



# Leveraging State Energy Office-Utility Partnerships to Advance Building Energy Codes

National Association  
of State Energy Officials

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# Executive Summary

Increasing building energy code adoption and compliance represents an effective strategy for states to achieve both energy and cost savings for their citizens. An analysis conducted by the Alliance to Save Energy projects that if all states adopted the 2012 International Energy Conservation Code (IECC) and achieved full compliance by 2013, more than 3.5 quadrillion Btu of annual source energy could hypothetically be saved by 2030,<sup>i</sup> which is roughly equivalent to 260 medium-sized power plants.<sup>ii</sup> While many State and Territory Energy Offices (SEOs) are actively involved in promoting building energy code adoption and compliance, and have recently increased their levels of engagement with builders, contractors, utilities, and other state and local code agencies, declining funding threatens to disrupt recent progress. Moving forward, SEOs will need to continue to work closely with key stakeholders to better leverage resources and efforts. In particular, the state-utility<sup>1</sup> relationship is critical to the ongoing advancement of building energy codes, particularly at the regional, state, and local levels.

In recognition of this need and opportunity identified by its State Energy Office members, the National Association of State Energy Officials (NASEO) Board of Directors passed a resolution to encourage increased coordination between states and utilities on building energy codes. To support the Board's direction, NASEO conducted research on building energy code programs and developed this report as a resource for states.<sup>2</sup> This report illustrates successes and lessons learned from several existing SEO-utility partnerships on building energy code programs and outlines specific approaches for how SEOs can collaborate with utilities on these initiatives.

Through research on over a dozen states, NASEO identified four common approaches SEOs are taking to partner with utilities on building energy code programs:

- 1. Training Programs.** Many SEOs, including those in Georgia, Arizona, Nebraska, New York, and Illinois, have implemented training programs on current or next-cycle building energy codes. These training programs target diverse audiences, including building code officials, architects, engineers, builders, trade associations, and local government officials responsible for implementation and enforcement of building energy codes. Utilities often participate by marketing workshops, refunding registration fees, providing free meeting space, or providing code books and training materials.
- 2. Stakeholder Engagement Processes.** SEOs are uniquely positioned to convene diverse stakeholders involved in building energy code adoption, implementation, and compliance. For example, the Nebraska SEO formed a Building Codes Advisory Council to support code compliance and adoption in the state. Engaging utilities in these stakeholder processes is crucial to their success.
- 3. Utility Oversight and Monitoring.** In some states, such as Minnesota and Massachusetts, SEOs have roles defined by legislation to provide oversight or guidance to utility ratepayer funded energy efficiency programs for meeting savings targets required by energy efficiency portfolio standards (EEPS)<sup>3</sup> or similar regulations. This creates a clearly recognized and formal platform for states and utilities to collaborate on various energy efficiency efforts, including building energy codes.
- 4. Stretch Code Policies and Programs.** SEOs have been involved in designing new construction

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1 Unless otherwise noted, "utility" is used to identify investor-owned utilities (IOUs), municipally-owned electric utilities, and rural electric cooperatives. Federally owned corporations responsible for electricity generation (e.g., the Tennessee Valley Authority) and power market administrators are also natural allies to the SEOs in building energy code programs. The report includes descriptions of both ratepayer funded programs and utility programs. When specifically referring to utility "ratepayer funded energy efficiency programs," this term or the abbreviated "energy efficiency programs" is used.

2 For the purpose of this report, "building energy code programs" are initiatives whose goals are to increase building energy code adoption, implementation, and/or compliance verification.

3 EEPS, also known as energy efficiency resource standards (EERS), are state policies that require utilities to meet quantitative targets for energy savings according to a set schedule. The energy savings targets detailed in an EEPS are typically set by a state legislature or public utility commission.

above code or “stretch code”<sup>4</sup> incentive programs in states such as Massachusetts, Iowa, and Oregon. These programs have the dual benefits of familiarizing the industry with a new building energy code, which improves the outlook for future adoption, as well as increasing workforce capacity to build to a new code, thereby improving compliance. SEOs can work with utilities to integrate forward-looking stretch codes into their new construction programs.

