

Transforming the Market with Building Codes and Standards



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Presented by
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Overview

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| 1. Role of Utilities in State codes & standards (C&S) |
| 2. Designing programs around C&S in Massachusetts |
| 3. Reach “Stretch” codes and utility programs |
| 4. Where do we go from here?
—getting to 50%? |



Utility Involvement with Building Codes & Appliance Standards (C&S)



- States can use utility assistance in implementation of current and future Codes
 - Close contact with bldg industry through incentive programs
 - In-house technical expertise
 - MA State needs to meet its own targets (GCA/ARRA, etc)
- Utilities need innovative ideas to meet energy goals
- Proven through CA and other research (IMT etc):
 - Significant energy savings
 - Programs cost effective

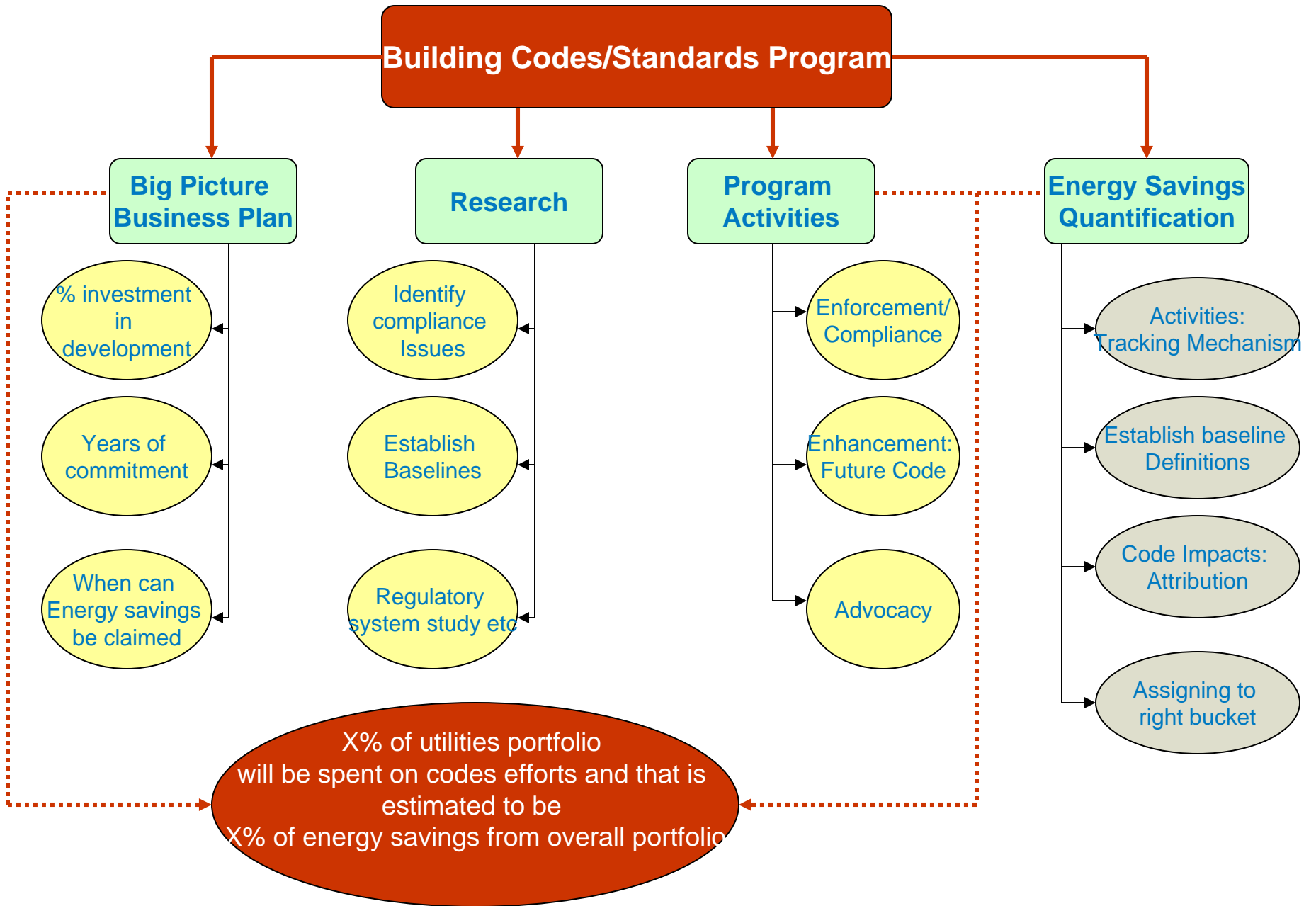
Challenges for Utilities

C&S programs:

