# *Cost-effectiveness & Evaluation Advisory Committee (CEAC)*

## Northwest Energy Efficiency Alliance

February 18, 2026



*CLASSIFICATION LEVEL: PUBLIC*

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# Agenda

| TIME | TOPIC | PRESENTER(S) |
|---|---|---|
| 1:30pm | Welcome/Agenda Review | Jonathan Belais |
| 1:40 | Annual Reporting Process | Nathan Martinez |
| 1:50 | Key Inputs & Assumptions Updates | Nathan Martinez, Will Gehrke |
| 2:25 | MRE Newsletter | Meghan Bean |
| 2:35 | Retail Product Portfolio (RPP) Market Progress Evaluation Report (MPER) #3 | Zdanna King |
| 2:55 | BREAK | |
| 3:05 | Luminaire Level Lighting Control (LLLC) Market Progress Evaluation Report (MPER) #3 | Zdanna King |
| 3:25 | Idaho Commercial Code Compliance Evaluation | Chris Cardiel |
| 3:50 | WRAP UP | |

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# *Introductions & Ice Breaker*

- Name
- Organization
- Question(s) for today or tomorrow?
- Personal mascot?



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# *Efficiency Exchange 2026 (EFX26)*

**Early Bird Registration**

February 9 – April 3

**neea.org/EFX**

EFX26 In-person Conference

**May 5-6 in Boise, ID**

*Preconference tours and networking on May 4*



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# *Ryan Brown is changing roles*

- Ryan is now NEEA's Market Transformation Manager for HVAC
    - Over 11 years at NEEA
    - 5 years managing the Market Analysis and Planning team
- Staying involved through annual reporting
- Nathan Martinez, Director of Market Analysis Research and Evaluation filling in while recruiting a new manager




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# *Introducing Nithya Bengali!*

Market Research & Evaluation Scientist for NEEA's Advanced Heat Pump program & residential codes work



- PhD in implementation science
- Background in mixed-methods research & program evaluation
- Prior roles in healthcare and public health, with a focus on serving rural communities

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# *Annual Reporting Process*

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# Annual Reporting Process

## Q1: Feb 2026

- Local Programs Survey completed
- Review updates to key inputs and assumptions

## Q2: Apr 2026

- Market Transformation Savings and Benefit-Cost Accounting and Reporting
- Review resulting Energy Savings estimates for the NEEA portfolio
- Review cost effectiveness assessment, peak savings and avoided carbon emissions
- Review updates to key assumptions for annual savings reporting
- Share select market trends and new findings

## Q2: Jun 2026

- 2025 Annual Report published

**Individual Funder Reports Delivered**

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# System of Documentation Available

| | |
|---|---|
| **CEAC Meeting Materials**<br>*Included in the meeting invite* | **Key Assumptions Update**<br>*Updated Quarterly* |
| | Updates to key inputs and assumptions |
| | **Annual Summary**<br>*Updated in April* |
| | Memo summarizing portfolio savings, cost effectiveness and program updates |
| **Funder Portal**<br>*NEEA SharePoint* | **Energy Savings Report**<br>*Updated Q1/Q2, upon request* |
| | Annual Savings Report<br>Customized Workbook |
| | **Guidelines and Data Sources**<br>*Updated in April* |
| | Estimation Approaches & Data Sources<br>NEEA Guidelines |
| | **Methodologies**<br>*Updated in April* |
| | Methodology Documentation |

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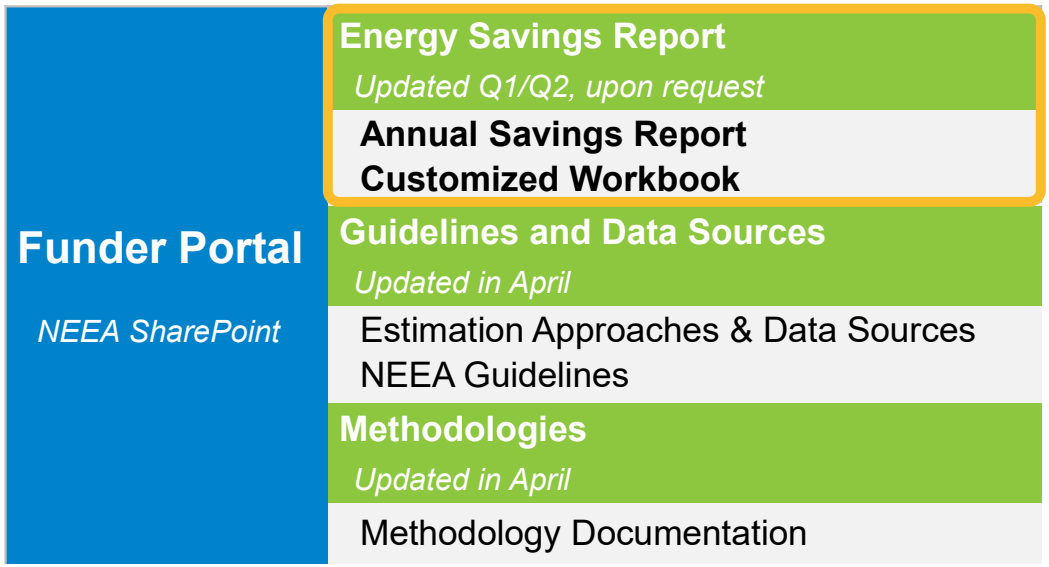
# New in 2026: Funder Reports Access via Funder Portal




***Funder reports will be uploaded to this library.***

***You will be notified via email when the report becomes available.***

If you need an account or need technical support, please contact Chris Clark (CClark@neea.org)

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# *Key Inputs and Assumptions Update*

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# *Input Development and Review Process*



## Develop Inputs

NEEA staff develops Key Assumptions in alignment with the region through:

- Internal analysis
- External studies
- Regional Technical Forum



## Validate Assumptions

NEEA staff commissions 3rd party evaluations for new Key Assumptions and for changes to Key Assumptions used in the reporting of savings.



## Report Key Assumptions

NEEA staff reviews new and updated Key Assumptions with CEAC every quarter. Additionally, NEEA staff will highlight any Key Assumptions that may warrant updating and solicit input from the committee for better data to inform a Key Assumption.



## Post Key Assumptions

Full set of regional key assumptions used for reporting is made available on NEEA Funder Portal.

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# *Q1 Key Inputs Updates*

## In the meeting packet:

- Commercial Codes
  - Commercial codes analysis for Oregon and Washington
- Efficient Rooftop Units (Efficient RTU)
  - Unit energy modeling study
- Luminaire Level Lighting Controls
  - Third-party review of modeling assumptions
- Residential Codes
  - Savings rate analysis for Oregon
- Manufactured Homes
  - Minor revisions to improve modeling and align with RTF

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# *Commercial Code Baseline: Ramp Rate*

**Meghan Bean, Manager, Market Research and Evaluation**
**William Gehrke, Senior Market Analyst**



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# *Commercial Codes*

- Purpose of NEEA Natural Market Baselines
- Reminder of code baseline review findings
- Discussion of commercial code baseline ramp rate

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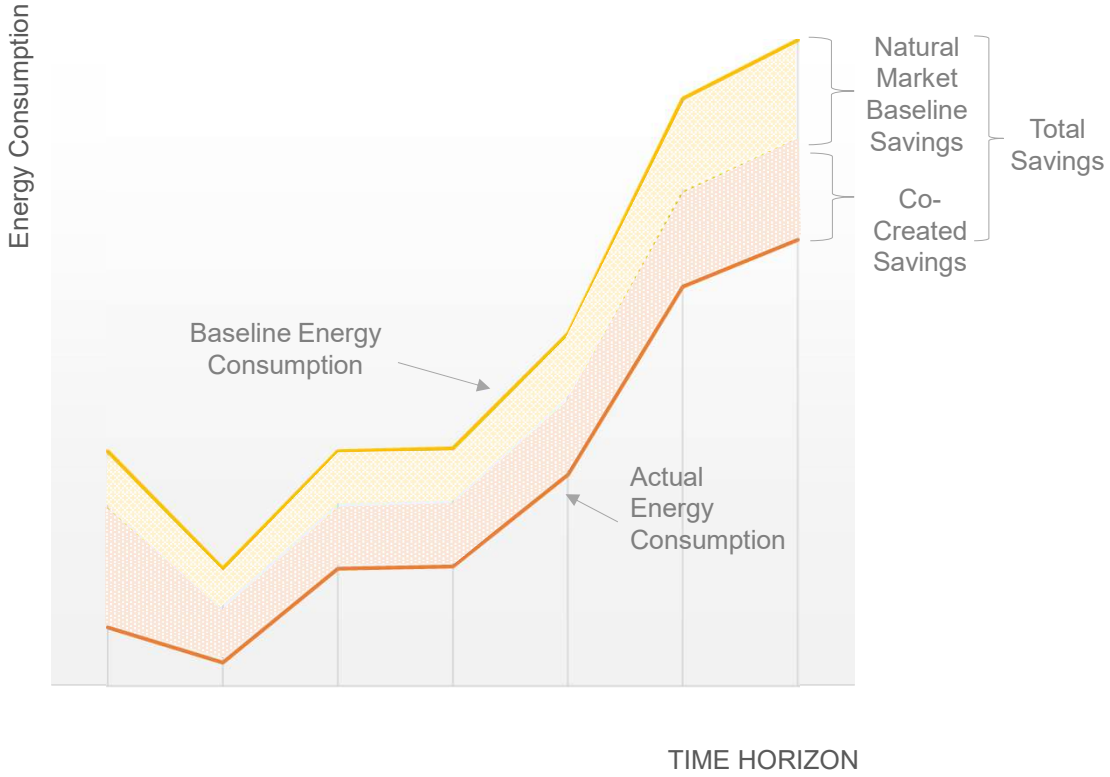
# Purpose of the Natural Market Baseline

- Establishes justification for investment
- Supports development of market intervention strategies
- Used to account for energy savings that would have occurred without market intervention

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# Code Baseline Review Recommendations

1. Rather than apply a default baseline assumption for all states and sectors, NEEA should establish separate baseline assumptions for each energy code update, state, and sector.

