



September 30, 2013

Mr. Roland Risser
Director, Building Technologies Office
Energy Efficiency and Renewable Energy
U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20585

RE: DOE Code Compliance RFI; Docket No. EERE-2013-BT-BC-0036

Dear Mr. Risser,

The National Association of State Energy Officials (NASEO) is pleased to submit the following comments on behalf of the 56 State and Territory Energy Offices (SEOs) regarding the U.S. Department of Energy's (DOE) "Code Compliance RFI." NASEO has worked closely with SEOs and DOE's Building Energy Codes Program (BECP) on building energy codes issues over the last several years. Many SEOs engage in code training activities, organize or participate in building energy code stakeholder groups, facilitate new state code adoption, manage code compliance evaluations, or partner with utilities on building energy code programs. The Code Compliance RFI is a thorough summary of the numerous questions, challenges, and opportunities that face state agencies and other organizations working to improve the energy efficiency of the building stock through building energy codes. While some code compliance activities have gained momentum following DOE's Compliance Pilot Studies, NASEO encourages DOE to continue to welcome innovative approaches for increasing and measuring compliance. Furthermore, NASEO's comments emphasize that SEOs and other state agencies play a variety of roles when it comes to building energy codes and that flexibility in working with states remains vital.

Overarching Comments

Before responding to the categories of questions that DOE posed in the Code Compliance RFI, NASEO first offers comments regarding the fundamental assumptions of compliance activities and the role of SEOs and other state agencies in DOE energy code programs.

- 1.1 NASEO recognizes the importance of advancing compliance measurement and evaluation, and we offer feedback on these areas in our comments below; however, many states' top priorities deal with increasing building energy code training opportunities and creating market demand.** In discussing the Code Compliance RFI, numerous SEOs emphasized that their current priorities are to create code training opportunities and market demand for energy-efficient buildings. These activities are foundational steps that will increase the relevance of compliance measurement and broader market acceptance of new code adoption. For example, Mississippi and Alabama have organized energy code training sessions for recently-adopted codes but continue to see more demand for training than they can meet. States also recognize that creating market demand, while challenging, is important to developing a long-term, sustainable strategy for increasing the energy efficiency of buildings. Several states with high levels of code compliance, such as Washington, Minnesota, and Massachusetts, acknowledge that a key to driving market demand is developing long-term partnerships with builders and contractors and discussing how code compliance and efficient buildings are in their best interest, do not cause them to lose money, and can be selling points they make to consumers.
- 1.2 Code compliance approaches should provide states flexibility to address their specific situation and need.** As DOE knows well, each state approaches energy code adoption, enforcement, and compliance in a unique manner. A variety of entities, including SEOs, other state and local agencies, state and regional non-profits, and national organizations, are involved in activities to increase code compliance, such as compliance studies and training building code

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officials or builders. Any DOE rules or code compliance programs should, to the extent possible, take these differences into account.

1.3 The need for flexibility also extends to DOE’s relationship with SEOs through the State Energy Program.

The Recovery Act period saw an unprecedented increase in funding for building energy code adoption and compliance. SEOs and their partners in state and local agencies, the private sector, and the non-profit sector increased their capacity to work on building energy code issues. Many SEOs have continued to prioritize energy codes over the past several years and expect to continue in the future. While DOE maintains relationships with each SEO through the State Energy Program (SEP), it is important for DOE to recognize that SEOs often do not have sole authority over building energy code issues in their state. DOE programs will be most effective if they provide incentives for states to increase code adoption and compliance through a variety of flexible approaches, rather than developing certain requirements that all SEOs must follow, regardless of the authority they have at a state level over building energy code issues. Similarly, SEOs also require flexibility in working with their local code enforcement officials on building energy code issues.

1.4 Code compliance measurement is still in a “start-up” phase and innovative/alternative approaches should still be encouraged and considered. While the Recovery Act period and the Compliance Pilot Studies greatly accelerated national discussion regarding code compliance measurement, those studies also raised numerous questions—many of which are included in the Code Compliance RFI—about the cost, viability, and long-term sustainability of current approaches. NASEO appreciates DOE’s willingness to accept comments on the “fundamental assumptions and approaches to measuring compliance with building energy codes.” NASEO recommends that DOE continue to be open to and invest in innovative or alternative approaches to compliance measurement.

