

FACT SHEET

ENERGY CODE COMPLIANCE

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FAST FACTS

Construction in existing buildings contributes **86%** of total construction expenditures.

Within the next 20 years, more than half of the current building stock in the U.S. will be renovated.

Energy Code Enforcement for Renovations, Alterations, and Additions of Existing Buildings

Nationally, renovations, alterations, and additions to existing buildings contribute 86 percent of building construction expenditures. It is forecasted that 150 billion square feet, approximately half of the current building stock in the United States, will be renovated by 2035.¹ With strong energy codes, those renovations can lead to significant energy savings and large reductions in carbon emissions. However, statewide reports demonstrate that energy code compliance rates are low, especially for alterations, renovations, and additions. Many jurisdictions do not have enforcement procedures in place for existing buildings.

CHALLENGES OF ENERGY CODE ENFORCEMENT While a substantial amount of work has gone into code development and adoption efforts in recent years, compliance initiatives, such as training, outreach, implementation, and enforcement, have long been severely underfunded. Code officials in many jurisdictions across the country lack resources and time for all necessary inspections, so energy code plan review and inspections often take a backseat to life safety and fire codes. In addition to these challenges, there are barriers specific to energy code enforcement in existing buildings:

¹ Gordon V.R. Holness. 2008. "Improving energy efficiency in existing buildings." *ASHRAE Journal*, January 2008.



- The energy code may not clearly articulate how it applies to alterations, renovations, and additions, resulting in confusion and a lack of awareness among the building industry.
- Jurisdictions generally only keep building plans for the period of time that is required by law before discarding them. For some calculations, initial building plans are required in order to determine how an existing building needs to be changed to comply with the energy code. For example, insulation values should be factored into calculations of load when resizing an HVAC system and performing Manual J calculations; however, that information might not be available.
- Consumers and builders do not always pull permits for renovations and alterations due to a lack of awareness, especially for residential projects. The cost of permits may also deter some people—many jurisdictions rely on neighbors to report cases of non-compliance and lack of building permits, but it is easier to get away with keeping a renovation project than a new construction site hidden.

BEST PRACTICES TO IMPROVE CODE COMPLIANCE

1. *Designate an energy code champion.* Most building departments do not have an energy code expert on staff. Having an energy code champion in-house to provide insight, answer questions, and push the importance of energy efficiency can increase awareness and reduce confusion.
2. *Phase in implementation.* Staggered implementation dates for different parts of the energy code allow for sufficient trainings and outreach. The building department of Parker, Colo., set delayed enforcement dates for more complex parts of the energy code, so that staff could offer numerous training sessions. Once past the implementation date, code officials strictly enforced the code.
3. *Provide training.* Building department officials in Pima County, Ariz., which issued 9,953 permits in 2011, and Parker, Colo., which issued approximately 1,900 total permits in 2011, have identified regular trainings as the most important mechanism for outreach and increasing compliance rates. Both departments were able to offer successful trainings without increasing their budgets by collaborating with industry groups and manufacturers, who are often willing to provide free training sessions.
4. *Set up a third-party inspection system.* Outsourcing energy code plan review and on-site inspections to third-party inspectors would relieve building department staff of the burden of developing and/or retaining in-house capacity. New York City's Department of Buildings (DOB) requires premises owners to hire specialists for progress inspections of the energy code-related project. The DOB provides a checklist for inspectors and requires a statement of completion and compliance from the architect or engineer. A third-party inspection option could be integrated with trainings for contractors, architects, and engineers.
5. *Schedule pre-design meetings for projects.* A good communications system between stakeholders and the building department is critical for high compliance rates. For

stakeholders with uncertainty about the building codes, the building department can offer a multidisciplinary pre-design meeting, so stakeholders can ask all of their questions in one place. For example, Seattle requires a pre-design meeting for major projects; other projects can set up a meeting if stakeholders think it is necessary.

6. *Change permit fees.* Reduce permit fees for existing building projects while increasing new construction permit fees to offset the difference, if necessary.
7. *Provide clarifying documents.* Make sure the energy code's application to renovations, alterations, and additions is clear. For example, provide clarifying memos or brochures. New York's DOB released three bulletins to explain when the scope of the alteration triggered energy code compliance. IMT also has published several brochures, located on the [IMT website](#), elucidating when the International Energy Conservation Code applies to existing buildings.

OTHER RESOURCES

For more information about the best practices listed above, go to <http://www.imt.org/codecompliance> to find case studies and topic-specific fact sheets.

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ABOUT THE INSTITUTE FOR MARKET TRANSFORMATION

The Institute for Market Transformation (IMT) is a Washington, DC-based nonprofit organization dedicated to promoting energy efficiency, green building, and environmental protection in the United States and abroad. Much of IMT's work addresses market failures that inhibit investment in energy efficiency. For more information, visit www.imt.org.

ABOUT THE GLOBAL BUILDINGS PERFORMANCE NETWORK (GBPN)

The Global Buildings Performance Network (GBPN) has a mission to significantly reduce greenhouse gas emissions associated with building energy use by:

- Promoting best practices in building energy efficiency and performance
- Offering world-class energy efficiency expertise to policymakers and business leaders
- Advancing policies and programs that promote low carbon, energy-efficient buildings worldwide.

The GBPN operates in the United States, Europe, China, and India, with its global center in Paris. For more information, visit www.globalbuildings.org.