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# Independent Assessment of NEEA Approaches to Estimating Influence Over State Energy Codes

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### **Executive Summary**

In 2024, the Northwest Energy Efficiency Alliance (NEEA) contracted with NMR Group to conduct an independent review of NEEA's approach to evaluating its influence on state energy code development and adoption. NEEA engages with each state in its region (Idaho, Montana, Oregon, and Washington) to generate more stringent energy codes and support widespread understanding, acceptance of, and compliance with, those codes. At the national level, NEEA is involved with the development of the International Energy Conservation Code (IECC) which allows NEEA to influence code outcomes in states like Idaho and Montana that adopt the IECC, either in full or with amendments. NEEA's role varies by state and code cycle, but in each case, NEEA collaborates with key stakeholders to promote the best possible energy-efficiency outcomes.

The goal of this study was to review NEEA's current approach to assessing its influence on state energy codes and identify methodological refinements that could yield more defensible findings to further support the energy savings NEEA reports from their codes influence partnerships (referred to as *co-created savings*). This report provides the final feedback and recommendations from NMR's review of NEEA's current approach and a review of four potential alternative approaches to assessing influence.

The recommendations provided in this report were developed based on 1) a series of interviews with senior NEEA staff and the NEEA Codes Team, 2) a literature review of codes and standards evaluations from NEEA and elsewhere in the country, and 3) continued learnings generated from discussion with NEEA staff and stakeholders in response to an interim memo and two interim results presentations delivered to NEEA's Cost-Effectiveness and Evaluation Advisory Committee (CEAC). This committee includes NEEA funders and additional regional stakeholders and is tasked with reviewing and advising NEEA staff on cost-effectiveness and savings inputs for annual reporting and market transformation cost and benefits estimation, among other key topics.<sup>1</sup>

#### RECOMMENDATIONS

NMR did not determine that significant changes were necessary to the approach NEEA uses to estimate influence over state energy code outcomes. The recommendations below offer refinements to the current codes market progress evaluation report (MPER) process that can be integrated into existing study designs and evaluation cycles to generate more robust findings. These recommendations only address how NEEA assesses its influence on code changes; they do not affect how NEEA quantifies energy savings from code improvements.

Recommendation 1. In MPERs, conduct deeper, state-specific qualitative research to describe NEEA's work and its collaborations with partners to improve code outcomes.

<sup>1</sup> NEEA CEAC Charter.

https://neea.org/committee-documents/ceac-

charter#:~:text=CEAC%20Charter.%20Document%20outlining%20the%20activities%20and%20responsibilities%20of%20NEEA's



NEEA engages third-party evaluation contractors to conduct regular MPERs to inform a NEEA team's strategy for a given initiative and measure progress toward the outcomes documented in NEEA's program theory and logic models (PTLM). MPERs are designed to meet the research needs of a NEEA team and the scope of each MPER is typically driven by the initiative's PTLM and any additional objectives that are important to the NEEA team and participants (for example., trainee satisfaction with NEEA-sponsored code trainings). Energy code development, adoption, and enforcement are complex, multi-stakeholder processes. Outcomes are determined by numerous factors and the evidentiary standard for assessing influence should be high when reporting a high level of impact on outcomes. Accordingly, the NMR team sees opportunities for NEEA to increase the extent to which it documents its role in those outcomes. NEEA should adapt the current codes MPERs to fully document its unique and specific role in each state through qualitative data collection performed longitudinally, with a focus on measuring progress against NEEA's PTLM and confirming the effects of NEEA's and its partners' own contributions to national and state-level code improvements. The goal of this work is not to establish an attribution score to quantify NEEA's efforts relative to those of its partners or other advocacy groups but to accurately characterize what role NEEA served in the partnership-influencer, facilitator, mediator—and whether NEEA's partnership included all influential actors in the process. This will help gather and document evidence in support of NEEA's efforts to influence the code update process. Some of the key questions to answer in codes influence research include:

- What other stakeholders contribute to code changes? If they are not actively part of NEEA partnerships, what role do they play relative to NEEA and its partners?
- > Have stakeholders entered or exited this space, changing NEEA's role or relative influence?
- How comprehensive and impactful are NEEA's partnerships in each state and code cycle after characterizing the full array of stakeholders?
- How do other stakeholders, including NEEA's partners, describe and assess the involvement and contributions of NEEA to code improvements over time?
- What factors have changed in the policy or regulatory landscapes surrounding code development and adoption, and how has NEEA responded to or helped influence those changes?

The current codes MPER data collection covers related topics and addresses these questions in some ways. Ensuring that future MPERs include an additional focus on documenting the extent and nature of NEEA's influence will help confirm the legitimacy of NEEA's approach to reporting savings (in collaboration with its partners) from code updates. In addition, documenting the presence and roles of other stakeholders who have engaged in code development processes with NEEA over time offers opportunities to trace impacts over time, including how NEEA's influence may have changed over time.

