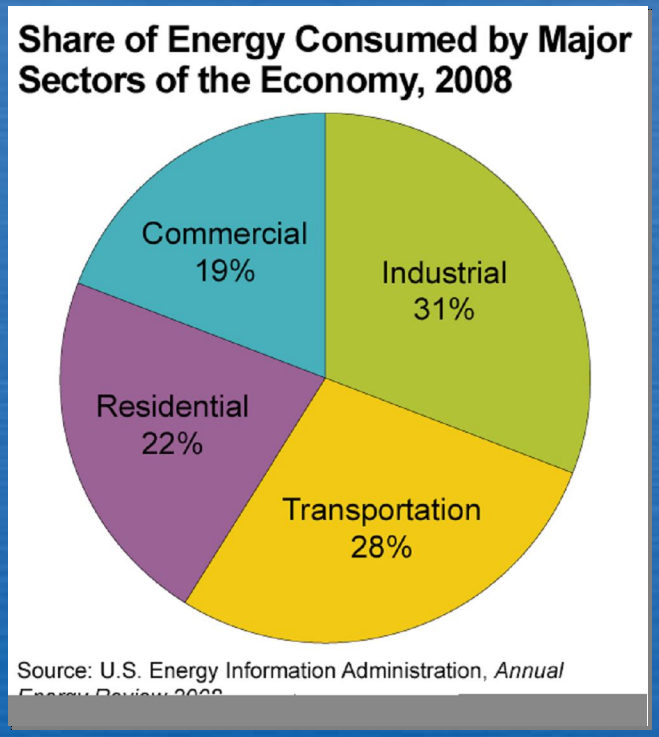
Opportunities and Prospects for Adopting Energy Efficient Building Codes for North Carolina

April 7, 2010

Presentation to the LCGCC

Why Should We Adopt the Most Up to Date Energy Efficient Building Codes?

Buildings Matter!



Energy use in buildings in North Carolina accounts for a third of GHG emissions.

- Therefore, to have any real impact on climate change, it is essential to address CO_2 emissions in the Building Sector. (EIA, 2008)