1.5 States will benefit from investments in and research on long-term, sustainable solutions to code compliance and measuring compliance rates. One of the key criteria or lenses that should be used when evaluating various approaches to enforcing energy codes, increasing code compliance, and measuring/studying compliance rates is the degree to which the approach is sustainable for the long-term. Various states and regions have different resources and infrastructure that can be leveraged to increase and measure code compliance. States that have obtained high levels of code compliance often benefit from funding sources, such as public benefit funds, that other states do not have access to. A limitation of the methodology used during the prior Compliance Pilot Studies is that it was costly and time-intensive, especially in terms of the required number of building site visits. States would benefit from alternative compliance methodologies that are not as costly and time-intensive. Resources and funding opportunities focused on developing new approaches that can be sustainable over the long-term remain valuable to states, and SEOs in particular.

Defining and Achieving Compliance

2.1 Defining code compliance. The main goals of increasing code compliance are to reduce energy consumption, increase the energy-efficient “asset value” of buildings (e.g. make the building more energy-efficient, independent of the occupant), and ensure that state and local laws are followed. Given these goals, compliance with energy codes should have two elements: 1) is the code followed as written and 2) are the measures that are expected to save energy implemented fully and correctly, with a priority on the measures that have the biggest impact on the energy efficiency of the building. While the first element should never be ignored or devalued, the second element likely has more importance when it comes to defining energy code compliance.

2.2 Barriers to achieving compliance include:

- a. Lack of time and resources for building code officials to focus on building energy codes, given other competing priorities that understandably take higher precedence in terms of public safety.
- b. Dearth of state and local funding available for code compliance support.
- c. Lack of code training opportunities for builders, contractors, appraisers, real estate professionals, and inspectors, along with the lack of sustained efforts to build relationships with these market actors for the long-term.
- d. Lack of consumer awareness/demand for code compliance.
- e. Presence of political barriers working against building energy code adoption and compliance, mainly from elected officials or building industry stakeholders that do not support more-stringent building energy codes.
- f. Some states lack a building code official structure or have minimal building construction oversight in rural areas.

2.3 Barriers to code compliance have been overcome through sustained engagement and relationship-building by energy efficiency supporters with key code stakeholders, including builders, code officials,

insurance/real estate industry, consumer advocates, state/local legislatures and elected officials, and utility representatives. This approach has proven successful in states such as Washington and Minnesota.

Compliance Targets

- 3.1 Compliance measurement should emphasize the code elements (main energy efficiency elements) that are assumed to have the biggest impact on energy efficiency**, including the efficiency level of the building envelope and heating/cooling equipment. Compliance measurement should also track the other elements (secondary energy efficiency elements) required by the code that may not have a direct impact on energy efficiency, such as a certificate on electrical panels detailing wall insulation values. However, if the costs of measuring the secondary energy efficiency elements outweigh the benefits, the priority should be to measure the main energy efficiency elements.
- 3.2 Given the current trends in code compliance evaluation costs, annual compliance evaluations are unrealistic in most states.** The range of costs for statewide Compliance Pilot Studies was approximately \$75,000 to \$140,000. Absent additional funding from non-state sources specifically for this activity, most states would likely not be able to fund annual compliance studies. A more realistic timeline would be to plan compliance studies around the adoption of new codes, roughly every three or four years in states that consistently update their energy codes. Even then, some states would likely prefer to spend funding on additional training or market-demand activities (see 1.1 above) and/or would struggle to identify funding for compliance evaluation studies.
- 3.3 Code compliance progress should likely be tracked at a level based on adopted codes.** For states with statewide energy codes, compliance should be tracked at the state level. For states that lack statewide energy codes but have local jurisdictions that have adopted codes, compliance should be tracked at the local jurisdiction level (and potentially aggregated across jurisdictions with the same code). Regional or national code compliance levels seem to be less helpful, assuming nuances in the adopted codes and areas that lack adopted codes altogether.