In addition to these four common approaches, examples from the states revealed several cross-cutting lessons that can help inform how SEOs engage with utilities on building energy code programs:

- 1. Demonstrating the value of code adoption and compliance is the first step.** In states where utilities have not historically been involved in building energy codes, a key initial step for SEOs is to present the case for why code adoption and compliance can help utilities cost-effectively meet growing energy demand,<sup>5</sup> reach increasingly challenging energy savings targets, and improve grid reliability. For states whose utilities do recognize the value of building energy codes, SEOs can partner with utilities to expand their approach to new areas, such as building energy code training, compliance studies, or stretch codes.
- 2. Determining energy savings measurement, attribution, and allocation protocols presents both a challenge and an opportunity.** While some states, such as California, have established an energy savings allocation protocol to give utilities credit for building energy code programs, many states have not defined an approach to measuring, attributing, or allocating savings.<sup>6</sup> SEOs that have a regulatory oversight role of utility energy efficiency programs, including those in Massachusetts and Minnesota, will need to work with utilities and regulators to ensure that energy savings measurement, attribution, and allocation protocols for building energy code programs are acceptable to all parties involved.<sup>7</sup> As these protocols become better defined and accepted, and as energy savings are recognized, utilities will be able to expand and scale up their building energy code activities and allocate additional ratepayer funding for these programs.
- 3. Utility support can be multi-faceted.** Existing SEO-utility partnerships on building energy codes illustrate that utilities have numerous assets, beyond funding, for promoting building energy code adoption and compliance. A utility’s political and social capital with state legislatures, builders, contractors, and other stakeholders can be crucial to a state or jurisdiction in passing a new building energy code. Likewise, access to utility data on energy use and new construction trends can help inform cost-benefit analyses for proposed building energy codes and demonstrate the impact of past codes.
- 4. Integrating code activities into SEO-utility strategic energy planning may become increasingly important.** Building energy code adoption and compliance have an opportunity to play a greater role in utility integrated resource planning, as well as the energy planning functions of the SEOs. For example, by decreasing the consumption impact and peak loads of buildings, energy codes help lessen the stress on the grid, which increases grid reliability and may help defer expensive new generation needs. The conclusion of American Reinvestment and Recovery Act (ARRA) programs may cause states to revisit strategic energy planning processes that were deprioritized during ARRA.

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4 Stretch codes are also referred to as “reach codes.”

5 For example, a 2003 study by the Washington State Energy Office showed that the cost for the utility system of implementing the 1991 residential state energy code was less than \$.003/kWh. This translates to between \$1.2 billion and \$1.3 billion in electricity savings, which would have cost roughly \$.0312/kWh if obtained through a mix of conservation and generation. (Schwartz, 1993)

6 For further discussion of the challenges for measuring, allocating, and attributing energy savings to utilities for involvement in building energy codes, see Elnecave, 2012

7 One project that holds promise to contribute to protocol development is the “Building Codes Attribution Project,” which was recently launched by the Northeast Energy Efficiency Partnerships (NEEP), the Institute for Market Transformation (IMT), and the Institute for Electric Efficiency (IEE). This project aims to: 1) advance knowledge on how to capture and account for energy savings from building energy code policies and utility programs; 2) recommend next steps to policy makers; and 3) encourage quality and consistency in measurement approaches. States such as Delaware and Minnesota hope to use the results of this project to inform their savings measurement, attribution, and allocation protocols for building energy codes programs. See the project’s request for proposals for more information: <http://neep.org/uploads/EMV%20Forum/EMV%20RFPs/EMV%20Forum%20Building%20Codes%20Attribution%20RFP%20FINAL%202-9-12.pdf>.

**5. Engagement with state and local code adoption and enforcement agencies should be a priority.** While some SEOs have the authority for adopting building energy codes and fostering compliance with those codes, in many states one or more separate agencies (e.g., health and safety departments) play this role. In these cases, SEOs should communicate and collaborate with the state code authority on building energy code programs, as these agencies have the authority to adopt, implement, and enforce building energy codes. State code authorities can contribute to the success of SEO-utility building energy code programs and ensure that they support on-going state priorities regarding building energy code adoption and compliance. Recent activity in Georgia demonstrates a successful collaboration between the SEO, state code authority, and a utility regarding building energy code adoption and implementation (see Appendix 1 for more information).

There are several examples of active SEO-utility collaboration on building energy codes, and successes in this area indicate that SEOs are well-positioned to increase utility support and commitment to building energy code adoption and compliance. SEO-utility partnerships can take several forms: from SEOs using utility funding to administer building energy code programs, to SEOs partnering closely with utilities to develop stretch codes or coordinate stakeholder processes. Furthermore, these approaches can be adapted to fit a state's needs, budget, capacity, and energy code status. Lastly, there is a key policy role that SEOs can play in encouraging utilities to support building energy codes, including establishing market expectation with the development of stretch codes and contributing to legislation that outlines opportunities for utilities to engage in building energy codes.