To support our first overall recommendation, the NMR team offers additional methodological recommendations, designed to better document NEEA's impacts in this space.

Recommendation 2. Given the limited scope of this evaluation, the NMR team does not have evidence to suggest that NEEA should develop and apply a downward adjustment factor to the co-created savings it reports from its work with partners to influence code



# update cycles, though future evaluation research could suggest the need for such an adjustment.

As previously noted, this research effort focused on how NEEA assesses its influence on code outcomes, not specifically how it calculates savings from code cycle updates. Accordingly, this study does not recommend any specific adjustment factors be applied to savings calculations beyond the strategies already used by NEEA to adjust reported savings.<sup>2</sup> Based on our understanding of NEEA's codes work and NEEA's evaluation needs, this study does not specifically recommend that NEEA invest in evaluation to generate an adjustment factor for co-created savings or pursue strategies to further discount the amount of savings reported from a given code update cycle. It is possible that future MPERs, enhanced with some of the methodological recommendations provided in this memo, could indicate that the influence of NEEA and partners on a particular code cycle does not match historical assumptions. In that case, it would be incumbent on NEEA to consider this evidence and consider an adjustment factor for reported savings.

# Recommendation 3. Create strategy plans for each state and code cycle as recommended in Codes MPER #5 and integrate their development and execution into the Codes PTLM.

The recently published fifth Codes MPER reported the challenges of developing progress indicators (PIs) for NEEA's work on codes development and adoption, given the complexity and variability of NEEA's collaborative work across states and code cycles. The MPER developed PIs for NEEA's code training efforts, where outcomes were easier to quantify and more straightforward to track over time. Developing state-specific plans, however, would make it more feasible to develop targeted PIs focused on state-level activities. These plans will also aid in longitudinal tracking of NEEA-supported code amendments that may not have been adopted during the code cycle in which they were proposed. As a part of developing state-level plans, NMR suggests the following:

- Edit the PTLM to include developing state-level plans as a NEEA activity, also adding or linking to relevant state-level outputs and outcomes. These PTLM additions would ideally specify that state-specific PIs would be developed in the plans.
- Track the portion of adopted NEEA code proposals as a PI to supplement data collected in interviews. This was a component of the alternative approaches that was not deemed robust enough to be a stand-alone metric of NEEA influence, but it would add to the body of evidence related to NEEA's codes contributions.
- Where feasible, ensure PIs from state plans are tracked longitudinally and are easily accessible in reports. Depending on the granularity of any new PIs for code development and adoption, there will be opportunities to track PIs longitudinally for each state. These PIs should be tracked when possible and reported in future MPERs to highlight NEEA's impacts over time. Some potential outcomes or PIs may not be longitudinal in nature, representing

<sup>&</sup>lt;sup>2</sup> NEEA only reports code savings for ten years (rather than for a product's useful life) because it assumes that the code change occurred approximately ten years (or two to three code cycles) earlier than it would have without NEEA and its partners participation in the code process.



specific interventions unique to a given state and code cycle. MPERs can serve as opportunities to document such one-off efforts.

# Recommendation 4. Use MPERs to document and highlight the story of NEEA's codes work, including historical context, collaborative approaches with co-created savings, and the rationales for NEEA's chosen codes activities.

The interviews NMR conducted with NEEA staff were critical to this evaluation. Interviewees provided rich historical context and insight into how and why NEEA influences and assesses its impact on code outcomes. In comparing the findings from these interviews to some of the available evaluation reporting on NEEA codes work, we noted opportunities to communicate insights we gained through interviews in NEEA public reporting such that outside evaluators and stakeholders can more easily understand NEEA's approach. Codes MPERs are a logical place to deploy these narratives to contextualize MPER findings and make each document a standalone resource for those seeking to understand NEEA's codes work. This step does not guarantee that all reviewers will agree with NEEA's approach, but it will ensure there is greater understanding of that approach.

NMR would also add that many of these recommended evaluation steps would be useful to NEEA as it considers pathways to maintain or even increase its influence on code development and adoption outcomes. The data derived from these research activities can point to new opportunities in the code development space or highlight activities to de-emphasize moving forward if, for example, other stakeholders are addressing those needs.

## Section 1 Background and Key Context

In January 2024, NEEA contracted with NMR to conduct an independent review of NEEA's approach to evaluating its influence on state energy code development and adoption. At the national level, NEEA is involved with the development of the IECC. NEEA also engages with each state in the NEEA region (Idaho, Montana, Oregon, and Washington) to influence code development and adoption processes by providing technical support, data, and advocacy, and also by supporting code training programs and offering additional educational resources. NEEA's role varies by state and code cycle, but in each case, NEEA collaborates with key stakeholders to promote the best possible energy efficiency outcomes.

