Establishment, Implementation and Enforcement of Building Codes and Standards

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Advanced Interlayers  Performance Films  Technical Specialties

2010 Revenue  $1.9 billion USD
Facilities  50+
Employees  3,300
U.S. Building Codes and Standards

- Developed, updated and published on regular intervals at the national level for use locally
- Adopted by federal agencies, state and local governments
- Typically enforced by local building departments
- Applies to new construction, additions and major renovations for nearly all buildings
Model Building Codes

• National development committees
  – Architects, engineers, builders, scientists, insurers, government researchers, agencies and building officials

• Funded through sales
  – Code organizations also provide fee based training

• Performance based
  – Residential and parts of energy code are prescriptive

• Updated every 3 years
  – Allows incorporation of latest research and technologies
Current Model Building Codes

• International Code Council (ICC)
  – Building, Residential, Fire, Energy Conservation, Plumbing, Mechanical, Existing Buildings and Green Building Codes, etc.

• National Fire Protection Association (NFPA)
  – National Electrical and Life Safety Codes

• American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE)
  – 90.1 Energy Standard
Commercial State Energy Code Status
AS OF APRIL 1, 2011

BCAP Dedicated to the adoption, implementation, and advancement of building energy codes
Get all the most up-to-date code status maps and other valuable resources at www.bcap-ocean.org

NOTE:
These maps reflect only mandatory statewide codes currently in effect.
Residential State Energy Code Status
AS OF APRIL 1, 2011

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Building Code Effectiveness

• Building codes are only effective if adopted and enforced

• Federal and state government policies provide incentives for adequate adoption and enforcement
  – Federal law requires state to “evaluate” current energy codes for adoption
  – States typically mandate enforcement and make local officials liable for noncompliance

• Insurers audit and provide incentives for good enforcement
Building Code Effectiveness Grading Schedule (BCEGS)

• National insurance organization created to track and incentivize code enforcement

• Grades building departments on adopted building code, education, number of inspections and adequate staffing
  – Good grades are associated with voluntary insurance discounts
  • Florida mandates use
National BCEGS Grades

Good Grades

Poor – No discount. Codes usually > 5 years old

Courtesy Insurance Services Office (ISO)
More is Needed to Ensure Existing Buildings are Upgraded

• Existing Buildings Codes typically cite new construction requirements
  – Only triggered for additions or major renovations
  – New construction requirements are becoming too expensive for existing buildings

• “Retrofit codes” must be developed to make upgrades more acceptable and affordable for existing buildings
  – California is currently developing a retrofit energy code

• Government buildings should be retrofitted
  – Proposed U.S. legislation mandates public building retrofits
Incentives Alone are Not Enough!

Energy Star for Buildings

- Evaluate existing buildings and categorize performance
- Prioritize conservation measures based on anticipated performance
- Rating requires performance in top 25% of buildings in same category

The U.S. has over 4.9 million existing buildings (DOE)

http://www.energystar.gov/ia/business
Thank you!

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