-2018 and delivered these findings.

- 50% more projects were enrolled in 2019-2021
- Market penetration is around 80% of all new construction projects.
- Market actors worry that code changes will be too costly for small business owners.
- Customers appreciate that modeling support allows them to run various scenarios to get the most out of their designs.
- Code officials would like to find ways for Energy Trust to support training for their staff.
- Energy modeling, a key component of whole building design, is what pushes some projects to construct at net-zero level.
- Early design and technical assistance are critical support that help customers include solar and invest in efficiency.

Program Strategies for Delivering Cost-effective Savings

- The program employs a team of 10+outreach managers who work in the field to engage architects, engineers, and developers early in their design process.
- Training and education is often delivered in collaboration with partners such as the Oregon Department of Energy (ODOE), the Northwest Energy Efficiency Alliance (NEEA) and Building Codes Division
- The program's relationship with AIA ensures that program services and training are promoted widely throughout AIA channels.
- The RFP for the program will request evidence of the proposer's knowledge of market forces and relationships with market players, as well as examples of how the proposer has leveraged partnerships to deliver value to customers.
- Expanding the whole building offers to more customers by pursuing a Simplified Whole Building offering.
    - Energy Trust is testing the Simplified Performance Rating Method (S-PRM) developed by PNNL with energy modeling experts .
    - Interviews with both larger firms and smaller firms owned by women and people of color indicate that they are ready and willing to work together to deliver high-performing buildings using S-PRM

- Training with cost & decision-making focus: two recent showcase training events included case studies and panel discussions that teased out critical themes and posed questions focused on cost and decision making and code compliance pathways
    - 91% of people who attended said they were very likely or somewhat likely to apply the knowledge.
    - There was a 30% increase in training participation from 2021 to 2022.

Exception History

After examining the potential impacts from changes to the 2019 Commercial Code, the OPUC granted Energy Trust a two-year (2020 - 2021) exception to calculating the Total Resource Cost test (TRC), and the requirement for measure level analysis for projects that use whole-building analysis, such as Market Solutions, Whole Building, or Path to Net Zero. This exception was required because the new commercial code created significant challenges in determining incremental costs of measures needed to calculate TRC. Exception criteria cited in providing this exception include those following:

A. The measure produces significant non-quantifiable non-energy benefits. In this case, the incentive payment should be set at no greater than the cost-effective limit (defined as present value of avoided costs plus 10 percent) less the perceived value of bill savings, e.g., two years of bill savings.

B. Inclusion of the measure will increase market acceptance and is expected to lead to reduced cost of the measure.

C. The measure is included for consistency with other demand side management (DSM) programs in the region.

G. The measure is required by law or is consistent with Commission policy and/or direction.

During this period, the team and key stakeholders conducted savings and cost analysis of whole building prototypes to determine if they were useful as proxies for actual buildings to estimate the TRC. The results were inconclusive, and the team concluded that relying on that approach would not demonstrate whether a measure or project meets the TRC requirement.

OPUC then granted a two-year exception extension (2022-Q1 2024) to identify a long-term strategy that leverages the program's market transformation position to ensure good use of rate payer funds by helping customers make cost-informed decisions about energy investments. During this period, Energy Trust pursued a strategy to deliver an education-based approach that meets the spirit of the TRC by providing design teams with information to help them make sound financial decisions and address customer benefits of energy efficiency investment. This strategy is supported by key partners (including Oregon Department of Energy and Northwest Energy Efficiency Alliance) as the best way to deliver value in the market and remain in alignment with the current code.

Stakeholder Input and Support
This approach has been vetted and supported by Energy Trust's Conservation Advisory Council; by a working group of Energy Trust, CLEAResult (Program Management Contractor), Oregon Department of Energy and Northwest Energy Efficiency Alliance. Details of stakeholder engagement are below.

Several industry stakeholders also filed comments as part of the OPUC process in support of the exception extension and the redesign of the New Buildings Program. Stakeholders cited the benefits of ongoing reliable and dependable guidance, and assistance in attaining higher efficiency goals.

Four stakeholder workshops were held between June and September in **2020**, with NEEA, ODOE and OPUC staff

- June 1 workshop with NEEA, ODOE and OPUC staff, discussed working agreements and main questions.
- June 12 workshop with NEEA, ODOE and OPUC staff established that the new code would create difficulties for TRC (Energy Trust's program implementation contractor) and the team began to discuss the prototype option.
- June 26 workshop with NEEA, ODOE and OPUC staff affirmed working agreements, established solution precedents, established the proxy approach.
- September 29 workshop with NEEA, ODOE and OPUC staff, details provided on the proxy approach.