2. As part of the process to establish the baseline assumptions, NEEA should more clearly define, document, and communicate the role of its partners.

3. Based on an independent qualitative assessment of NEEA and its partners' role in a specific code cycle, state, and sector, NEEA should adjust code baselines to reflect the number of code cycles (1, 2, or 3) that NEEA and partners' work likely accelerated code adoption.

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# Upcoming Codes Affected by the Change

| State | Sector | Code | Expected Adoption |
|---|---|---|---|
| **Idaho** | Commercial | 2024 International Energy Conservation Code | 2026/2027 |
| | Residential | 2024 International Energy Conservation Code | 2026/2027 |
| **Montana** | Commercial | 2024 International Energy Conservation Code | 2027 |
| | Residential | 2024 International Energy Conservation Code | 2027 |
| **Oregon** | Commercial | 2026 OR Energy Efficiency Specialty Code | 2027 |
| | Residential | 2026 OR Residential Specialty Code | 2026 |
| **Washington** | Commercial | 2024 Washington State Energy Code | 2026 |
| | Residential | 2024 Washington State Energy Code | 2026 |

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# *Commercial Code Baseline: Ramp Rate Overview*

- Provide an overview of NEEA's commercial code baseline calculation method and commercial code ramp rate.
- Explain the symmetrical baseline adjustment to ensure consistency between influence assumptions and modeled savings.
- Walk through examples showing how the method applies across different code scenarios.

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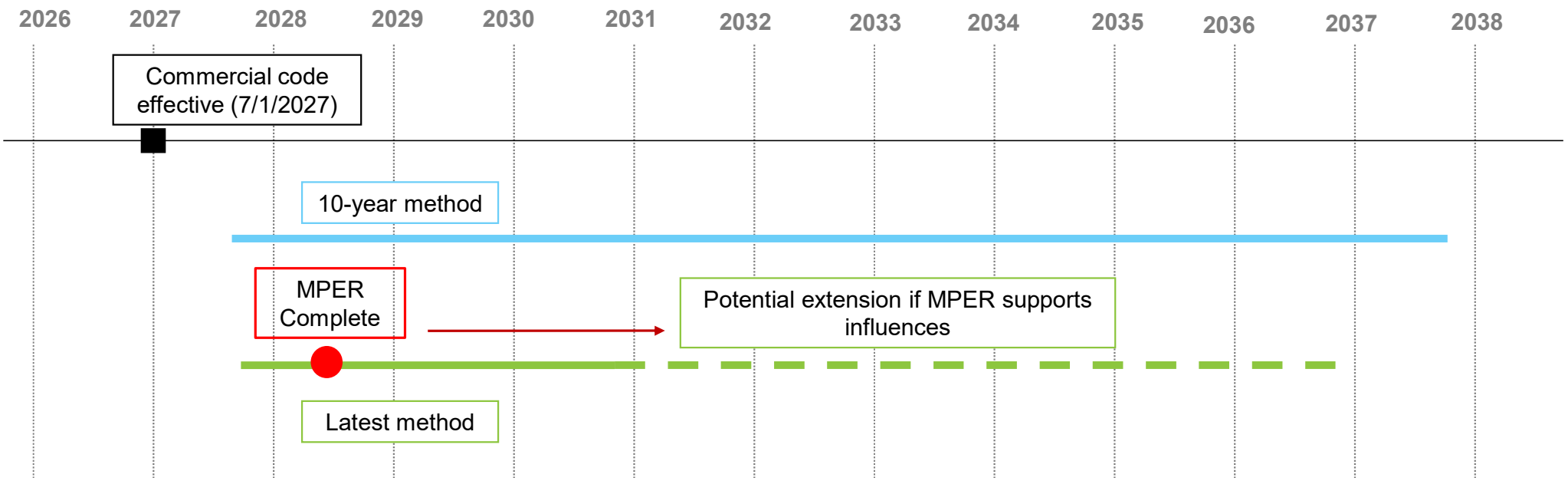
# Commercial Code
# NMB Baseline Example

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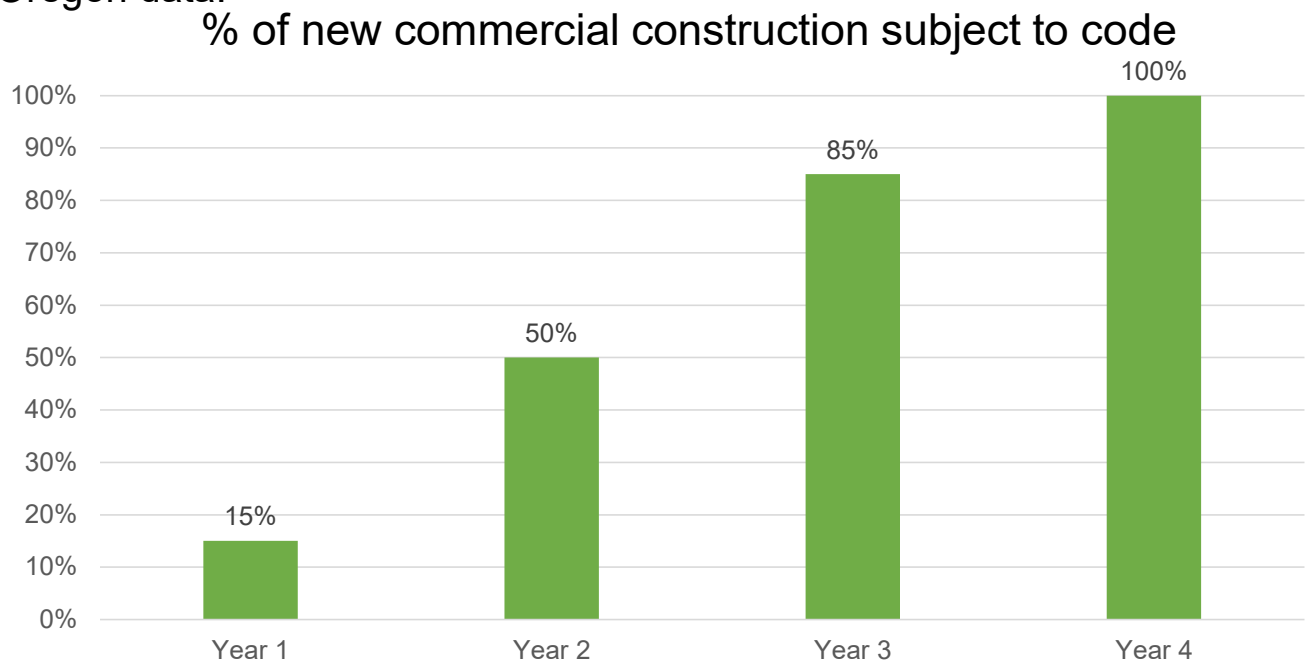
# Commercial Code Ramp Rate

- Code requirements tied to permit data, not completion date
- Used to track the share of new construction permitted under the new commercial code.
- NEEA models that 100% is permitted under the new code after 34 months based on 2012 Energy Trust of Oregon data.

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# Commercial
# 3 Code Cycle Example (9 Year Total)




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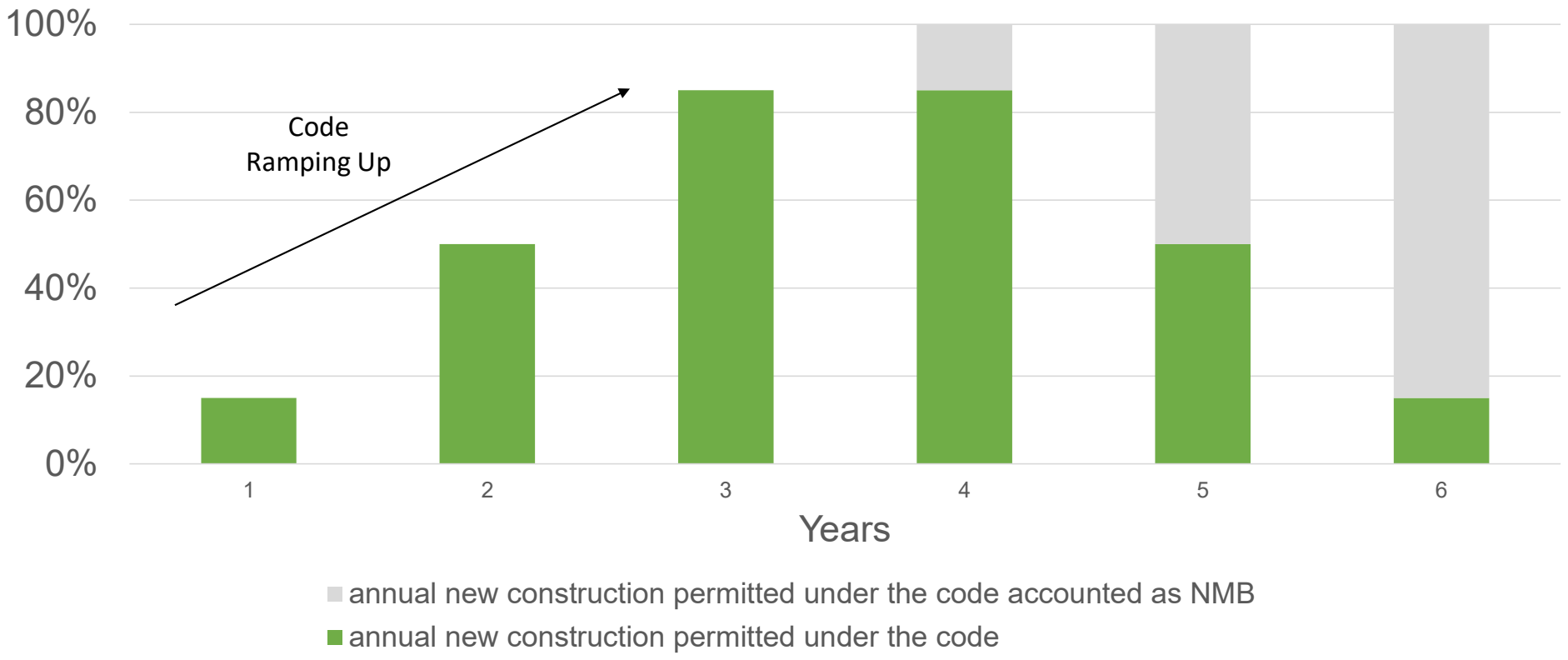
# *Commercial*
# *1 Code Cycle Example (3 Year Total)*