- Displace existing incentive program savings
- Donot easily fit into existing program structure
- Initial investment in creation of C&S program
- Evaluations of energy savings is complex
- Getting regulators approval

Utility Programs Around Codes: Massachusetts Model

- **Statewide Effort:** unity among Program Administrators
- **Business Plan:** Opportunity for large-scale impacts, Initial development investment, etc
- **Research:** new study areas, establish baselines, stakeholders etc
- **Program Initiatives:** prioritize based on market needs, energy savings, integration w current programs etc
- **Energy Savings Quantification:** tracking mechanism, attribution, etc



Utility Programs Around Codes: Massachusetts Model

- Step 1: Tackle current code compliance first: create strategies to address code compliance support to the State

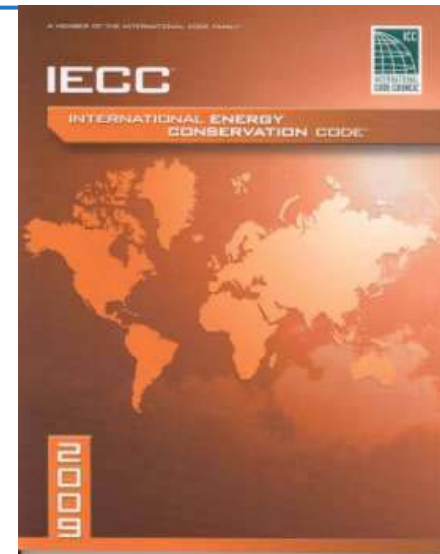


"Sorry, but you're in violation of building codes.
You can only use lo-cal hi-fiber wood here."

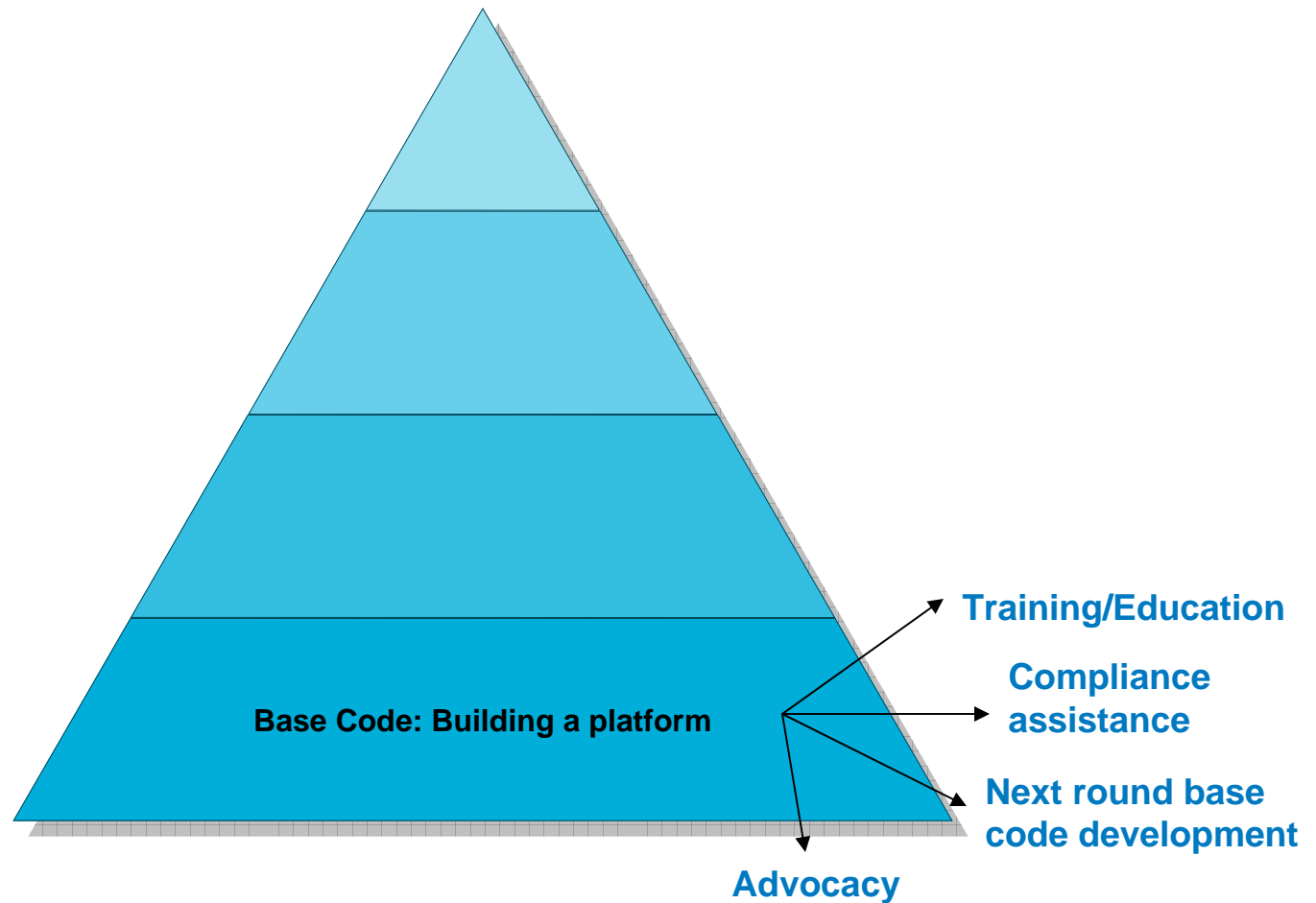
Utility Programs Around Codes: Massachusetts