NEEA continually seeks to refine its methodologies and identify opportunities to create more efficient, defensible, and accurate evaluations of its market transformation initiatives. Coincidentally, a recent evaluation conducted for two NEEA funders recommended changes to the approach used by NEEA to assess its influence, in collaboration with its partners, on energy code outcomes and to calculate energy savings from these efforts. That evaluation recommended an adjustment factor be applied to the savings derived from codes work in a similar way that NEEA adjusts the savings reported from a subset of NEEA's work on energy-efficient equipment standards that falls outside of its mainstream market transformation work (NEEA refers to this subset as "other standards"). The savings that NEEA reports for its work on these "other standards" is adjusted downward heavily from overall gross technical potential to reflect NEEA and its partners' specific role in equipment standards development and other factors that limit NEEA's influence on a new standard. The recommendation was non-binding, but NEEA



developed four alternative approaches to conducting influence evaluations for its energy codes work and fielded this outside assessment to obtain feedback on opportunities for refinement.

#### 1.1 STUDY GOAL

The goal of this study was to review NEEA's current approach to assessing its influence on state energy codes, as described in NEEA's market progress evaluations reports (MPERs) and identify methodological refinements to yield more defensible, accurate findings regarding its influence on code outcomes. Separately, NEEA quantifies energy savings from energy code updates that can be attributable to NEEA and its partners (*co-created* savings). Assessing the specific savings calculation methodological refinements that escope of this evaluation, but the study was designed to suggest potential methodological refinements that might improve the defensibility of those calculations. This report provides feedback and recommendations from NMR's review of NEEA's current approach alongside four potential alternative approaches to assessing influence. This report builds on feedback from NEEA and its funders plus continued learnings generated from discussion with NEEA stakeholders in response to an interim memo and two interim results presentations delivered to NEEA's Cost-Effectiveness and Evaluation Advisory Committee (CEAC).<sup>3</sup>

#### **1.2 NEEA'S MARKET TRANSFORMATION APPROACH TO ENERGY CODES**

NEEA's market transformation approach and the philosophy behind its codes work differ from that of other energy efficiency program administrators. For many program administrators, the savings claimed from code support activities—including code compliance enhancement programs or initiatives to promulgate more stringent code amendments—are subject to attribution research that identifies net savings claimable by the program administrator after factoring in influence from other stakeholders. In many cases, code attribution research develops multiple adjustment factors on the way to a final net savings result, based on compliance levels, estimates of naturally occurring market adoption (NOMAD), and the relative impacts attributable to the program administrator compared to other stakeholders. Net savings impact accounting strategies were developed to reflect market realities faced by resource acquisition programs and can be ill-equipped to properly account for the outcomes generated by market transformation initiatives like those operated by NEEA.

To support its market transformation goals, NEEA conducts evaluations to track market progress, gathering and assessing evidence that the work it performs contributes to anticipated outcomes, given its commitment to evaluating the impacts of its market transformation initiatives. In this particular context, it also performs evaluations to better estimate achieved code savings, primarily by understanding code compliance levels. NEEA regularly executes separate residential and commercial code compliance studies at the state level to estimate code compliance and adjust

<sup>&</sup>lt;sup>3</sup> NMR presented at the April 30, 2024, and July 31, 2024, CEAC meetings. The interim memo was finalized in the summer of 2024 and circulated to CEAC in advance of the July 31, 2024, meeting.



reported savings accordingly.<sup>4</sup> NEEA also tracks savings derived from influencing codes outcomes for a 10-year period (representing approximately two to three code cycles) after a new code is adopted, much shorter than the lifespan of a new building, to reflect changing market conditions that eventually raise market baselines beyond the stringency of that code.

Interviews with NEEA staff and our review of past NEEA evaluations have helped to identify some key components of NEEA's work that represent a departure from codes programs run by other administrators. In some cases, for example, codes programs are focused solely on training to support increased code compliance. Elsewhere, a program administrator may develop and advocate for a select group of code amendments focused on specific measures where they see an opportunity to push more stringent requirements, such as lighting controls. NEEA engages with energy codes across the NEEA region in a variety of ways—supporting code trainings is a constant, but NEEA also engages in the code development process in each state and nationally as needed, providing technical and advocacy support that looks different depending on the state and code cycle.

#### 1.2.1 Challenges in Assessing Influence on Code Outcomes

Given NEEA's unique approach to influencing energy code outcomes, assessing influence becomes challenging for a variety of reasons, described below.

**NEEA's work has a broad, multi-level scope.** NEEA's code work operates both at the national level (IECC) and at the state level in Idaho, Montana, Oregon, and Washington. NEEA's influence on the national model code is subsequently considered by each state. Also at the state level, NEEA works to influence the amendment process or any state-specific additions to the code, such as those used in Washington, and works to ensure that any model or proposed code updates are passed without edits that would weaken the initial proposals.