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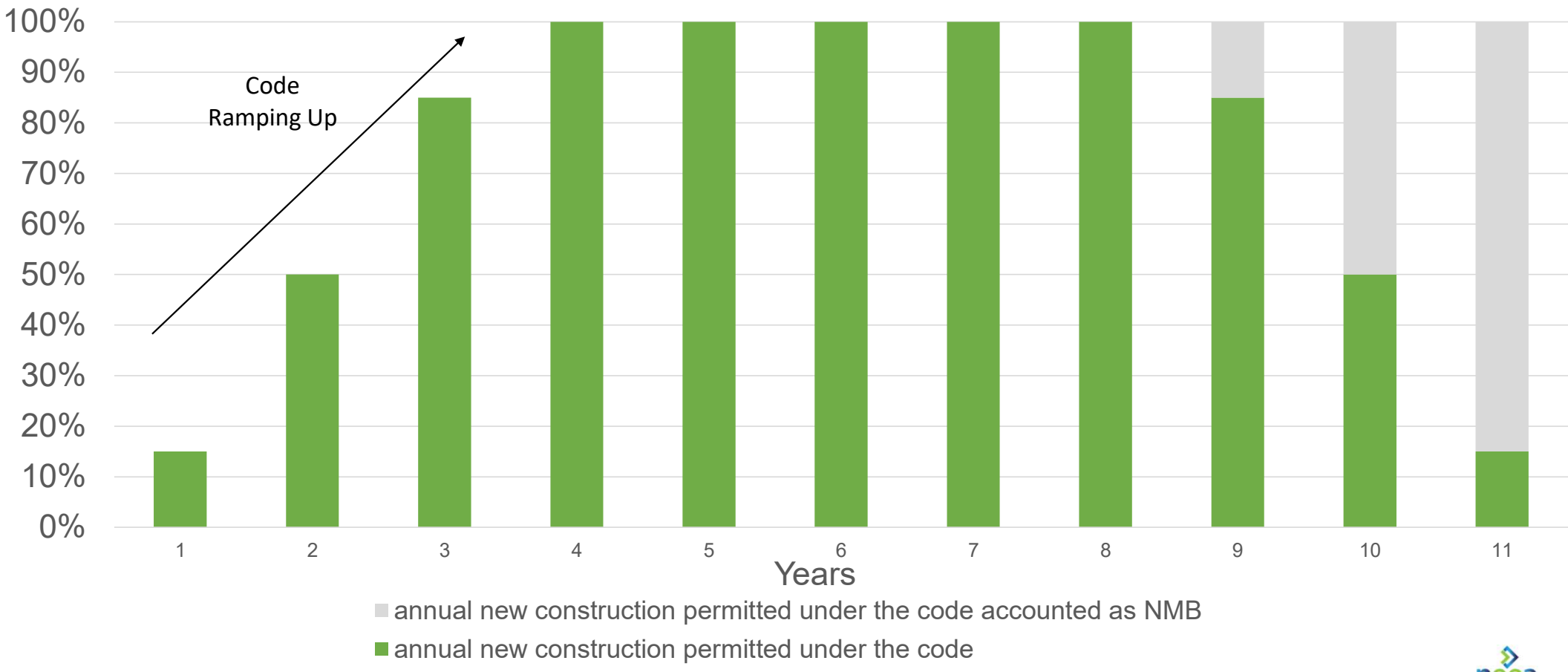
# Commercial
# 2 Code Cycle Example ( Four Year Code Cycles)

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# Conclusion & Next Steps

- Commercial code will continue to incorporate the ramp rate to reflect construction timelines.
- NEEA is using a symmetrical ramp rate adjustment to the end of natural market baselines.
- The duration of net market effects will change based on the qualitative code assessment from the MPER.

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# *Questions?*

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# *Market Research & Evaluation Newsletter*

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# Q4 2025 MRE Newsletter

- Includes links to 3 published reports:
  - Commercial HVAC Specifier Market Research: Gas High Efficiency DOAS
  - NEEA Code Baseline Assumption Review
  - Oregon Residential Code Compliance Evaluation

- Showcases the breadth of work managed by the MRE team
  - 7 Market Progress Evaluation Reports (MPERs)
  - 5 market research studies
  - 5 baseline/key assumption reviews
  - 3 code compliance evaluations
  - 1 diffusion evaluation

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# *Retail Product Portfolio: Market Progress Evaluation Report #3*

**Zdanna King**

Senior MRE Scientist, NEEA

2/18/2026



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# *RPP MPER #3 Agenda*

- RPP Program Overview
- RPP MPER #3 Research Objectives
- Methods
- Results
- Contractor Recommendations

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# NEEA's RPP Program

**Long-term objective:** Manufacturers build energy efficiency into product designs for consumer goods

| RPP Interventions |
| --- |
| Emerging technology |
| Midstream incentives |
| Measurement and compliance |
| Specification advancement |
| Standards |


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# NEEA's RPP Program

NEEA must partner with funders outside the Northwest so that the program is large enough to influence retailers and successfully advocate for updates to test procedures, federal standards, and ENERGY STAR® specifications

**2016**
NEEA joins national ESRPP program

**2021**
NEEA begins facilitating national ESRPP program

**2021**
RPP MPER #1
Focus on 2020 program year

**2023**
RPP MPER #2
Focus on 2021 program year

**2025**
RPP MPER #3
Focus on 2022-2024 program years




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# *RPP MPER #3 Research Objectives*

1. Document status of market progress indicators (MPIs) in the Northwest in 2022-2024
2. Explore additional ways to measure influence on manufacturers


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# *RPP MPER #3 Research Objectives*

1. Document status of market progress indicators (MPIs) in the Northwest in 2022-2024
2. Explore additional ways to measure influence on manufacturers


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# MPI Assessment Methods

- Document review
  - Internal NEEA strategy documents
  - NEEA RPP MPER #1 & #2
  - Published evaluations of NEEA and partners' influence on test procedures and ENERGY STAR® specifications
- Sales data analysis
- Web-scraping and promotional flyer analysis


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# *Market Progress Indicators & RPP Products (2022-2024)*

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# *Market Progress Indicators (MPIs) by Product (2022-2024)*

Key MPIs differ for each product year-to-year based on the current strategy

| | Retailers consider ESRPP qualification in assortment and marketing decisions | Market share of ESRPP-qualified product tiers increases | ENERGY STAR (or higher tier) qualifying criteria increases | Test procedures are improved | Federal minimum standard increases |
|---|---|---|---|---|---|
| Room ACs | | X* | | X | |
| Clothes washers | X | X | | | X |
| Clothes dryers | X | X | | | X |
| Refrigerators | X | X | | X | X |
| Televisions | | | X* | | |


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# *Results:*

# *Market Progress Indicators & RPP Products (2022-2024)*

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# *Market Progress Indicators (MPIs) by Product (2022-2024)*

9 out of 13 MPIs showed clear progress

| | Retailers consider ESRPP qualification in assortment and marketing decisions | Market share of ESRPP-qualified product tiers increases | ENERGY STAR (or higher tier) qualifying criteria increases | Test procedures are improved | Federal minimum standard increases |
|---|---|---|---|---|---|
| Room ACs | | + | | + | |
| Clothes washers | + | O | | | + |
| Clothes dryers | + | + | | | + |
| Refrigerators | -- | -- | | O | + |
| Televisions | | | + | | |


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# *Room Air Conditioners*

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# Room ACs

*MPI II. Market share of RPP-qualified product tiers increases.*

| NEEA Strategy | Finding | MPI Progress? |
|---|---|---|
| NEEA predicts market share of ESME ACs will continue to increase without ESRPP incentives – ends incentives in 2022. | ESME market share grows from 10% to 18% one year later. | + Clear Progress |

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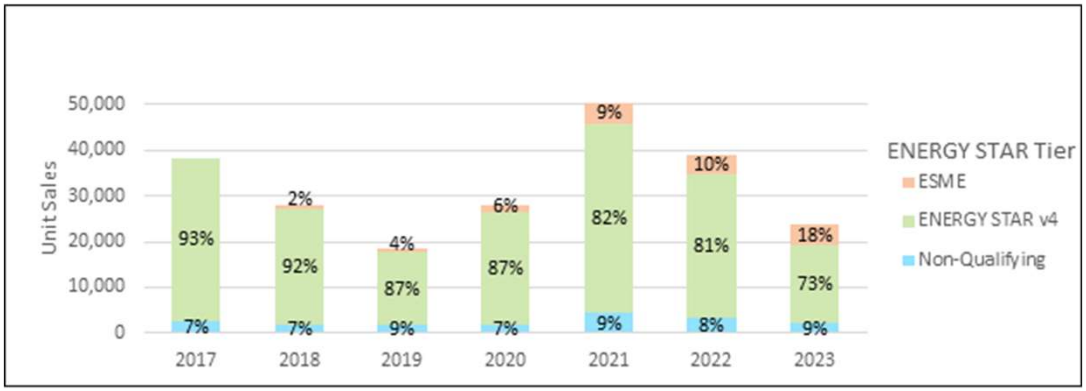
# Room ACs

