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Why Building Energy Code Compliance Matters

National League of Cities
2011 NLC Congress of Cities

November 11, 2011

Institute for Market Transformation
www.imt.org
www.imt.org/codecompliance

What is Energy Code Compliance?

- A means of ensuring that building professionals meet the requirements of the energy code at both the design and construction phases.
- Enforcement typically includes:
 - Review of plans
 - Review of products, materials, and equipment specifications
 - Inspection of the building and its systems during construction or immediately prior to occupancy
- State and local governments are typically responsible for enforcement. Plan review and inspection may be performed by:
 - Code Inspectors in Local Building Department (most traditional)
 - Third Party Plan Review and/or Inspection
 - Design Professional Accountability
 - Public-Private Partnership (local government contracts with third-party).



Why Should Your City Care?

- **Energy codes ensure sound design and construction practices**

Ensure safety, comfort, and energy efficiency in homes and commercial buildings, and help create a level playing field for good contractors and developers

- **Energy codes protect homeowners and renters from excessive energy costs**

Several national studies show that costs associated with adopting the code are offset by energy savings, paying net dividends to homeowners from day one. A study on the 2009 IECC found:

- ✓ Average incremental cost per new home: \$840.77
- ✓ Average annual energy savings per home: \$243.37
- ✓ Simple payback for homeowners: 3.45 years

- **Long-Term Environmental Goals**

The buildings of today are the buildings of the future! Energy codes help reach long-term goals of a smaller carbon footprint, lower greenhouse gas emissions and pollution, net-zero energy, etc.

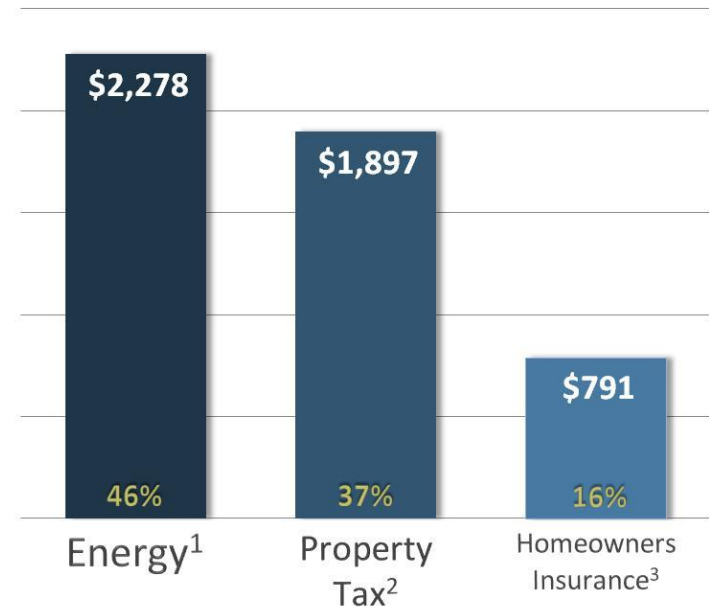
- **American Recovery and Reinvestment Act (ARRA) of 2009**

By accepting State Energy Program funding under ARRA, states are required to adopt mandatory energy codes and achieve 90% compliance with the building energy codes by 2017.



- More people die from extreme heat and cold than from all other weather events combined – energy efficient homes save lives
- For a typical house :
 - Median home price - \$175,000
 - Average 30-year commitment to energy costs - \$70,000
- A homeowner who spends less on utilities will have more money to spend on local services and to make mortgage payments
- Energy efficient homes have 11% lower mortgage default and delinquency rates