**NEEA serves various roles and provides different research or data support for different states and code cycles.** NEEA may adapt its strategy and approach depending on the state and the motivations, priorities, and perspectives of the stakeholders with which they collaborate as well as market actors working in opposition to code changes. NEEA also tries to fill gaps (whether technical expertise, data, or others) as they arise in each code cycle.

**NEEA has been advocating for code improvements in the Northwest for a long time and takes a long-term perspective in influencing code updates.** While NEEA is not the only program administrator that has run code programs over a long period of time, the historical presence of NEEA in code cycles across the four-state region is a factor in its level of influence and ability to identify areas of need in each code cycle. NEEA also supports code amendments that may not be adopted in the present code cycle but lays the groundwork for an amendment (or something similar) to be adopted in a future code cycle. This approach to taking the "long game"

<sup>&</sup>lt;sup>4</sup> The relationship between non-compliance and lost energy savings potential is unclear, despite multiple studies from across the field. Given this, NEEA elects to apply a flat 25% adjustment for non-compliance to the commercial savings modeling rather than making adjustments as a direct result of commercial code compliance evaluation findings. However, the results of NEEA's cyclical commercial code compliance evaluation studies are carefully reviewed by the NEEA's market analysts and assessed for evidence that would strongly contradict this 25% adjustment.



is possible because of NEEA's comprehensive approach to market transformation, which supports multi-year interventions rather than the annual impact accounting requirements that govern many resource acquisition programs. However, the outcomes of multi-cycle code influence may be more difficult to measure in traditional attribution approaches. At a minimum, recall will be an issue when asking stakeholders to think back several years to which parties most effectively primed stakeholders to be more accepting of a given proposal.

**NEEA focuses on collaboration and co-created savings with other key stakeholders**. Many other organizations' evaluations assessing net savings for codes work focus on isolating the impact of the efforts of the party being evaluated, while NEEA emphasizes collaboration with stakeholders to improve overall outcomes. Accordingly, NEEA does not report savings due solely to its own efforts but reports region-wide savings that are co-created by NEEA and its partners— a critical distinction to consider when discussing attribution. Because NEEA is focused on maximizing savings outcomes and not preparing for this work to be evaluated for attribution, the available documentation may not allow evaluators to fully identify (or quantify) NEEA influence relative to the influence of other stakeholders. In addition, the stakeholders may not be prepared to discuss a counterfactual scenario of how outcomes would have changed if NEEA's support was not available, given the collaborative nature of code development within an extremely complex process.

## Section 2 Study Approach

#### 2.1 METHODOLOGY

NMR interviewed NEEA staff to understand the NEEA's work around energy codes and the methods used to evaluate influence and calculate savings. NMR spoke with seven NEEA staff over five interviews, in addition to holding a project kickoff and discussion session to discuss interim findings. alternative

The team also conducted a targeted literature review. The literature review included NEEA's most recent (fifth) Codes MPER.<sup>5</sup> Prior to launching this study, NEEA developed four alternative approaches to how it currently assesses its influence on codes (see 2.3 for a description). For the literature review, NEEA provided examples of evaluations and research that used each of the four alternative approaches. NMR considered these alternative approaches when making recommendations about how NEEA might revise its code influence assessment approach, including their methodological rigor and financial feasibility. NMR operated as an independent evaluator; we were not limited to making recommendations solely based on those four options.

In addition to the documents identified by NEEA for the literature review, NMR revisited codes evaluations led by NMR and other evaluation resources providing guidance on code program evaluation. NMR's approach was not to assess if any one approach was "best," but to assess distinct evaluation components and methodological steps and determine how, if at all, additional

<sup>&</sup>lt;sup>5</sup> NEEA Codes MPER #5, 2024. <u>https://neea.org/img/documents/codes-mper-5.pdf</u>



methodological refinements would benefit the accuracy, transparency, and defensibility of the market influence and savings numbers reported by NEEA.