*MPI II. Market share of RPP-qualified product tiers increases.*

Figure 1. Participating Retailer Room AC Sales in NW

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# Room ACs

*MPI IV. Test procedures are improved.*

| NEEA Strategy | Finding | MPI Progress? |
|---|---|---|
| NEEA submits recommendations to ENERGY STAR during test method revision process. | Many of NEEA's recommendations were included in final test procedure in 2024. | + Clear Progress |

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# *Clothes Washers*

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# Clothes Washers

*MPI I. Retailers consider ESRPP qualification in assortment and marketing decisions*

| NEEA Strategy | Finding | MPI Progress? |
|---|---|---|
| NEEA coordinates ESRPP and incentivizes national retailers on clothes washer sales. | Web-scraping and promotional flyer analysis shows ESRPP-participating retailers in the NW are 8% more likely to promote ENERGY STAR rated clothes washers. | + Clear Progress |

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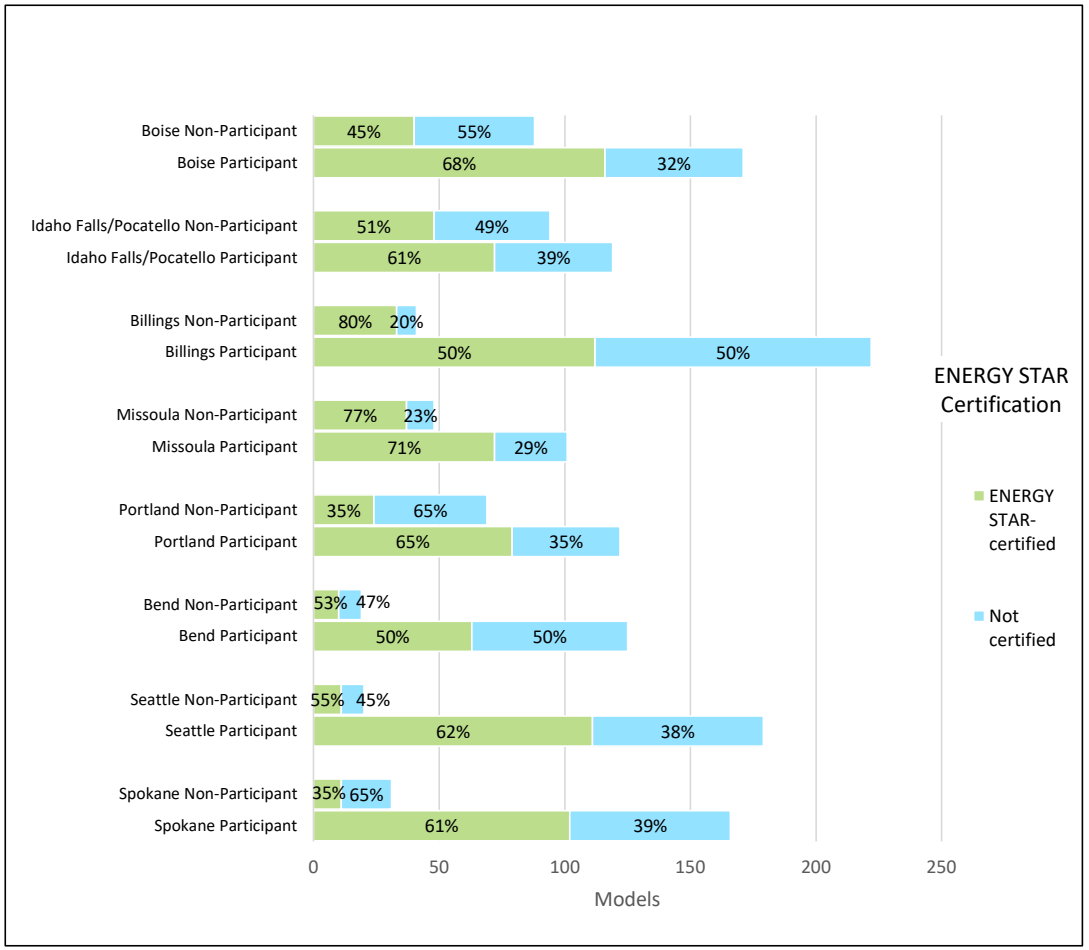
# Clothes Washers

*MPI I. Retailers consider ESRPP qualification in assortment and marketing decisions*

Figure 2. Assortment of ENERGY STAR Clothes Washers among Participating and Non-Participating Retailers

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# *Clothes Washers*

*MPI II. Market share of RPP-qualified product tiers increases.*

| NEEA Strategy | Finding | MPI Progress? |
|---|---|---|
| NEEA incentivizes ENERGY STAR and ESME-qualifying top-loading clothes washers from 2022 to 2024; slightly decreases incentive amount in 2024. | ESME market share decreased by 2% and ENERGY STAR market share decreased by 4%. | O<br>Progress Stalled |

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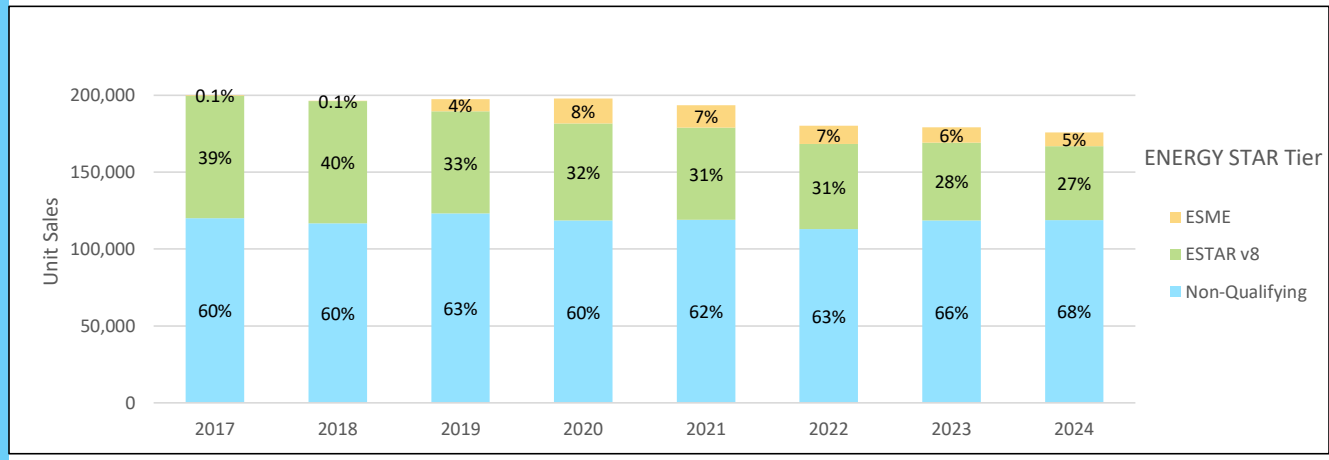
# Clothes Washers

*MPI II. Market share of RPP-qualified product tiers increases.*

Figure 3. Participating Retailer Clothes Washer Sales in NW

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# Clothes Washers

*MPI V. Federal minimum standard increases.*

| NEEA Strategy | Finding | MPI Progress? |
|---|---|---|
| NEEA attends AHAM agreement meetings and supports energy efficiency recommendations within the final agreement in 2023.<br><br>NEEA participates in the federal standard review process through the submission of comment letters with further recommendations. | Out of 17 NEEA recommendations made to the DOE, 10 were adopted in the final rule scheduled to go into effect in 2028. | +<br><br>Clear Progress |

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# *Clothes Dryers*

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# Clothes Dryers

*MPI I. Retailers consider ESRPP qualification in assortment and marketing decisions*

| NEEA Strategy | Finding | MPI Progress? |
|---|---|---|
| NEEA coordinates ESRPP and incentives national retailers on clothes dryer sales | Web-scraping and promotional flyer analysis shows ESRPP-participating retailers in the NW are 8% more likely to promote ENERGY STAR rated clothes dryers | + Clear Progress |

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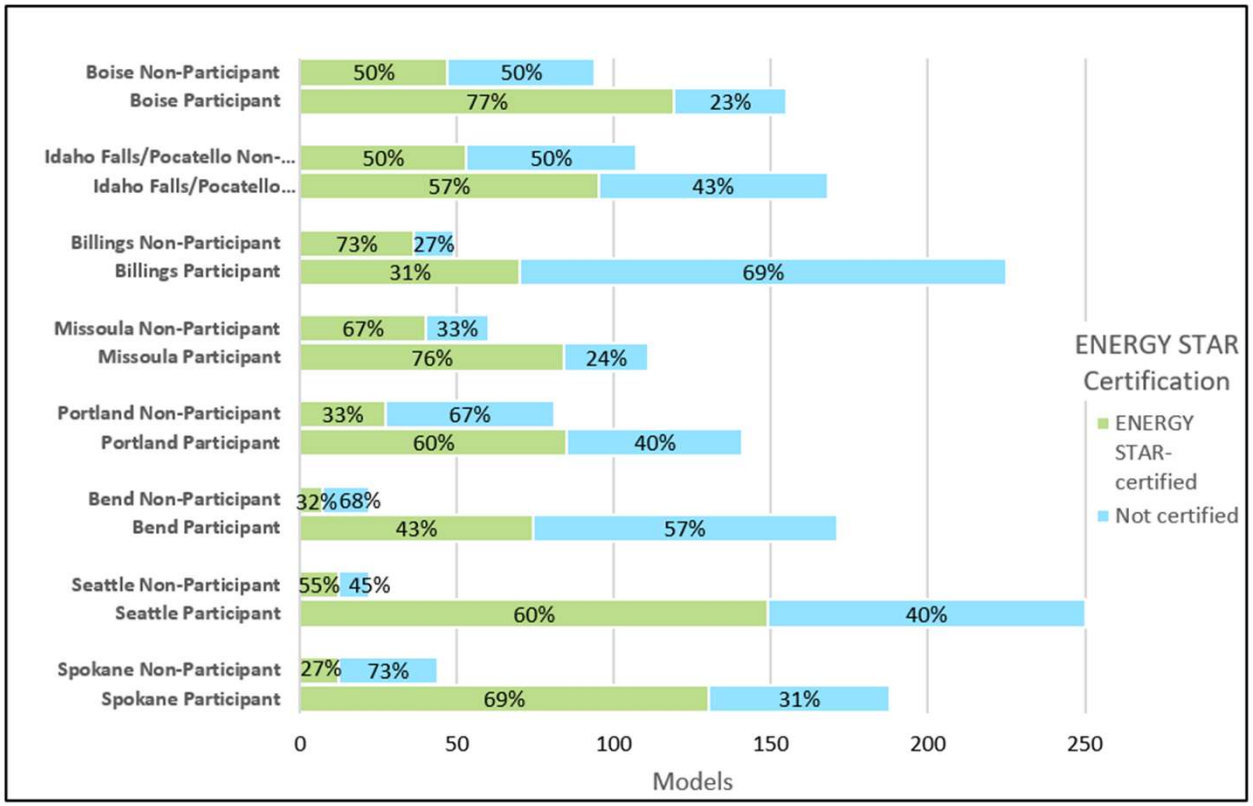
# Clothes Dryers