Average U.S. Homeowner Costs 2008



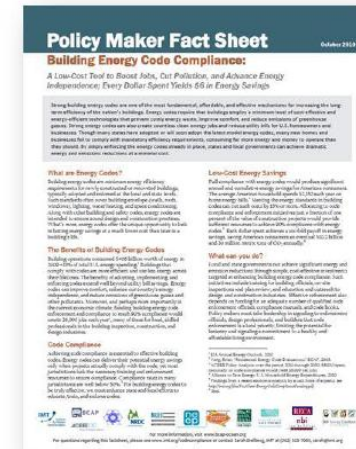
Energy Code Compliance Task Force



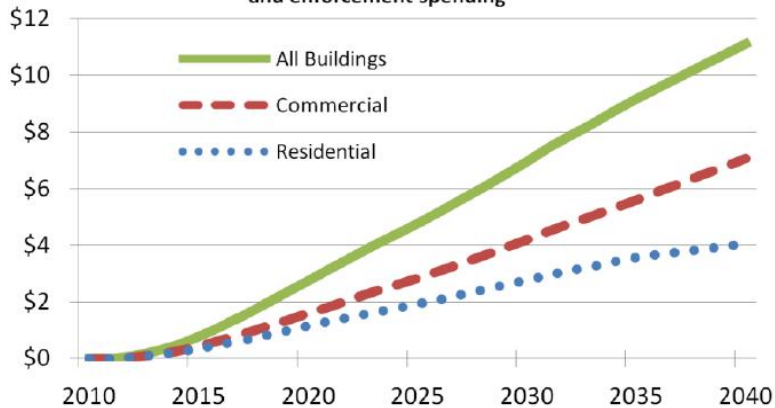
Enhancing Code Compliance: A Cost-Effective Policy Solution

On average, every dollar spent on code compliance yields \$6 in energy savings.

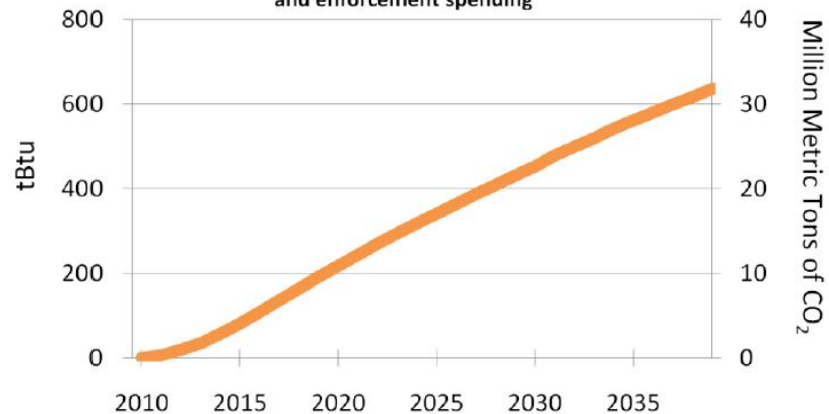
- See www.imt.org/codecompliance



Annual Energy Cost Savings
 resulting from \$610M in additional code compliance and enforcement spending



Annual Energy Savings and Avoided CO₂
 resulting from \$610M in additional code compliance and enforcement spending



Funding:

- Building departments vastly understaffed and underfunded
- Needs depend on volatile construction volumes; difficult to rebuild capacity after construction rebounds.
- Revenue collected for plan reviews and building permits siphoned off and used for other activities.
- Code officials often have responsibilities far greater than they can fulfill

Education / Outreach

- Uneven enforcement by code officials
- Code officials, building professionals and building operations and maintenance staff inadequately trained through the state building energy code administrator

Political willingness:

- Historically, code officials focus on life-safety issues, not Energy Code
- Lack of political priority as compared to fire or safety codes

If your city doesn't currently have the capacity to effectively enforce the energy code, there are other options to consider...

Third-Party Plan Review/Inspection

- Jurisdiction approves third parties for plan review and inspections. Builder contracts with approved third-party for plan review and inspections. Third-party conducts plan review and inspections.
- Jurisdiction audits plans and conducts surprise inspections (prioritized based on building type, size, etc.)
- *Model for many state modular building programs. Optional compliance path in Washington, DC*

Design Professional Accountability

- Requires architect or engineer to verify that a building is constructed as designed and sign a “compliance statement” at the end of the project
- *Required by statute in Wisconsin*