#### 2.2 NEEA'S CURRENT APPROACH TO ASSESSING INFLUENCE

NEEA's current approach to assessing its influence on building energy codes in the Northwest, as captured in Codes MPER #5, is based in part on standard market transformation approaches with adjustments to reflect the differences between energy code interventions and typical market transformation initiatives. NEEA uses energy codes as a strategy to "lock in" and perpetuate outcomes in the market achieved through more typical market transformation initiatives that focus on specific equipment types and practices. NEEA developed a codes program theory and logic model (PTLM) outlining barriers, activities, outputs, and outcomes. NEEA (and contracted evaluators) revisit the PTLM and progress indicators (PIs) developed to track NEEA and its partners' influence to assess if changes to the PTLM or program strategies used to achieve intended outcomes are necessary. Broadly, the approach to assessing NEEA's influence on codes outcomes uses a combination of quantitative PIs and qualitative data from key market actors, publicly available documents, and documentation obtained from stakeholders where quantitative measurement is not feasible. Research begins with foundational interviews with NEEA staff and document reviews to better understand activities performed in each code cycle. Market actor interviews are used to gather gualitative data that provide evidence of NEEA's influence on the outcomes detailed in the PTLM, including confirming the importance of NEEA activities in a given code cycle and state. For the code training and education portion of NEEA's work, quantitative PIs were developed that can be measured over time with trainee surveys. Codes MPER #5 found that the PTLM components and PIs are more straightforward for NEEA's work on code compliance support training and less so for influencing code development, which is a more complex process that varies across states and may require different activities from NEEA in each state and code cycle. NEEA is currently updating their approach to measuring influence over energy codes based on the recommendations from MPER #5 and recommendations from this evaluation. One main component of this update is strengthening and standardizing the qualitative data collection approach for code influence outcomes.

#### 2.3 ALTERNATIVE APPROACHES CONSIDERED IN THIS EVALUATION

In response to findings from an independent evaluation performed for two NEEA funders that recommended NEEA reconsider how it assesses its influence on code adoption, NEEA proposed four potential alternative approaches that it could use to assess code-related influence and support its work to estimate code-related energy savings. Below, we provide a high-level summary of the four alternative approaches. These approaches were not intended to serve as an exhaustive list of alternatives but were chosen to provide comparison points and additional ideas to strengthen the review of NEEA's current approach.

#### 2.3.1 Alternative Approach 1 - California Energy Efficiency Evaluation Protocols

This protocol focuses on establishing the proportion of gross technical potential savings from a Codes and Standards Program attributable to the activities of a program administrator, otherwise



known as the net energy impacts.<sup>6</sup> First, evaluators review the PTLM and develop an evaluation plan based on the activities, outcomes, and progress indicators included in the PTLM. The plan should generate estimates of gross market-level impacts for the code or standard of interest with adjustments that address naturally occurring market adoption (NOMAD), non-program code and standard revisions, and code compliance rates. These adjustments net out non-program induced impacts on code outcomes. The method employs a Delphi Panel or similar market expert panel approach to estimate naturally occurring market adoption, the level of compliance with the newly adopted code, and normally occurring code change processes. Estimates are given for each individual measure affected by the code change.

#### 2.3.2 Alternative Approach 2 - Count of Proposals

This simplified approach to evaluating code influence would assess NEEA's effectiveness through a ratio of successful energy-related proposals; that is, the number of proposals adopted into new code as a portion of the total proposals NEEA contributed to. This approach as presented did not include a system to weight proposals by factors such as technical potential energy savings or barriers to adoption.

#### 2.3.3 Alternative Approach 3 - NEEA's "Other Standards" Evaluation Approach

NEEA employs this methodology to evaluate its influence on state and federal standards that are not part of a NEEA market transformation program (NEEA refers to these as "other standards"). It uses a document review and primary data collection through interviews with key stakeholders to determine what proportion of the gross technical potential savings created by the standard should be reported by NEEA and its partners. NEEA's evaluation contractor develops a series of influence adjustments based on barriers to passing the standard, the effectiveness of NEEA and partners in overcoming barriers through their activities, and the role (primary, major, minor) NEEA and partners played in each activity. Weighting scores are developed for the magnitude of each barrier based on interview data. The recent evaluation conducted for a group of NEEA funder utilities recommended applying a version of this approach to codes evaluation.

#### 2.3.4 Alternative Approach 4 - Qualitative Description of Influence with State Plans

This approach stems from recommendations made in Codes MPER #5. It is similar to NEEA's current approach of measuring code influence qualitatively by confirming activities and outcomes in the PTLM but fills gaps in the PTLM for state-specific code development activities. MPER #5 did not recommend PIs for NEEA code development activities given the complexity of assessing code influence, as well as the differences in code development and adoption in each state and, as a result, the differences in NEEA's role in each state. This approach suggests creating state- and code cycle-specific plans documenting NEEA's strategy that are reflective of the PTLM. This would make it easier to create PIs that can be measured qualitatively for each code cycle.

<sup>&</sup>lt;sup>6</sup> CA Public Utilities Commission. California Energy Efficiency Evaluation Protocols: Technical, Methodological, and Reporting Requirements for Evaluation Professions, 2006. https://www.cpuc.ca.gov/-/media/cpucwebsite/files/uploadedfiles/cpuc\_public\_website/content/utilities\_and\_industries/energy/energy\_programs/demand\_side\_manageme nt/ee\_and\_energy\_savings\_assist/caenergyefficiencyevaluationprotocols.doc



# Section 3 Review of Alternative Approaches to Assessing Influence Over State Energy Codes

In the following subsections, we provide our assessment of the four alternative code influence evaluation methodologies proposed by NEEA.

