

# Measuring State Energy Code Compliance

Step-by-Step Companion Guide





**MANY U.S. STATES**, territories, and jurisdictions are creating plans to measure and improve compliance with their energy codes. To support this effort, in March 2010, the U.S. Department of Energy's Building Energy Codes Program (BCEP) released *Measuring State Energy Code Compliance*, a report that collects BCEP's recommended methodologies, which were developed with key input from stakeholders. The full report is available at [www.energycodes.gov/arra/compliance\\_evaluation.stm](http://www.energycodes.gov/arra/compliance_evaluation.stm).

To supplement the report, this user-friendly action plan summarizes the main procedures, shows further options, and points to several ready-made resources and web-based tools BCEP is releasing to support the process.

## Step 1

### OBTAIN EVALUATION CHECKLISTS

A reliable measurement of energy code compliance calls for onsite evaluations of a valid sample of building projects—both new construction and renovations. To “check on” compliance, the first step is to have a proper checklist. BCEP offers evaluation checklists for both residential and commercial buildings, complete with instructions to help evaluators. The checklists offer weighted scoring in order to focus on the most important code requirements and help states produce accurate metrics.

### BCEP Tool:

Download inspection checklists and corresponding instructions at: [www.energycodes.gov/arra/compliance\\_evaluation.stm](http://www.energycodes.gov/arra/compliance_evaluation.stm)

## Step 2

### GENERATE SAMPLES

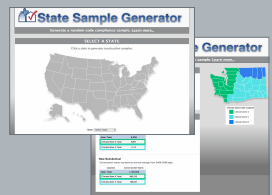
With checklists in hand, the next step is to determine which buildings to inspect. BCEP recommends the evaluation of a statistically significant number of buildings in each of the following four building populations:

- » Residential new construction
- » Commercial new construction
- » Residential renovations
- » Commercial renovations.

Within each population, roughly 44 building projects\* should be selected randomly, and in such a manner as to provide a representative sample with respect to building type and size, location by county and climate zone, and other factors.

### BCEP Tool:

Leave the math to us—BCEP offers *State Sample Generator*, an automated solution for your state. You can find your state's custom Sample Generator at: <http://energycode.pnl.gov/SampleGen>



\*This number may vary by state/building population.



## Step 3

### CONDUCT ONSITE EVALUATIONS

So you know which data to collect, and you know where to collect them. But who and how? Formal procedures should optimally be conducted by third-party evaluators. For some evaluators, inspecting new construction and renovation projects according to the energy codes is second nature, but others may be new to the process. Of course, there are nuances involved—sometimes things are less than simple in the field. At BECP's [www.energycodes.gov](http://www.energycodes.gov), you'll find the materials to help answer your compliance-related questions. In particular, you'll find Education and Training, Solutions and Help, and Software Tools.

### BECP Tool:

BECP is beginning to launch *Building Energy Codes University* (BECU), your one-stop resource for energy codes education and training. New materials include a series of training presentations for compliance evaluators, complete with real-world video clips: [www.energycodes.gov/becu](http://www.energycodes.gov/becu)

## Step 4

### ANALYZE YOUR STATE'S DATA

Now that you've gathered raw compliance data, the question becomes: how should this information be analyzed and used? At this stage, data for individual buildings and populations come together to generate an overall state compliance metric. For help, states may send BECP their paper checklists, or use BECP's *Checklist Store and Score Tool*. While overall compliance can be determined manually for individual buildings and groups of renovations, this tool will provide automated building scores and state-wide consolidation of data. Individual building scores will remain confidential, but this effort will shed valuable light on nationwide compliance.

### BECP Tool:

Don't waste your staff's valuable time sorting through paper checklists to determine compliance. Instead, enter raw data into BECP's *Checklist Store and Score Tool* (coming soon to [www.energycodes.gov/arra/compliance\\_evaluation.stm](http://www.energycodes.gov/arra/compliance_evaluation.stm)) to generate building and state-wide metrics.



## ALTERNATIVE OR PRACTICE ROUTES

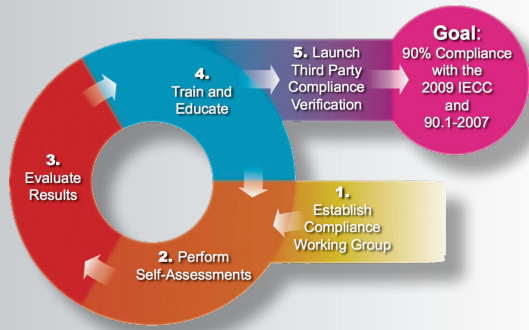
In some states, Steps 1-4 may not be feasible annually for a variety of reasons; thus, BECP offers various suggested alternatives to the formal procedures. For example, training and annual measurements can be implemented by conducting self-assessments, which will help improve compliance rates when formal procedures are applied. The graphic represents how self assessments can fit into the compliance measurement process—more details are found within the larger *Measuring State Energy Code Compliance* document.

Additional methods for better understanding compliance rates in local jurisdictions include survey mechanisms and spot checks. ‘Spot checks’ are defined as onsite evaluations of a smaller number of buildings than those deemed necessary in the more formal evaluation procedures.

### BECP Tool:

Jurisdictional surveys are available in online and downloadable formats, for states to distribute electronically or modify and use for their purposes.

[www.energycodes.gov/arra/compliance\\_evaluation.stm](http://www.energycodes.gov/arra/compliance_evaluation.stm)



## We Need Your Feedback

As your state or territory engages in activities to measure compliance, BECP wants to know how to make the process easier, both in the procedures themselves and in BECP’s resources, tools, and support. Please direct feedback to Linda Connell at [linda.connell@pnl.gov](mailto:linda.connell@pnl.gov).

## Thank you!

This effort has the potential to assemble the largest aggregate of compliance information ever produced in our nation—this data is essential to the future of building energy efficiency. BECP is hopeful that, regardless of the measurement approach chosen, each state will provide its data for consolidation into a national database for further study. Thank you for your hard work to achieve energy savings for your constituents.

U.S. DEPARTMENT OF  
**ENERGY**

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