One meeting was held in March **2021** with NEEA, ODOE and OPUC staff.

- Phase one of the proxy approach was presented, and Bing Liu of NEEA was not surprised that the results were inconsistent, which would make program design difficult.
- The training and education option was presented, and there was discussion of collaboration among ODOE and NEEA. Anna Kim agreed this was the only viable option and wanted to make sure that ODOE supported this approach.
- Discussion of an extension to the exception and timing for projects.

Three stakeholder workshops were held in **2022**, with NEEA, ODOE and OPUC staff

- January 19 workshop, discussion of market research and performance pathway, as well as OPUC staff statement that input from those outside Energy Trust will be important
- February 18 workshop included presentation of potential collaborations among NEEA and ODOE. NEEA is interested in collaboration with Energy Trust and improving understanding of what the market needs. Idea of a one-stop shop for designers was discussed by the group, and cohort or SEM model was of interest

- September 7 workshop went over program opportunity and NEEA and ODOE both supported the whole building approach. Discussion on level of investment and importance of testing and measuring success. OPUC staff supported the proposed approach.

Staff presented at Conservation Advisory Committee (**CAC)** July **2020**, February **2021**, May **2021**, September **2022** and June **2023**

- At the July 2020 CAC, members received an update on the workshops being held and the option of using prototypes to create proxy baseline buildings for calculating the TRC. Members asked about past project cost percentage increases after code changes, and staff explained that estimating these percentages can be difficult because data is building-specific due to the variety of approaches for each building.
- At the February 2021 CAC, members learned that phase one of the proxy approach provided inconclusive results, and that phase two would include more types of buildings. Staff shared that annually updating the savings for these prototypes will be costly.
- At the May 2021 CAC, the code issue and the solution of expanded training and technical resource was presented. CAC members commented that the approach seemed reasonable, and Casa of Oregon suggested that centering on low-income development would improve the system overall. Forest Tanier-Gesner of PAE commented that both the early technical assistance and the energy incentives have been necessary to push projects further.
- At the May 2022 CAC, members heard an update on program participation for whole building projects and increases in investment for training and education to advance high-performance building development. Staff shared that they had provided briefings to the Resilient Efficient Buildings Task Force. Staff also discussed the potential addition of energy modeling training for customers.
- At the September 2022 CAC, staff provided an update of the TRC exception and changes being made by the program, including a planned test of S-PRM and a 30% increase in training participation from the previous year. Staff also shared that industry stakeholders supported the program's focus on the whole building approach. NEEA's council member spoke up to support the approach, as it matches their approach as well.
- At the June 2023 CAC, staff updated members on work being done, including the Simplified Performance Rating Method to reach smaller, rural customers without the resources for the larger whole building approach to modeling. Staff also shared that UTC for the program has hovered around 2.0 for the last several years.

During the August 2021 Staff report, public comments were filed. All six respondents to the pilot supported an extension to exceptions so that Energy Trust has time to redesign the program. Stakeholders cited the benefits of ongoing reliable and dependable guidance, and assistance in

attaining higher efficiency goals. Four commenters highlighted the importance of continuing to support multifamily housing and affordable housing projects.

i. Cassidy Bolger, Mill Creek Residential

ii. Gus Baum, Security Properties

iii. Shem Heiple, Interface Engineering Inc.

iv. Joshua R. Carrillo, Northwest Housing Alternatives

v. Eric McDaniel, SORA

vi. Erin Lauer, Project Pivot

The following comment is from Shem Heiple at Interface Engineering Inc.

"I am writing to you to highly recommend the extension of the cost effectiveness exception for the ETO whole building program from the perspective of a building engineer designer and energy analyst. I have worked on ETO incentive projects providing energy analysis for over twelve years in their new building programs. The new 2019 and now 2021 Oregon energy code with the adoption of the ASHRAE 90.1-2016 has added a high level of difficulty in providing accurate early design energy savings and potential incentive amounts to the building owners that is necessary to drive and nurture the integrative design process for a successful high-performance design.

The current whole building program and incentive process under the current exception has alleviated much of the difficulty that comes with the new energy code by making the incentive process more straightforward as a design consultant. This makes it easier to determine project incentive amounts with the energy analysis that the owner can use to make important design decisions and point the project towards better efficiency."