#### 3.1 ALTERNATIVE APPROACH 1 - CALIFORNIA ENERGY EFFICIENCY EVALUATION PROTOCOLS

One key difference between the California evaluation approach and NEEA's current approach is the inclusion of an attribution component. The California evaluation framework includes a downward adjustment to gross savings based on the specific portion of savings attributable to the party responsible for the market intervention. Additionally, the California approach represents a substantial increase in methodological rigor—and evaluation cost. It represents a thorough and rigorous evaluation of code influence and adopting a similar approach could produce results with a high level of confidence and defensibility. However, it also would require additional data collection well beyond the scope of NEEA's current evaluation approach, including adding a Delphi Panel approach and gathering information from respondents at the measure level, rather than assessing overall savings due to the code change.

NMR does not currently recommend that NEEA adopt this approach. Increasing the accuracy and precision of results certainly represents a desirable outcome, particularly if doing so yields measure-level results with defensible estimates. However, the costs and the difficulty in obtaining the necessary data are likely far too high to justify such an approach. MPER #5 documents the difficulty in assigning PIs related to code influence because many market actors would not understand NEEA's influence on certain outcomes, and that concern would likely impact the results of this approach as well. An approach that relies on a Delphi Panel to provide adjustment estimates (that could have a large impact on savings) assumes that this data collection effort finds and recruits the right market experts that have a deep understanding of the code landscape and process in the region both currently and historically; these market experts are usually difficult to find. Additionally, an approach that seeks to assign attribution to one party's influence on energy code does not align with how NEEA approaches conducting its work on energy codes. As noted above, NEEA's efforts in influencing energy code outcomes focus on maximizing the energy efficiency in the new code which is often done through partnering with other entities as opposed to demonstrating its sole influence. Therefore, measuring NEEA's sole attribution to code outcomes is antithetical to its stated goals.

In addition to the difficulty in collecting this data, adopting this approach would result in a large increase in evaluation cost. We anticipate that evaluation studies rigidly adhering to this approach would be extremely expensive and could substantially outpace NEEA's typical spending on codes evaluation research (possibly by an order of magnitude or more, depending on the scope of the evaluation).



#### 3.2 ALTERNATIVE APPROACH 2 - COUNT OF PROPOSALS

NMR does not recommend adopting this approach as a primary means of assessing influence due to its relatively low rigor. As mentioned in Codes MPER #5, the count or percentage of accepted proposals only considers the quantity but not the quality or generated savings of those proposals. Without an additional means of assessing relative savings, it would treat every proposal NEEA contributes to as having the same value or impact on the market, which is unlikely. A commercial HVAC code change, for example, might have a larger impact on savings than a residential lighting code change would. A potential refinement here could be to rank the proposals or assign each proposal a certain percentage of the total expected savings all the NEEA proposals would generate. Another factor to consider is the possibility that oversaturating a code update process with proposals can have negative consequences, for example by overshadowing one particularly impactful proposal with several less impactful proposals in an environment where only a limited number are expected to be chosen.

Additionally, this approach does not capture the full picture of what NEEA's codes work is intended to achieve. It does not tie savings back to the PTLM or progress indicators but rather assesses proposed changes solely based on the results of an individual code cycle. This approach only focuses on short term outcomes and may penalize NEEA for contributing to proposals that may be part of a longer-term strategy. For example, NEEA might contribute to proposals that have a lower probability of being adopted in a certain code cycle to increase awareness and the likelihood of it being adopted in future code cycles. It also does not consider that a longer-term market transformation strategy might dictate a lower or higher number of proposals in a given code cycle.

Although NMR does not recommend this approach as an overall method to assess influence, we consider it a useful progress indicator to supplement the evidence already collected to qualitatively describe influence. It is a metric that NEEA already has on hand and so would not require additional data collection and helps speak to the fact that NEEA works over the long term to get proposals included in code updates, even if proposals are not accepted immediately.

#### 3.3 ALTERNATIVE APPROACH 3 – NEEA'S "OTHER STANDARDS" EVALUATION APPROACH

While there is some overlap between the way NEEA approaches codes evaluation and standards evaluation, the approach used to evaluate influence on standards that are not part of a current NEEA market transformation program ("other standards") takes a further step to create an adjustment to the total gross technical potential savings based on the extent to which NEEA efforts contributed to the adoption of the new standard. The adjustment is arrived at through market actor estimates of NEEA's effectiveness in overcoming barriers to adoption as well as NEEA's role or primacy in various activities.