Evaluating Compliance

- 4.1 SEOs generally lack the staff time and expertise to evaluate code compliance directly.** However, a model that has worked in several states is for SEOs to manage or oversee a compliance evaluation contractor. This will continue to be an appropriate model for conducting compliance evaluations in some states.
- 4.2 One proposed funding mechanism for code enforcement and compliance is to increase fees paid to code officials by builders or homeowners (a response to barrier 2.2a above); however, this approach can have an adverse impact on code adoption efforts.** A key argument against new code adoption is the possible increased first costs for buildings built under the new code, though in fact this does not appear that this is a reality on the ground. Increasing fees to help fund compliance efforts for a new code would potentially fuel further resistance to adoption efforts. Decisions to increase fees paid to code officials should take into account potential impacts on and perceived links to future code adoption.
- 4.3 DOE can potentially play a role in ensuring more-consistent code compliance evaluation reports in the future.** As code compliance measurement methodologies are refined, DOE could explore the possibility of defining standards for conducting compliance studies. This approach might include certifying organizations that meet these standards. States and jurisdictions would then have a streamlined approach for identifying contractors to conduct the studies and consistency from one study to another would increase. Additionally, this approach could help provide states information on average costs of compliance studies and methods for reducing these costs. *However, this type of system should not be developed in the short-term* while other key questions, such as the definition of compliance and what metric to base compliance upon, are still being answered. Developing evaluation reporting standards now could potentially impede innovations in compliance methodologies.
- 4.4 Much of the focus on code compliance studies to date has been on “impact” evaluations; however, “process” evaluations can play an important role as well.** While impact evaluations can measure code compliance, process evaluations would focus on analyzing how compliance programs are designed and implemented and identifying strategies to improve them. Additionally, process evaluations could also be used to compare the costs and benefits of different code compliance methodologies and to accelerate the transfer of information and lessons learned through state-to-state peer exchange.
- 4.5 As utilities in states such as Rhode Island and Illinois become involved in code compliance programs, other states will benefit from evaluations on the cost-effectiveness and impact of these programs.** These types of evaluations will likely be left to the states and/or utilities involved, but DOE could potentially play a

role in encouraging the evaluations to include certain elements—such as details on program design, savings attribution, and costs—that are of interest to DOE and the states.

- 4.6 While utility-state partnerships on code compliance are promising, not all states have an environment conducive to these partnerships.** States that lack energy efficiency portfolio standards or that have restrictions regarding the types of efficiency programs that are allowed will have an especially difficult time engaging investor-owned utilities in supporting code compliance. As more states develop pilots, receive approval from public utility commissions, and address questions about cost-effectiveness testing and measuring, attributing, and allocating energy savings, it will be easier for other states that do have existing utility efficiency programs to explore this approach. As an alternative approach, states such as Minnesota and Vermont utilize non-resource acquisition budgets within rate-payer funded efficiency programs to fund energy codes efforts, as these programs do not have as stringent of a requirement to verify energy savings. This is an approach other states could explore, especially given the complexity of measuring energy savings from codes efforts.

DOE Compliance Evaluation Resources and Actions

- 5.1 As mentioned above, the top priorities for many states are developing a sustainable approach to delivering code training and creating market demand for energy-efficient buildings among builders and consumers.** The implementation of long-term strategic plans hinges mainly on identifying funding resources and approaches to reducing political barriers to code adoption and compliance. States are increasingly looking for opportunities to provide training to groups such as appraisers, real estate professionals, building energy raters, and building inspectors. While broadening the target training audience to include these market actors should have benefits for code compliance, states still need to identify how to make these activities sustainable for the long-term. Any resources, strategy development, or other support DOE can provide in this area would be beneficial.
- 5.2 Incentive funding for states has the potential to be supportive of long-term efforts to increase code compliance and the design of such incentive funding opportunities is important to their success.** To the extent that sufficient funding is available, states prefer programs that offer a “use-it-or-lose-it” model, where all states can benefit from the availability of incentive funding. Programs that are designed for states to compete with one other can cause some states to assume they will not be competitive and therefore not apply, thus defeating the purpose of such a program to encourage states to make advances compared to their current baselines. All states should be encouraged to develop strategies for advancing code adoption and compliance activities relative to their current situation.
- 5.3 One potential role for DOE is to help develop tools and resources that address current impediments to robust compliance measurement or that mitigate concerns regarding code adoption.** For example, as diagnostic testing becomes more prevalent in model energy codes, states would benefit from standardized training programs or opportunities to leverage bulk purchases of diagnostic testing equipment (e.g. blower doors). Concerns over increased costs and lack of training for diagnostic testing are often cited as arguments against adopting current model energy codes. Additionally, one need in most states is to create online systems for tracking and storing building permits. This would streamline processes for collecting data on building trends and would assist with compliance evaluations.

NASEO and the SEOs appreciate the opportunity to provide comments on DOE’s code compliance efforts. NASEO encourages DOE to continue working with SEOs to develop and test innovative approaches for increasing and measuring energy code compliance. Given the variety of roles SEOs and other state agencies play pertaining energy codes, NASEO encourages DOE to ensure continued flexibility in designing and implementing its code programs. DOE’s Building Energy Codes Program is a valuable partner to NASEO and the SEOs. We look forward to continuing to work together to help DOE and the states meet their energy efficiency and economic development goals through building energy code adoption and compliance.

Best regards,



David Terry
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