Savings Forecast for 2024 and 2025

2025 R1 Savings

Utility	2023 Goal	2024 Draft	2025 Draft	Savings Change	% Change
PGE	22,583,552	35,689,145	36,761,760	1,072,616	3%
PAC	43,466,069	14,998,306	41,901,343	26,903,037	179%
Subtotal	66,049,621	50,687,451	78,663,103	27,975,652	55%
NWN	290,171	324,799	328,731	3,932	1%
NWNF	755	44,124	3,828	(40,296)	-91%
CNG	32,770	40,909	50,038	9,129	22%
AVI	39,662	30,006	31,512	1,506	5%
Subtotal	363,358	439,837	414,109	(25,728)	-6%

Note: Some of the fluctuations in year-to-year program volume for individual utilities are the result of individual very large projects, often data centers.

Leveraging Other Funding Sources
The program leverages Energy Trust, statewide, and regional and municipal funding for projects but does not document how projects leverage other funding. Outreach staff encourage project teams to look at additional funding sources, and on occasion, design teams request documentation of their program participation to support a grant application.

The program will issue an RFP in 2024, and a key component of that RFP will be to submit a proposal for how the PMC will leverage other funding sources. The contract will also include metrics and tracking for that component of the work.

Energy Trust Solar Incentives
Outreach staff connect project teams with Energy Trust solar incentive opportunities via the early design assistance solar add-on. Some projects also pursue Solar Development Assistance. This incentive supports an in-depth solar feasibility study that can be used in grant applications for solar installations.

	2019	2020	2021	2022	2023*
EDA Solar Add-on	14	25	29	40	10
Solar Development Assistance	5	12	4	21	18

**2023 numbers are updated through July 2023*

Statewide initiatives

The Outreach team promotes ODOE grant opportunities to project teams, working closely with projects applying for or utilizing OHCS funding.

- Community Renewable Energy Grant Program
- Energy Efficient Wildfire Rebuilding Incentive
    - 23 projects in the program qualify for this incentive.
- Oregon Solar + Storage Rebate Program: Low-Income Service Providers

OHCS OR-MEP (Oregon Multifamily Energy Program):

	2016	2017	2018	2019	2020	2021	2022	2023*
OHCS-funded projects	1	2	3	5	12	12	16	4

**2023 numbers are updated through July 2023*

Regional & Municipal programs

- Outreach team ensures that eligible affordable housing projects are aware of Portland Clean Energy Community Benefits Fund (PCEF)
- City of Bend Multiple Unit Property Tax Exemption (MUPTE)
    - Projects use NB enrollment as documentation for this exemption. Further documentation of PTNZ status is also required. Per city staff, this tax exemption provides a positive financial impact for the project developer.
    - MUPTE was announced in 2022; project engagement began mid-2023.
- Tigard is developing an incentive program relating energy efficiency to tangible benefits for the project, like the City of Bend MUPTE program.
- Commercial-Property Assessed Clean Energy (C-PACE)
    - Various counties have approved or are considering C-PACE for funding energy efficient projects. NB supports C-PACE projects by providing documentation that a project is engaged with the New Buildings program and achieving a target EUI.

Utility incentives and grants

- Outreach staff frequently refer project teams to utility-led programs on solar, solar + storage, and EV charging. Project teams outside our service area are encouraged to contact their electric utility for possible energy efficiency incentives.
- Working with PGE and NEEA to promote efficient communications-enabled Heat Pump Water Heaters to increase the number of Distributed Energy Resources available to

PGE for load management, making customers eligible for PGE incentives for their Demand Response programs.

Ensuring Best Use of Ratepayer Funds
To continue to ensure that ratepayer funds are invested wisely, Energy Trust will:

- Continue to report on project and program level UCT to ensure utility system benefit.
- Add customer decision making and cost analysis to ongoing market research and evaluation to clarify program influence and ensure customer benefits (note: understanding influence from this new approach to training will take several years given the time for professionals to apply new knowledge to projects and the multi-year timeline of many New Buildings projects)
- Coordinate with NEEA/ODOE on education & training programs.
- Report to the OPUC annually on the status of this work.

Architects, engineers and contractors are more likely to design and install building systems that have been tested and proven to provide the desired performance. The industry is inherently risk averse due to the nature of their liability insurance, and professionals have low tolerance for systems that are perceived to be risky/unproven. This is an additional guardrail to ensure that customers are making good decisions about energy efficient equipment.

SUPPORTING DOCUMENTS (available on request):

1. 2020-2021 Process Evaluation
2. Logic Model
3. Debrief on AFE Trainings/Case Studies
4. Additional insights from last year of training and education.
5. Testimonials from customers/CAC
6. S-PRM Program Delivery Pilot Document
7. Summary of findings from S-PRM market intelligence interviews by Efficiency for Everyone
8. New Buildings Program Utility Cost Test (UCT) Benefit-Cost Ratios Trend