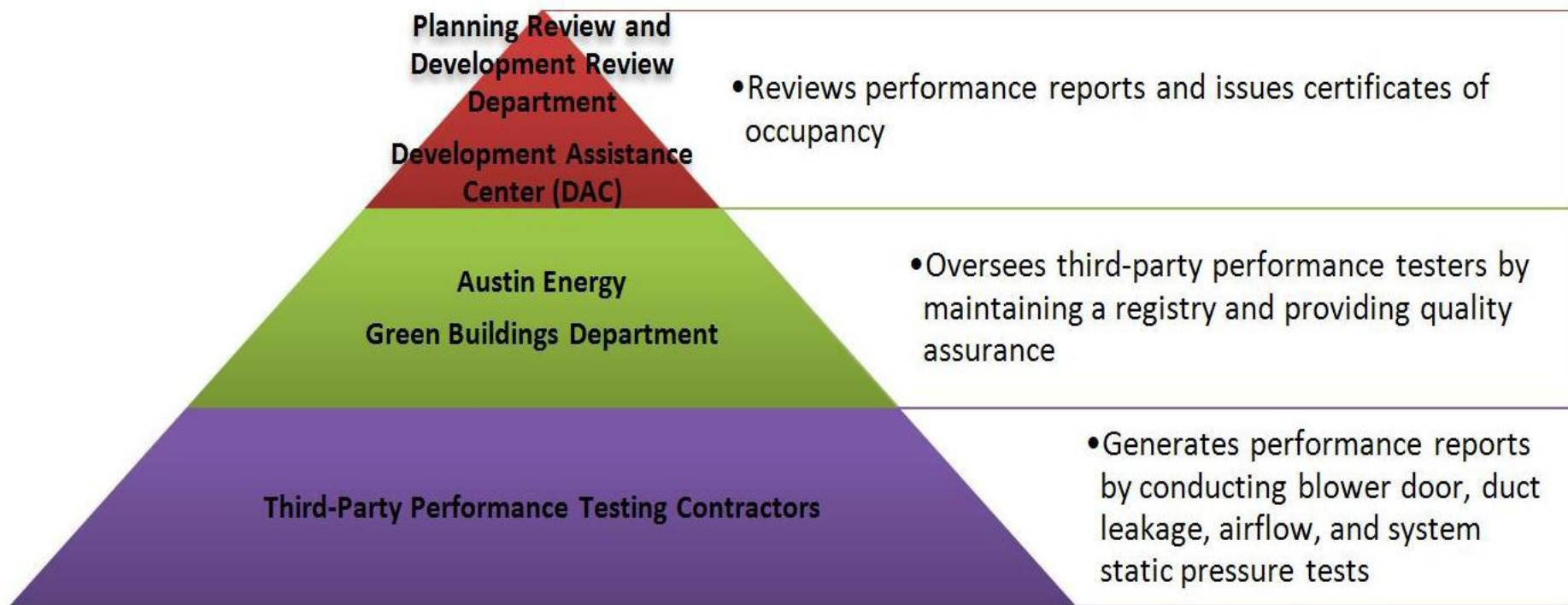
Third-Party performance testing

- Program administered and funded by Austin Energy
- Inspectors register with Austin Energy
- Inspectors required to be certified and approved by Austin Energy
- Compliance rates near 100%
- Total operating cost to administer the program: \$131,000 / year (1 FTE)



- Average one-time cost to builder for testing: \$400/home
- Average annual utility bill savings on new home: \$165/year
- **Average simple payback is 2.4 years**

Limited resources at Austin's Planning and Development Review Department led to Austin Energy administering the third-party program.



1. Provide leadership in addressing enforcement challenges
 - Inquire with your building department into the enforcement challenges they face
 - Coordinate with the regional energy efficiency partnerships (NEEP, MEEA, SWEEP, SEEA, NEEA) to learn about compliance support needed from policymakers
2. Provide adequate resources to local building departments and other agencies responsible for energy code enforcement
 - Model Jurisdiction: Austin, TX's building department budgets \$1 million for energy code enforcement annually
2. Provide education and training workshops for builders, architects design professionals, and code officials
3. Develop public awareness campaign for builders, homeowners, tenants, property managers, real estate appraisers, and realtors to understand the value of the energy code and beyond-code performance
4. Promote programs to increase knowledge of high-performance buildings among design and construction professionals, code officials, and the public