*MPI I. Retailers consider ESRPP qualification in assortment and marketing decisions*

Figure 4. Assortment of ENERGY STAR Clothes Dryers across Participating Non-Participating Retailers

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# *Clothes Dryers*

*MPI II. Market share of RPP-qualified product tiers increases.*

| NEEA Strategy | Finding | MPI Progress? |
|---|---|---|
| NEEA incentivizes ESME-qualifying dryers at higher levels in 2022 and 2023, before decreasing amount in 2024. | Market share of ESME-qualified dryers increased by 1% during this time. | + Clear Progress |

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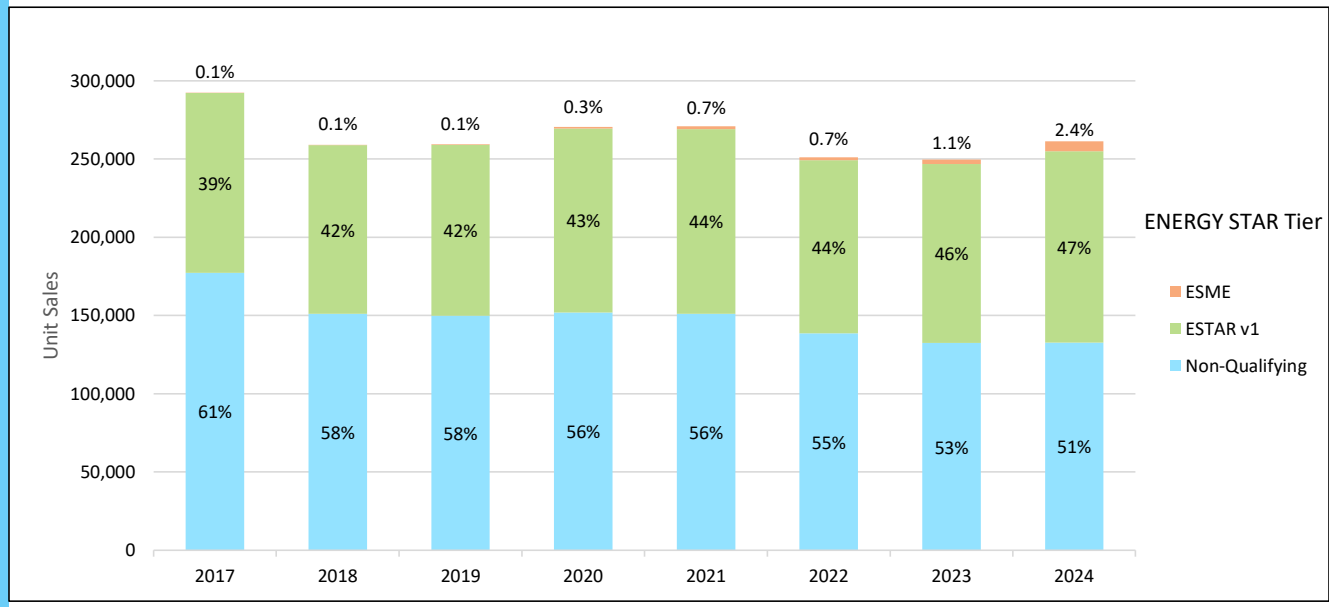
# Clothes Dryers

*MPI II. Market share of RPP-qualified product tiers increases.*

Figure 5. Participating Retailer Clothes Dryer Sales in NW

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# Clothes Dryers

*MPI V. Federal minimum standard increases.*

| NEEA Strategy | Finding | MPI Progress? |
|---|---|---|
| NEEA attends AHAM agreement meetings and supports energy efficiency recommendations within the final agreement in 2023.<br><br>NEEA participates in the federal standard review process through the submission of comment letters with further recommendations. | Out of 18 NEEA recommendations made to the DOE, 9 were adopted in the final rule scheduled to go into effect in 2028. | +<br><br>Clear Progress |

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# *Refrigerators*


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# Refrigerators

*MPI I. Retailers consider ESRPP qualification in assortment and marketing decisions*

| NEEA Strategy | Finding | MPI Progress? |
|---|---|---|
| NEEA coordinates ESRPP and incentives national retailers on refrigerator sales. | Web-scraping and promotional flyer analysis shows ESRPP-participating and non-participating retailers are about as likely to promote ENERGY STAR products, and a majority of products promoted are ENERGY STAR. | -- Mixed Progress |

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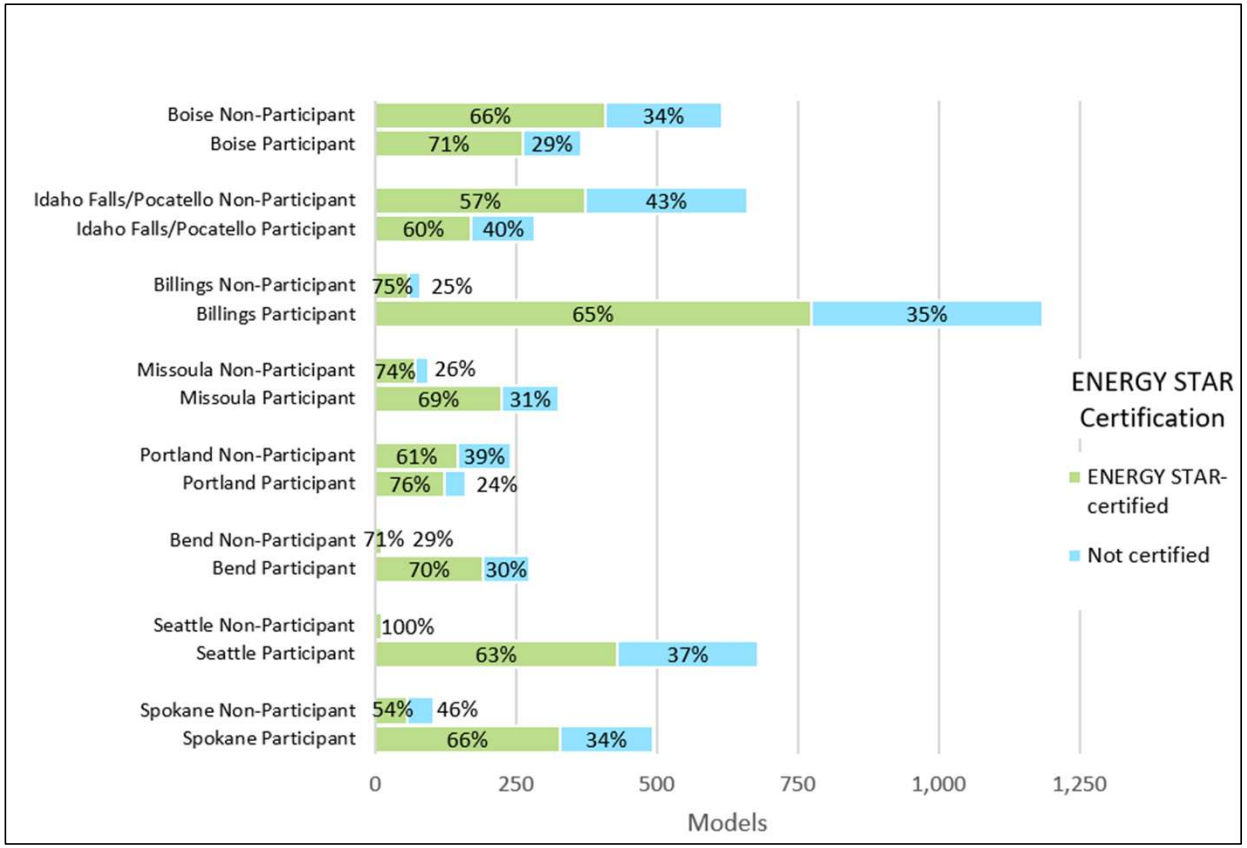
# Refrigerators

*MPI I. Retailers consider ESRPP qualification in assortment and marketing decisions*

Figure 6. Comparison of ESRPP-Participating and Non-Participating Retailers by Assortment of ENERGY STAR refrigerators in NW

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# Refrigerators

*MPI II. Market share of RPP-qualified product tiers increases.*

| NEEA Strategy | Finding | MPI Progress? |
|---|---|---|
| NEEA incentivizes ETA models in 2022 and ESME models in 2023 and 2024. Incentive amounts are reduced slightly in 2023, before being restored to previous levels in 2024. | Market share for ETA models decreased by 1% in 2022, during the last year they were incentivized. ESME refrigerator market share remained at 2% from 2022 to 2024. | – – Mixed Progress |