IMPACTS OF U.S. BUILDINGS ON RESOURCES

40% primary energy use*

72% electricity consumption*

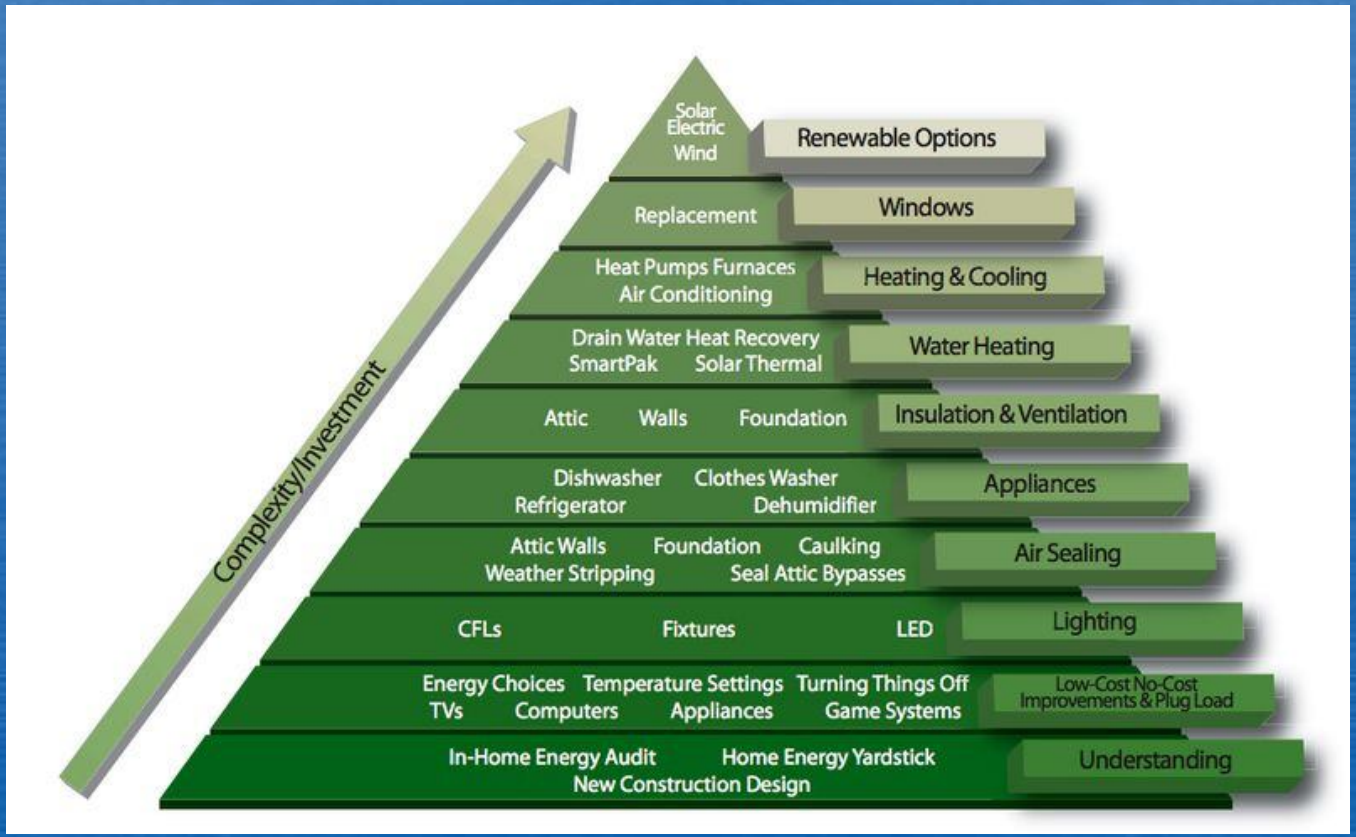
39% CO_2 emissions*

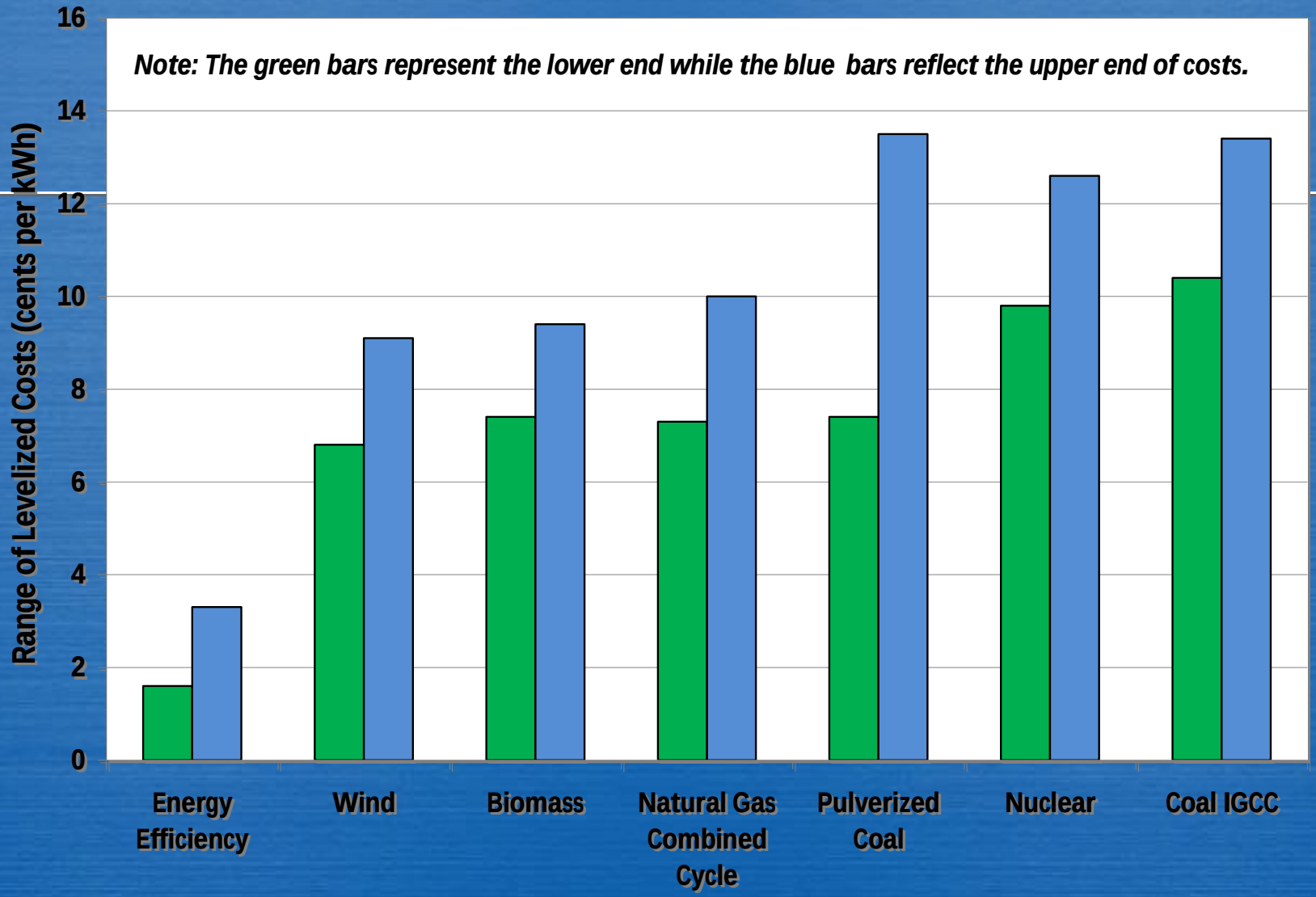
13.6% potable water consumption**

Sources:
*Environmental Information Administration (2008). EIA Annual Energy Outlook.
** U.S. Geological Survey (2000). 2000 data.

Cost Savings

- Stricter codes are the fastest and cheapest method to significantly reduce GHGs and energy costs.





Sources: Eldridge et al. 2010, *North Carolina's Energy Future.* Data compiled from Lazard (2008), except for energy efficiency costs, which are the estimates of levelized costs of saved energy (CSE) for program administrator costs (PAC) as described in Friedrich et al. (2009).

Cost savings to consumers

- Businesses and homeowners would save an estimated $221 million annually by 2020 and an estimated $443 million annually by 2030 in energy costs by adopting 2009 IECC (assuming 2006 energy prices).
- Avoid roughly 60 trillion Btu of primary annual energy use by 2030 and annual emissions of roughly 4.2 million metric tons of CO_2 by 2030.
- NC could save MORE if it adopts 30% efficiency above 2006 version of IECC. The 2012 IECC will come out early 2011.

Benefits

- Decreased energy bills
- Improved air quality
- Reduced GHGs
- Utility system reliability
- Increased investment value

What is driving new code adoption?

- ARRA SEP Grant: NC to receive additional $38 upon demonstration of adopting energy conservation building codes

- From CAPAG Report:
  - RCI-3: Energy Efficiency for Govt. Buildings
  - RCI-6: Building Energy Codes
  - RCI-7: Beyond Code, building design incentives and targets, incorporating local building materials and advanced construction

- Recommendations and support from LCGCC members

Previous Bill Proposals

- **HB 1443** : “Green Building Code” An act to require that new and renovated commercial buildings and new residential buildings comply with energy conservation standards.
  - Council shall adopt the latest published edition of the IECC
- **HB 1127**: An act to allow adoption of more stringent building code provisions related to energy conservation by political subdivisions.
- SB 911: An act to adopt the international building code as the state building code and to reorganize the state building code council.