NMR does not recommend applying this method to the calculation of code influence for a few reasons. First, as mentioned in Codes MPER #5, the market actors who would inform the assessment of how much the code change was influenced by NEEA and its partners' efforts may not fully understand NEEA's influence since many of NEEA's activities are aimed at filling gaps in the process that may not appear as direct influence. Second, while a change to a standard



involves one measure, a code update impacts many measures, meaning it would be much harder to upscale the standards quantification approach to the more complex code update process. Third, NEEA's "other standards" approach is designed to assess NEEA's influence in welldefined, national proceedings, where NEEA is one of many involved parties. This approach is not designed to deal with the complexities of updating codes in four different states, each with their own unique circumstances and timelines, and where NEEA may play a larger role (or a different role in each code update process). Ultimately, NMR concluded that the additional cost to study influence on code development and adoption processes across NEEA states utilizing this other standards approach is not justified by the level of certainty that this approach would produce.

While this overall approach is not currently recommended, there are aspects of the approach that NEEA could consider. The "other standards" evaluation approach involves confirming the presence and magnitude of the NEEA's influence on activities that yield outcomes in the Standard development process and classifying the importance of each activity in generating those outcomes. For example, activities may be ranked as having "low", "medium", or "high" effectiveness at addressing barriers to developing a more efficient standard and NEEA and its partners can have a "primary", "major", or "minor" role in those activities. In the event that PIs for NEEA's influence code development are created based on the state-specific plans recommended in Codes MPER #5 and described below, NMR would recommend NEEA consider adopting this type of qualitative assessment for those PIs in its codes evaluation as well.

#### 3.4 ALTERNATIVE APPROACH 4 - QUALITATIVE DESCRIPTION OF INFLUENCE WITH STATE PLANS

This approach is similar to the way NEEA has been evaluating its Codes program through MPERs, with some added planning and data collection. Codes MPER #5 recommended that specific plans for each state and code cycle be created to supplement the overall PTLM before intervention activities occur. The recommendation stems from the finding that establishing progress indicators for code influence was difficult due to the difference in code processes in each of the four states in the NEEA region, and the fact that the PTLM attempts to be general enough to cover all of them. State-specific plans could be adaptations of the PTLM that are tailored to the unique circumstances and planned interventions in each state which would increase the likelihood of establishing measurable progress indicators.

Creating separate plans and PIs would take time and effort from NEEA on the front end of a code cycle, including documenting and organizing evidence for activities that are already occurring. NEEA already plans code interventions in each state; these efforts may simply need to be formally documented and mapped out to complement the PTLM, in which case the necessary investment of time and effort may be relatively low. Each of these specific plans would be based on the PTLM but simplified, with state and code cycle specific activities in place of the higher-level concepts. PIs intended to be measured qualitatively would also need to be established for these plans, and having state specific plans would make that more achievable. Data collection from market actors will look similar in this approach with the caveat that it may be broken out by state.



NMR recommends incorporating this approach into MPERs. It aligns with current codes MPER methods but adds refinements to measure influence and characterize other stakeholders more thoroughly. This will increase the cost of NEEA's evaluation work, but it will make the assessment of the influence of NEEA and its partners on state energy codes more transparent and defensible.

## Section 4 Final Recommendations

NMR did not determine that significant changes were necessary to the approach NEEA uses to estimate influence over state energy code outcomes. The recommendations below offer refinements to the current codes market progress evaluation report (MPER) process that can be integrated into existing study designs and evaluation cycles to generate more robust findings. These recommendations only address how NEEA assesses its influence on code changes; they do not affect how NEEA quantifies energy savings from code improvements.

Recommendation 1. In market progress evaluation reports (MPERs), conduct deeper, state-specific qualitative research to describe NEEA's work and its collaborations with partners to improve code outcomes.

NEEA engages third-party evaluation contractors to conduct regular MPERs to inform a NEEA team's strategy for a given initiative and measure progress toward the outcomes documented in NEEA's PTLMs. Energy code development, adoption, and enforcement are complex, multistakeholder processes. Outcomes are determined by numerous factors and the evidentiary standard for assessing influence should be high when reporting a high level of impact on outcomes. Accordingly, the NMR team sees opportunities for NEEA to increase the extent to which it documents its role in those outcomes. NEEA should adapt the current codes MPERs to fully document its unique and specific role in each state through qualitative data collection performed longitudinally, with a focus on measuring progress against NEEA's PTLM and confirming the impact of NEEA's and its partners' own contributions to national and state-level code improvements. The goal of this work is not to establish an attribution score to quantify NEEA's efforts relative to those of its partners or other advocacy groups, but to accurately characterize what role NEEA served in the partnership-influencer, facilitator, mediator-and whether NEEA's partnership included all influential actors in the process. This will help gather and document evidence in support of NEEA's efforts to influence the code update process. Some of the key questions to answer in codes influence research include:

- What other stakeholders contribute to code changes? If they are not actively part of NEEA partnerships, what role do they play relative to NEEA and its partners?
- > Have stakeholders entered or exited this space, changing NEEA's role or relative influence?
- How comprehensive and impactful are NEEA's partnerships in each state and code cycle after characterizing the full array of stakeholders?
- > How do other stakeholders, including NEEA's partners, describe and assess the involvement and contributions of NEEA to code improvements over time?
- What factors have changed in the policy or regulatory landscapes surrounding code development and adoption, and how has NEEA responded to or helped influence those changes?