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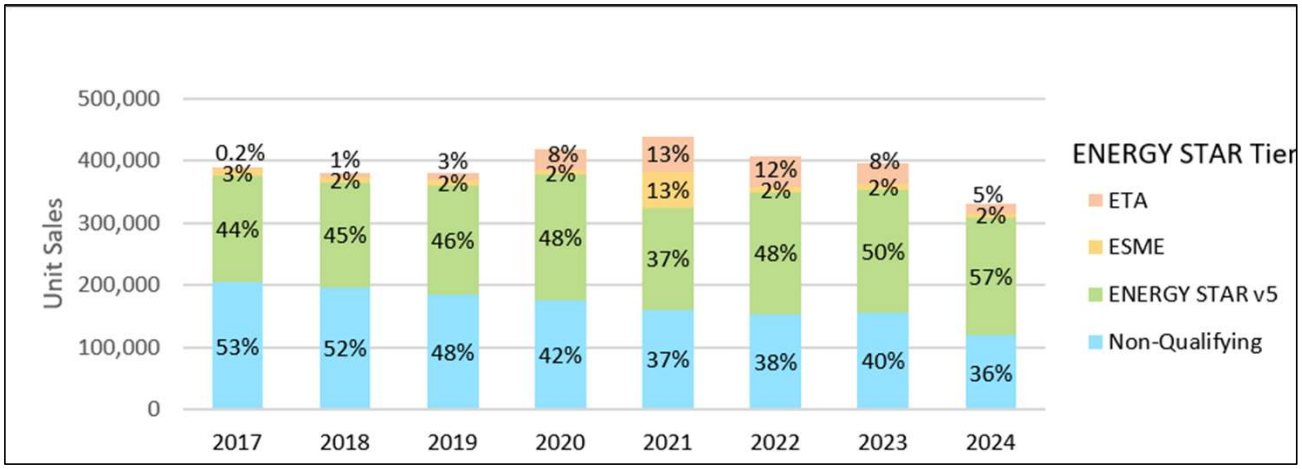
# Refrigerators

*MPI II. Market share of RPP-qualified product tiers increases.*

Figure 7. Participating Retailer Refrigerator Sales in NW

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# Refrigerators

*MPI IV. Test procedures are improved.*

| NEEA Strategy | Finding | MPI Progress? |
|---|---|---|
| NEEA develops recommendations, conducts tests with modified procedures on six units with promising results, engages in conversation with other market actors, and provides comment letters to DOE. | While NEEA's testing spurred DOE to conduct additional testing on twelve refrigerators, the DOE ultimately did not adopt significant revisions to the test procedure. | O<br>Progress Stalled |

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# Refrigerators

*MPI V. Federal minimum standard increases.*

| NEEA Strategy | Finding | MPI Progress? |
|---|---|---|
| NEEA attended AHAM agreement meetings and supported energy efficiency recommendations within the final agreement in 2023.<br><br>NEEA participated in federal the standard review process through the submission of comment letters with further recommendations. | Out of 9 NEEA recommendations made to the DOE, 4 were adopted in the final rule scheduled to go into effect in 2029 and 2030. | +<br><br>Clear Progress |

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# *Televisions*

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# Televisions

*MPI III. ENERGY STAR (or higher tier) qualifying criteria increases.*

| NEEA Strategy | Finding | MPI Progress? |
|---|---|---|
| NEEA coordinates with market actors and recommends use of NEEA-developed test method for televisions to be adopted into the TV Voluntary Agreement (VA). | The TV VA (signed by major manufacturers in 2023 as a voluntary way to increase energy efficiency standards in televisions) uses a major element of the NEEA test method to establish energy usage during stand-by mode. | + Clear Progress |

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# *Results in Summary:*

# *Market Progress Indicators & RPP Products (2022-2024)*

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# *Market Progress Indicators (MPIs) by Product (2022-2024)*

9 out of 13 MPIs showed clear progress

| | Retailers consider ESRPP qualification in assortment and marketing decisions | Market share of ESRPP-qualified product tiers increases | ENERGY STAR (or higher tier) qualifying criteria increases | Test procedures are improved | Federal minimum standard increases |
|---|---|---|---|---|---|
| Room ACs | | + | | + | |
| Clothes washers | + | O | | | + |
| Clothes dryers | + | + | | | + |
| Refrigerators | -- | -- | | O | + |
| Televisions | | | + | | |


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# *Product-Specific Recommendations from Contractor*

**Room Air Conditioners**:

- No recommendations.

**Clothes Washers**:

- Re-evaluate incentivization strategy for front- and top-loading clothes washers

**Clothes Dryers**:

- Maintain ESME-qualifying dryer incentives to support early market development


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# *Product-Specific Recommendations from Contractor*

**Refrigerators**:

- Reassess incentive strategy for advanced-tier refrigerators
- Sustain engagement in test method development for refrigerators


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# *Product-Specific Recommendations from Contractor*

**Televisions:**

- Continue supporting additional test method revisions for voluntary specifications for televisions
- Continue efforts to incentivize ENERGY STAR televisions through ESRPP


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# *Thank You!*


**Zdanna King**

Sr. MRE Scientist, NEEA

Zking@neea.org


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# *BREAK*



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# *Luminaire Level Lighting Controls: Market Progress Evaluation Report #3*


## Zdanna King

Senior Market Research and Evaluation Scientist, NEEA


February 18, 2026



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# *LLLC MPER #3 Agenda*

- LLLC Program Overview
- LLLC MPER #3 Research Objectives
- Methods
- Results
- Conclusions & Recommendations

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# *LLLC Program: Market Transformation Goal*

To create a market where LLLC are the standard practice for commercial buildings in the Northwest (including new construction, major renovations, and lighting retrofits).

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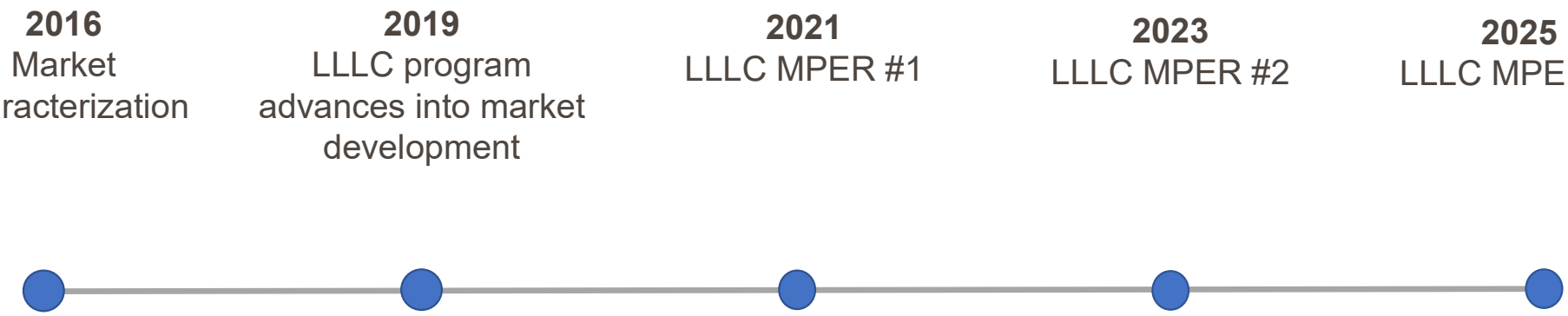
# *NEEA's LLLC Program*

NEEA works with professional organizations and market actors to overcome barriers (lack of skilled trade allies, value proposition, high first cost, and product readiness)





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# *LLLC MPER #3 Research Objectives*

1. Verify the activities that the LLLC program has completed since the previous MPER.
2. Track Market Progress Indicators (MPIs) to understand year-over-year progress towards outcomes.
3. Explore rationale of market actors and end-use consumers who include LLLC in initial project plans, but do not follow through with the sale or purchase.


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# *LLLC MPER #3 Research Objectives*

1. Verify the activities that the LLLC program has completed since the previous MPER.
2. Track Market Progress Indicators (MPIs) to understand year-over-year progress towards outcomes.
3. Explore rationale of market actors and end-use consumers who include LLLC in initial project plans, but do not follow through with the sale or purchase.


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# Methods

- Document review
- Stakeholder interviews (n=5)
- Supply-chain market actor interviews (n=10)
- Commercial lighting installer survey (n=59)
- Commercial lighting designer/specifier survey (n=37)
- Decision-maker interviews (n=10)

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# Results

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# Results summary

- Growth in 5 MPIs when compared to previous MPER
- 3 additional MPIs were high in previous MPER and remained so
- Another 2 MPIs remained stable, but still have room to grow
- Attained new benchmarks for 6 MPIs, most of which are needed to assess long-term changes in the market
- 1 MPI decreased between MPER 2 and 3

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# *Notable increases in 5 MPIs*

| # | MPI | 2022 | 2024 | Change? |
|---|---|---|---|---|
| 3d. | % of Installation Companies with LLLC Project Bidding Capabilities | 71% | **89%** | + |
| 4a. | % of Installation and Designer/Specifier Companies Aware of LLLC | Installers: 78% | **Installers: 94%** | + |
| 5a. | % of Designer/Specifier Companies that Recommend LLLC | 63% | **73%** | + |
| 5b. | % of Designer/Specifier Companies that Write LLLC into Project Plans | 61% | **67%** | + |
| 9b. | % of Installation Companies Who Say LLLC is Easier to Install than Other NLC | 70% | **83%** | + |

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# *High, stable results for 3 MPIs*

| # | MPI | 2022 | 2024 | Change? |
|---|---|---|---|---|
| 4a. | % of Installation and Designer/Specifier Companies Aware of LLLC | Designers/ Specifiers: 82% | **Designers/ Specifiers: 82%** | **Remained high** |
| 6a. | Manufacturers Reporting an Increase in Products with Embedded Controls | 4 of 4 | **5 of 5** | **Remained high** |
| 6b. | Manufacturer's Reps Reporting an Increase in Products with Embedded Controls | 6 of 7 | **4 of 4** | **Remained high** |