- Next Step: Development, adoption, implementation of upcoming code
- Long-term planning: Enhancement of future cycles of code or creation of a whole new code:
 - MA based stretch code
 - Outcome based code
 - Green construction code
 - More??



Utility Role in the Codes Pyramid



Design of Program Around “Reach (Stretch) Codes”



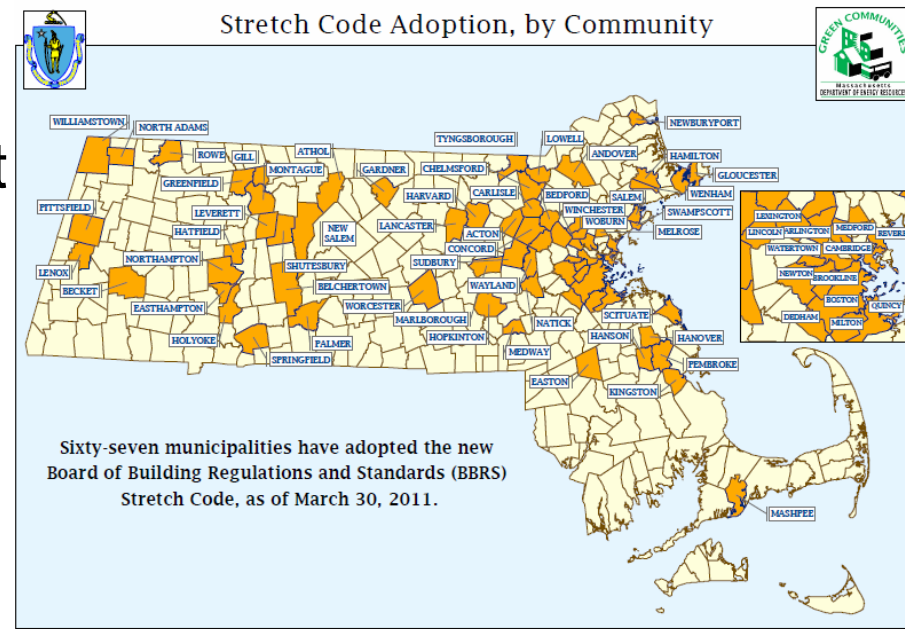
- Involvement in development of stretch codes
- Once stretch code established, utility support:
 - Incentives to projects for meeting reach codes till they become the baseline code
 - Reward early adopters who set higher standards
 - Helps through transitional stages of a higher performance codes
 - Good market transformation strategy
 - Regulators approval



Utility Support to Implement Reach (Stretch) Codes

THE POWER OF ACTION

- Technical assistance, participate in energy committees
- Trainings, education (sharing resources with state)
- 3rd party inspections support for compliance (HERS for resi and develop new ‘reach code inspectors’ for commercial)
- Involvement in development of next round of reach codes



Where are we with next round of Stretch code?