Other drivers

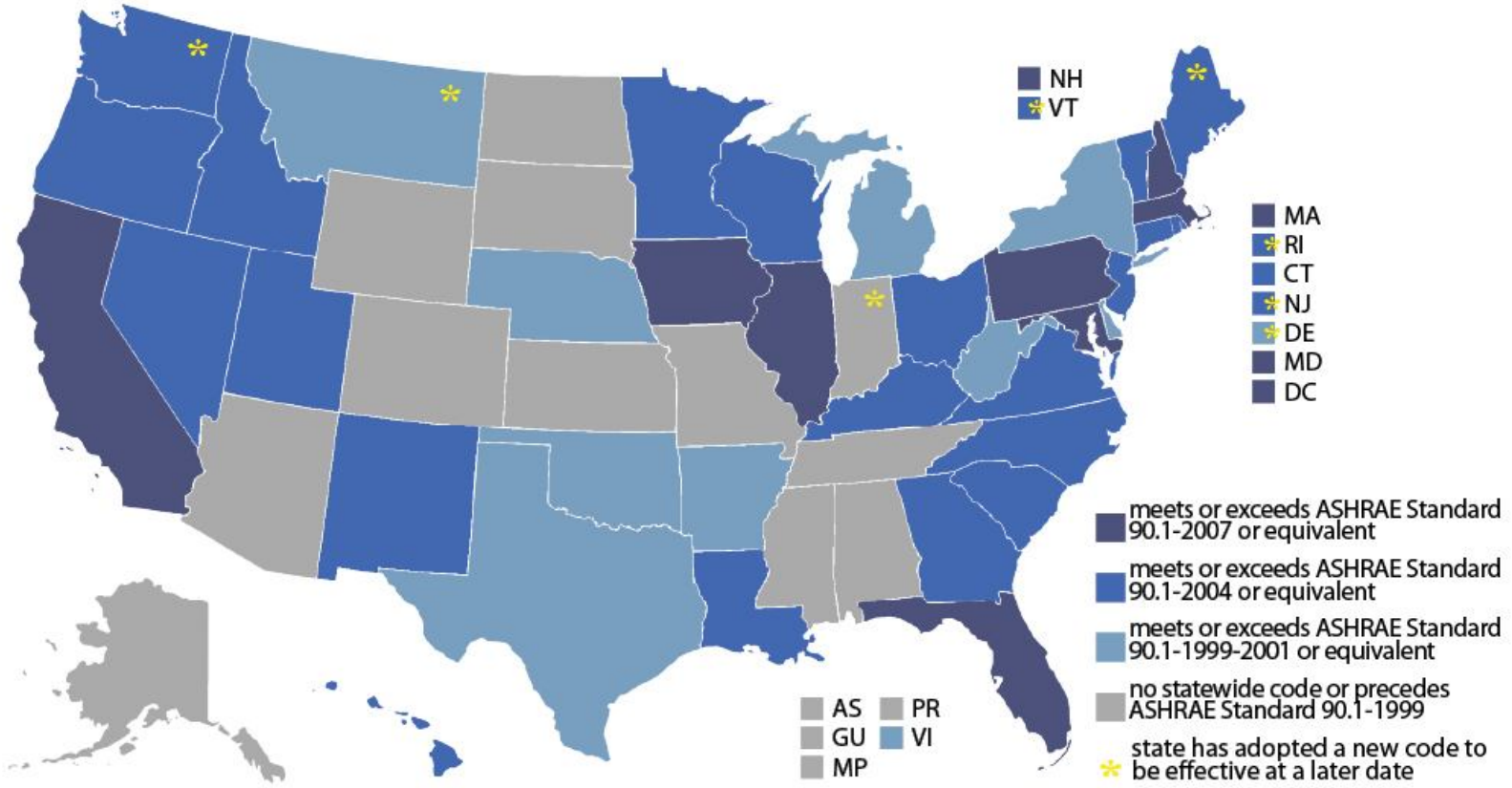
- ACEEE Report: “NC’s Energy Future; Electricity, Water and Transportation Efficiency”, March 2010
- Federal climate legislation

What are other neighboring states doing?

- Florida: has adopted the 2009 IEEC for commercial buildings only
- Executive order, then legislation using incremental increases in efficiency
  - Consumer-based cost effectiveness test