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# *Stable results for 2 MPIs that have room to grow*

| # | MPI | 2022 | 2024 | Change? |
|---|---|---|---|---|
| 9a. | % of Installation Companies That Have Installed LLLC | 63% | **65%** | **Static** |
| 3e. | % of Installation Companies with LLLC Training in the Northwest | Over 40% of installers in each state trained in LLLC | **Over 40% of installers in each state trained in LLLC** | **Static** |

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# *New benchmarks measured for 6 MPIs*

| # | MPI | 2024 |
|---|---|---|
| 6c. | % of designers/specifiers who say there are sufficient types and styles of LLLC fixtures to meet their needs | **87%** |
| 9c. | Average number of LLLC projects installation companies have completed in the past 12 months | **9.2 projects** |
| 10a. | Number of aware and knowledgeable customer-side decision-makers willing to pay for a higher cost LLLC system | **Same price: 4**<br>**$15 more: 3**<br>**$45 more: 3** |
| 12. | LLLC becomes an optional compliance path in all Northwest states | **3 of 4 states** |
| 15a. | Percentage of experienced installation firms that say LLLC is their first choice in controls where technically applicable | **81%** |
| 15b. | Percentage of designers/specifiers who have recommended LLLC to a decision-maker for at least one project who say LLLC is their first choice where technically feasible | **73%** |

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# *Decrease in 1 MPI*

| # | MPI | 2022 | 2024 | Change? |
|---|---|---|---|---|
| 3b. | % of Installation Companies with at least one installer trained in LLLC. | 71% | **47%** | **Decreased** |

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# *Conclusions and Recommendations*

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# LLLC MPER #3 Conclusions & Recommendations

| Conclusion | Recommendations? |
|---|---|
| 1. LLLC program activities have contributed to expected program outcomes. | None. |
| 2. LLLC program is well-positioned to grow its market share in commercial lighting market. | 2. Support market with trainings that help installers and designers/specifiers convert LLLC opportunities into sales. |
| 3. While installation companies' ability to install LLLC remained strong, a decrease in reported formal training indicates further opportunity for engagement. | 3a. Encourage those providing formal training to increase recruitment efforts and focus training on more advanced LLLC topics that go beyond introductory material.<br><br>3b. Identify potential training gaps and work with trainers to address these. |

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# *Thank You!*


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# *Idaho Commercial Code Compliance Evaluation*


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# *Idaho 2018 IECC Commercial Code Compliance Evaluation*


## Chris Cardiel

Senior Market Research and Evaluation Scientist, NEEA


February 18, 2026



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# NEEA Code Compliance Evaluations

- Conducted at least once per five-year business cycle for each state (**residential**), or at least once every two business cycles for each state (**commercial**)
- Measure compliance with a specific state energy code
- Address other key objectives, including but not limited to:
  - Informing savings reporting
  - Gathering information about market response to energy code
  - Comparing results across jurisdiction types of interest

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# *Idaho Commercial Energy Code*

- International Energy Conservation Code (IECC) 2018 with Idaho amendments went into effect in July 2021
- Remains in effect as of the time of this presentation
- 2024 IECC with Idaho amendments currently under review for possible adoption in July 2026

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# Study Objectives

- **Evaluate system and building compliance** with the current Idaho commercial new construction code (specifically 2018 IECC with Idaho amendments) and identify the path(s) to compliance taken by builders.
- **Assess the study methodology's effectiveness** in generating reliable information about decisions made by builders seeking compliance with the commercial code, and whether this methodology is replicable over time and across states.

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# Methods

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# Sample Development

- Initial sampling frame based on Dodge Construction Network “publish dates” 1/1/20–3/13/24
- Identified 2,615 commercial buildings likely to be constructed under 2018 IECC, of which 1,474 included complete data
- Following sample weighting, 105 projects were randomly selected for data collection through online portals and agency requests
- Data availability constraints resulted in a total of 25 sites with complete information

| Building Type |
|---|
| Office |
| Mercantile |
| Education |
| Multifamily (4+ stories) |
| Other |

| Building Size |
|---|
| Small (less than 20k SF) |
| Medium (20k to 99,999 SF) |
| Large (100k SF and above) |

| Building Location |
|---|
| Incorporated |
| Unincorporated |

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# *Site Visit and Energy Use Analysis Recruitment*

- A total of 11 building operators agreed to participate in comparative site visits
  - Results of these site visits were used both to enrich compliance analysis and assess as-built vs. as-permitted status
- No building operators provided consent to collect and analyze billing data
  - On this basis, energy performance analysis was ultimately removed from the study scope, as with earlier Montana study

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# Code Compliance Analysis

- Binary Compliance
  - Focus on key code requirements for each building system, using prescriptive code to determine if requirement was met. Weighted to population
  - If any one requirement was not met, the system was flagged as noncompliant
  - Very strict test, but allows for comparison with other studies
- Weighted Compliance
  - Uses a percentage of compliance level instead of a pass/fail determination, calculated as share of compliant floor area or share of compliant systems
  - More representative view of building's compliance, reduces bias toward zero if a single requirement is not met
  - Can provide a qualitative indication of lost energy savings

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# Key Findings

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# Building Characteristics

- A total of 1,137,807 $ft^2$ of floor area was included in the sample
- Majority of sampled floor area (76%) served by natural gas for space heating
- Majority of sampled floor area (67%) *with relevant COMcheck data* served by electricity for service water heating
- When removing warehouses, electricity becomes the primary space heating fuel at 55% and increases its share of water heating at 53% of the total floor area.

| Building Type | Space Heating Fuel | | | Hot Water Heating Fuel | | | | Cooling Presence |
|---|---|---|---|---|---|---|---|---|
| | Electricity | Natural Gas | Propane | Electricity | Natural Gas | Propane | Unknown | |
| Office | 41% | 50% | 9% | 91% | 0% | 9% | 0% | 100% |
| Multifamily | 86% | 14% | 0% | 65% | 34% | 0% | 1% | 100% |
| Education | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 100% |
| Other: All | 2% | 98% | 0% | 29% | 3% | 0% | 67% | 33% |
| Other: Warehouse | 2% | 98% | 0% | 26% | 0% | 0% | 74%[7] | 26% |
| Total: All | 24% | 76% | 0% | 38% | 19% | 0% | 43% | 57% |
| Total: Without Warehouse | 55% | 44% | 1% | 53% | 45% | 1% | 1% | 100% |

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# Overall Compliance

- None of the 25 buildings with full data appeared non-compliant based on ComCheck results
- Most sampled sites (79 of 105) included at least one COMcheck report, with Envelope COMcheck being most common
- 2018 IECC requires an additional efficiency package when complying through Prescriptive Pathway; Reduced Lighting Power Density was most common package by far
- Several systems were difficult to assess consistently via plan review

| Review Category | Number | Percentage |
|---|---|---|
| Envelope COMcheck | 71 | 68% |
| Mechanical COMcheck | 59 | 56% |
| Interior Ltg COMcheck | 54 | 51% |
| Exterior Ltg COMcheck | 55 | 52% |
| All COMchecks Complete | 42 | 40% |

| Additional Efficiency Package | Number of Sites |
|---|---|
| Reduced Lighting Power Density | 50 |
| More Efficient HVAC Equip. | 7 |
| Dedicated Outdoor Air System | 4 |
| Enhanced Envelope Performance | 4 |
| Enhanced Lighting Controls | 3 |
| Reduced Air Infiltration | 3 |
| Reduced Energy Use in Service Water Heating | 2 |
| Unknown | 14 |

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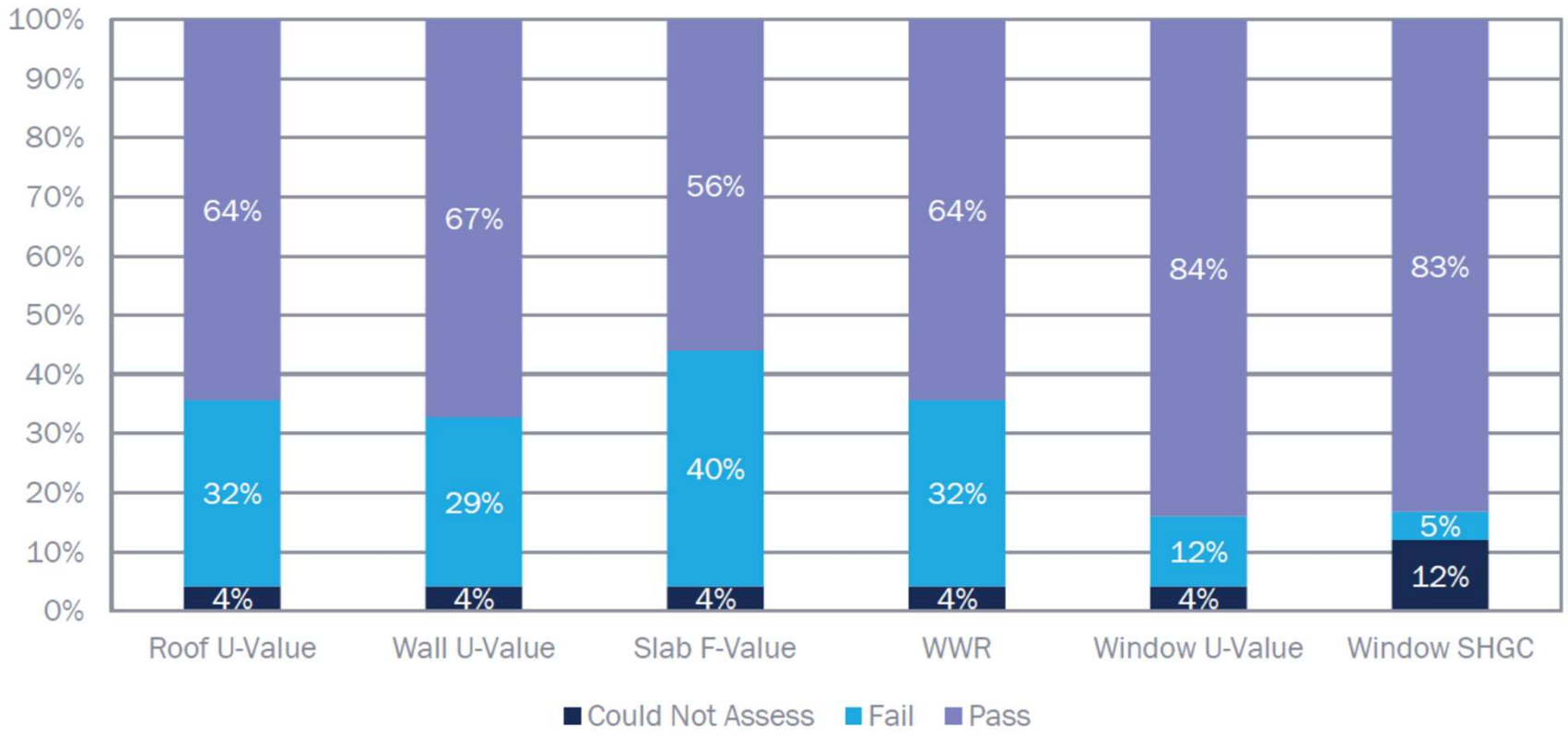
# System-Level Compliance