The current codes MPER data collection covers related topics and addresses these questions in some ways. Ensuring that future MPERs include an additional focus on documenting the extent and nature of NEEA's influence will help confirm the legitimacy of NEEA's approach to reporting savings (in collaboration with its partners) from code updates. In addition, documenting the presence and roles of other stakeholders who have engaged in code development processes with NEEA over time offers opportunities to trace impacts over time, including how NEEA's influence may have changed over time.

To support our first overall recommendation, the NMR team offers additional methodological recommendations, designed to better document NEEA's impacts in this space.

# Recommendation 2. Given the limited scope of this evaluation, the NMR team does not have evidence to suggest that NEEA should develop and apply a downward adjustment factor to the co-created savings it reports from its work with partners to influence code update cycles, though future evaluation research could suggest the need for such an adjustment.

As previously noted, this research effort focused on how NEEA assesses its influence on code outcomes, not specifically how it calculates savings from code cycle updates. Accordingly, this study did not assess the savings calculation approach sufficiently to suggest any specific adjustment factors beyond the strategies already used by NEEA to adjust reported savings. Based on our understanding of NEEA's codes work and NEEA's evaluation needs, this study does not specifically recommend that NEEA invest in evaluation to generate an adjustment factor for co-created savings or pursue strategies to further discount the amount of savings reported from a given code update cycle. It is possible that future MPERs, enhanced with some of the methodological recommendations provided in this memo, could indicate that the influence of NEEA and partners on a particular code cycle does not match historical assumptions. In that case, it would be incumbent on NEEA to consider this evidence and consider an adjustment factor for reported savings.

# Recommendation 3. Create strategy plans for each state and code cycle as recommended in Codes MPER #5 and integrate their development and execution into the Codes PTLM.

The recently published fifth Codes MPER reported the challenges of developing progress indicators (PIs) for NEEA's work on codes development and adoption, given the complexity and variability of NEEA's collaborative work across states and code cycles. The MPER developed PIs for NEEA's code training efforts, where outcomes were easier to quantify and more straightforward to track over time. Developing state-specific plans, however, would make it more feasible to develop targeted PIs focused on state-level activities. These plans will also aid in longitudinal tracking of NEEA-supported code amendments that may not have been adopted during the code cycle in which they were proposed. As a part of developing state-level plans, NMR suggests the following:

Edit the PTLM to include developing state-level plans as a NEEA activity, also adding or linking to relevant state-level outputs and outcomes. These PTLM additions would ideally specify that state-specific PIs would be developed in the plans.



- Track the portion of adopted NEEA code proposals as a PI to supplement data collected in interviews. This was a component of the alternative approaches that was not deemed robust enough to be a stand-alone metric of NEEA influence, but it would add to the body of evidence related to NEEA's codes contributions.
- Where feasible, ensure PIs from state plans are tracked longitudinally and are easily accessible in reports. Depending on the granularity of any new PIs for code development and adoption, there will be opportunities to track PIs longitudinally for each state. These PIs should be tracked when possible and reported in future MPERs to highlight NEEA's impacts over time. Some potential outcomes or PIs may not be longitudinal in nature, representing specific interventions unique to a given state and code cycle. MPERs can serve as opportunities to document such one-off efforts.

# Recommendation 4. Use MPERs to document and highlight the story of NEEA's codes work, including historical context, collaborative approaches with co-created savings, and the rationales for NEEA's chosen codes activities.

The interviews NMR conducted with NEEA staff were critical to this evaluation. Interviewees provided rich historical context and insight into how and why NEEA influences and assesses its impact on code outcomes. In comparing the findings from these interviews to some of the available evaluation reporting on NEEA codes work, we noted opportunities to communicate insights we gained through interviews in NEEA public reporting such that outside evaluators and stakeholders can more easily understand NEEA's approach. Codes MPERs are a logical place to deploy these narratives to contextualize MPER findings and make each document a standalone resource for those seeking to understand NEEA's codes work. This step does not guarantee that all reviewers will agree with NEEA's approach, but it will ensure there is greater understanding of that approach.

NMR would also add that many of these recommended evaluation steps would be useful to NEEA as it considers pathways to maintain or even increase its influence on code development and adoption outcomes. The data derived from these research activities can point to new opportunities in the code development space or highlight activities to de-emphasize moving forward if, for example, other stakeholders are addressing those needs.