Commercial State Energy Code Status

AS OF APRIL 1, 2010



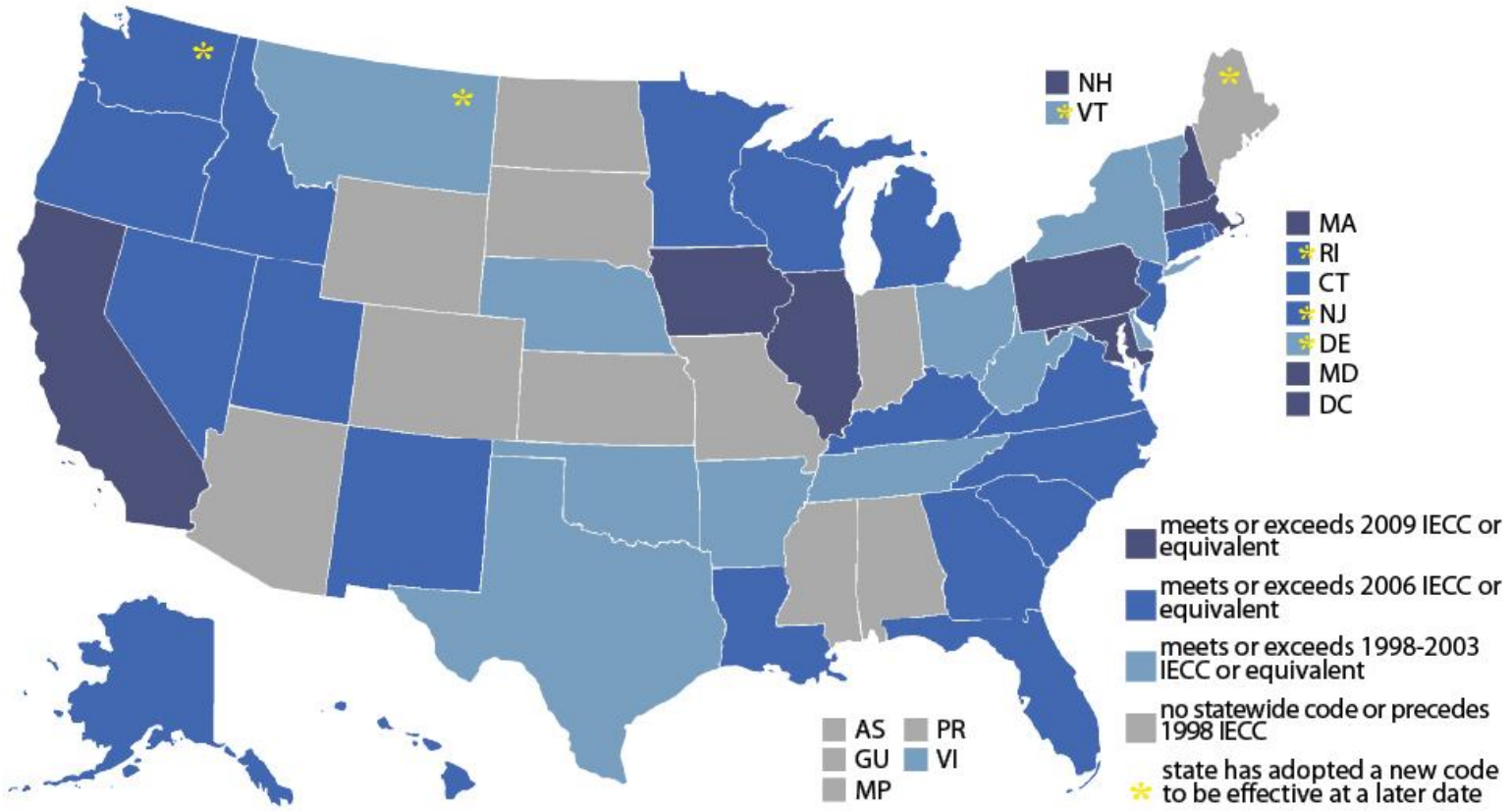
BCAP Dedicated to the adoption, implementation, and advancement of building energy codes

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, 2010



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Best Practices and Beyond

- ✓Adopt model energy codes: making progress
- Adopt Energy Efficiency Resource Standard (EERS) independent of REPS (10 states have adopted)
  - A long-term energy savings target used by utilities
- Automatic Code Adoption/Revision Cycle
- Mandate Code Enforcement: build this into legislative language
- Adopt advanced code amendments: incentives, volunteer programs (Energy Star), design innovations (RCI-7)

We’re Moving Forward!

- Remember the public comment period starting June 15
- Thank you to all parties involved with this effort on supporting energy efficient building codes.