Figure 1: Envelope Compliance Results

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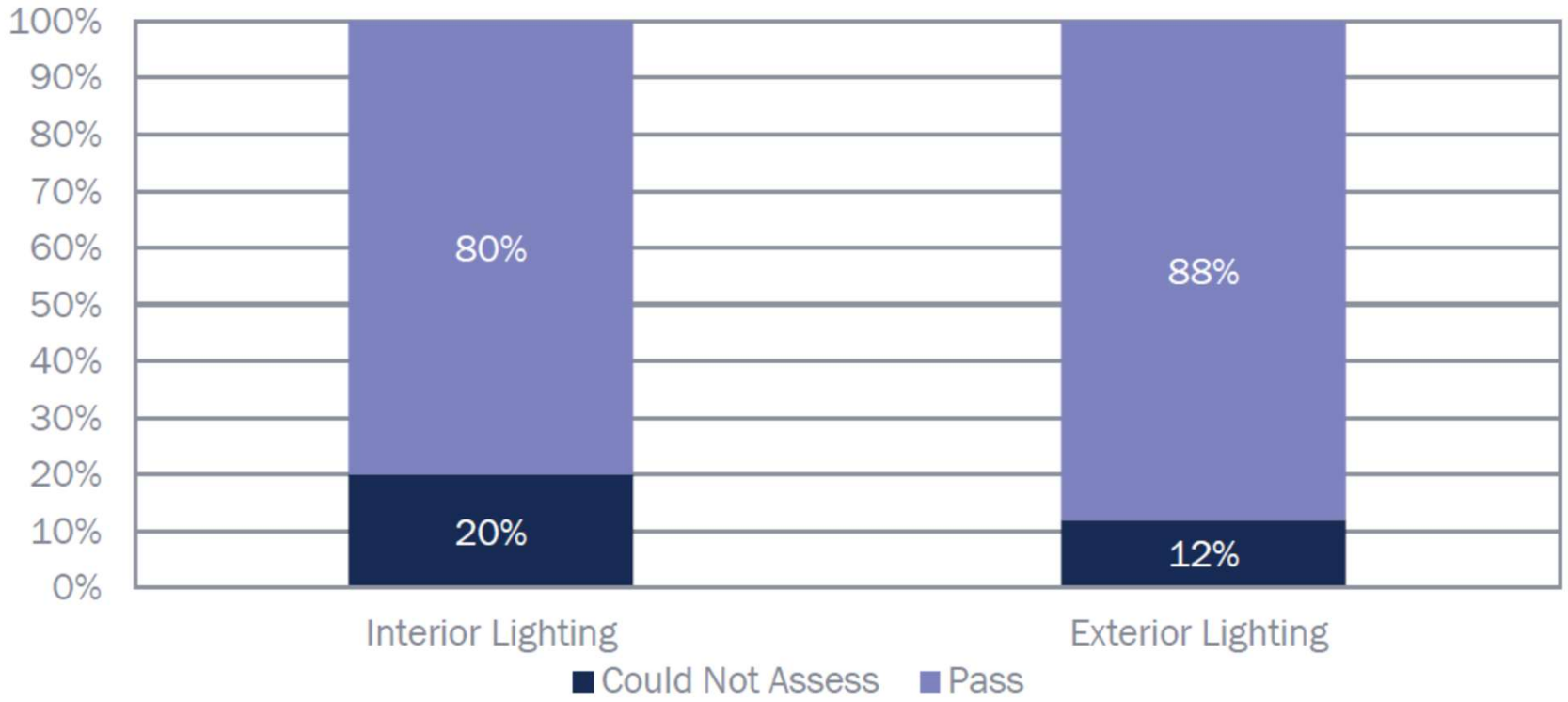
# System-Level Compliance, Continued

Figure 2: Lighting Compliance Results

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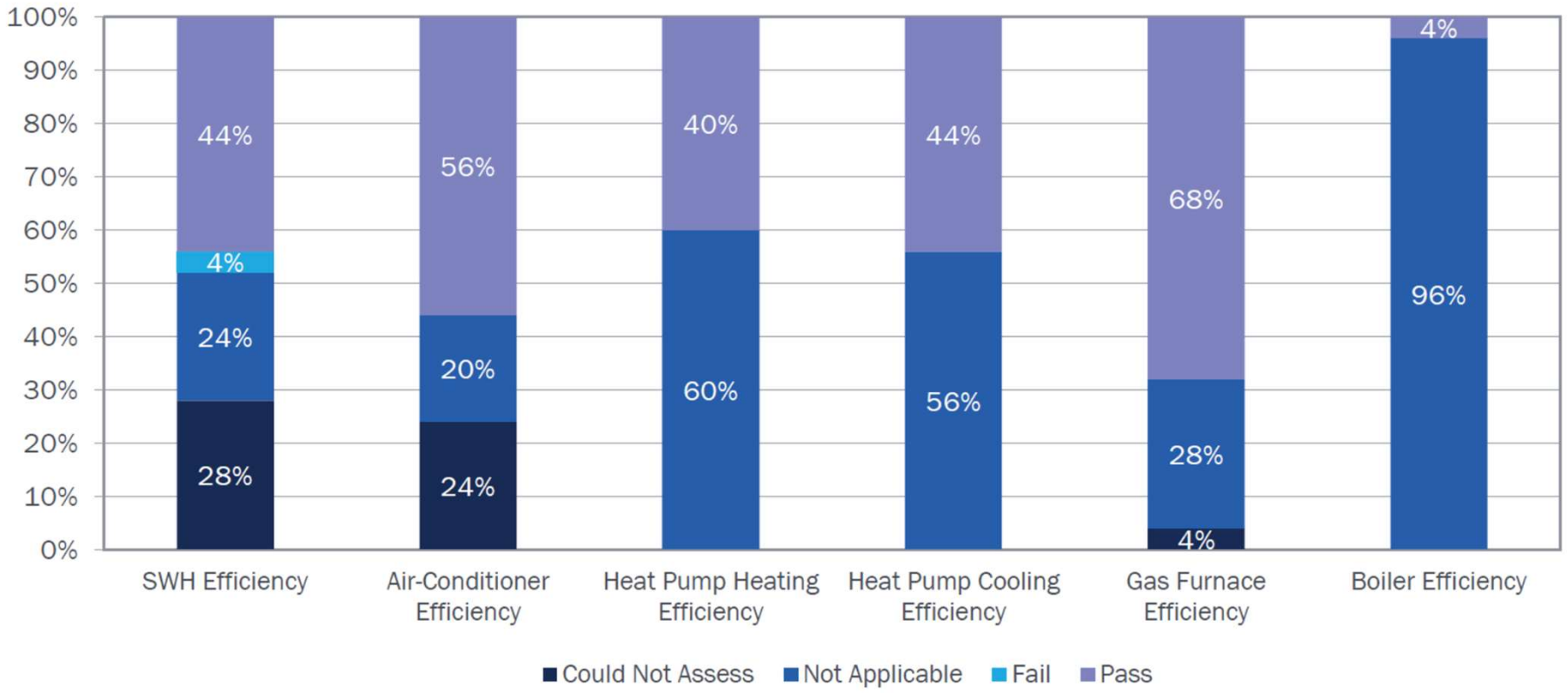
# System-Level Compliance, Continued

Figure 3. Mechanical Compliance Results

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# General Findings

- Fossil fuel heating is prevalent, with gas furnaces accounting for 85% of heating capacity
- Envelope, HVAC controls, and Lighting controls compliance were difficult to assess
  - Envelope due to a lack of information about how total compliance was achieved
  - HVAC and Lighting controls due to lack of documentation
- Equipment compliance was high
- Commissioning reports were not readily available

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# *Methodological Findings and Recommendations*

- While building plans allowed compliance determination for most energy code requirements, some are not easily assessed through such plans
- Few discrepancies were observed between building plans and as-built conditions; a targeted approach toward onsite visits may be appropriate
- Given the limitations observed in achieving complete data for sampled sites, consider selecting specific communities from which to sample

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# *What's Next for Commercial Code Compliance Evaluation*

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# Commercial Code Compliance Evaluations

## Completed

- Oregon *(2010 / 2014 OEESC)*
- Washington *(2015 WSEC / 2015 SEC)*
- Montana *(2018 IECC with Montana Amendments)*
- Idaho *(2018 IECC with Idaho Amendments)*

## Planned

- Oregon, Kickoff Q4 2026 *(TBD)*
- Washington, Kickoff Q1 2028 *(TBD)*

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# *Questions?*

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# Wrap-up

*How was your experience?*

- Public Comment?
- Upcoming Meetings:
  - 2025 CEAC dates are **TBD**
  - Interest in a in-person/hybrid meeting in 2025?
- Feedback:
  - Overall
  - Agenda
  - Packet Materials
  - What went well?
  - What needs work?

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# Thank You!

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