- First address implementation issues with current stretch code
- Forward Stretch Code—what does it look like? Cost effectiveness test?
- Areas of development:



GO GREEN

- LED
- Daylighting
- Controls
- HVAC
- Renewables

TECHNOLOGY




- Commissioning
- M&V

OPERATIONS



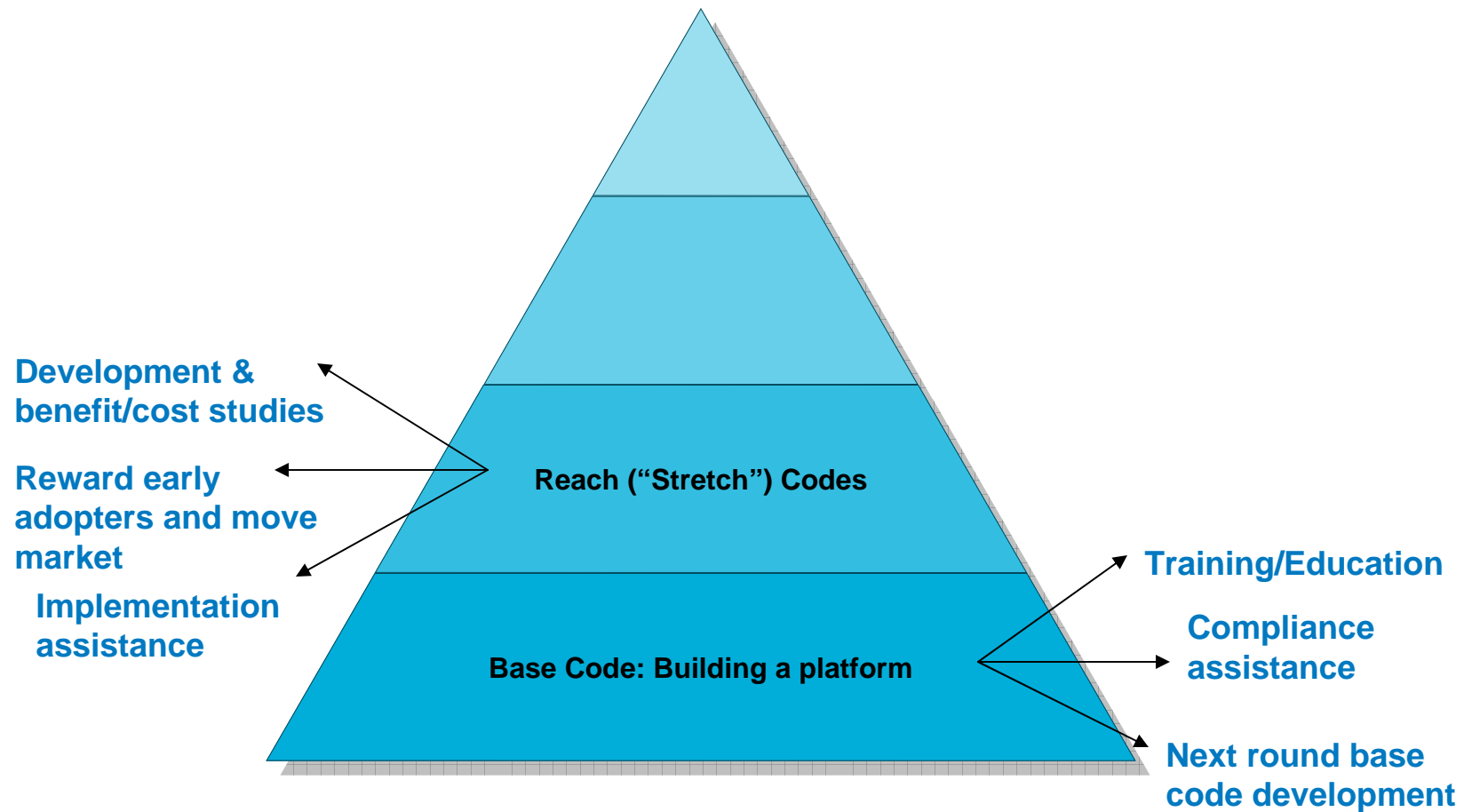
- Integration with:
- Building modeling
- LEED, other programs

DESIGN PROCESS



SMART GRID

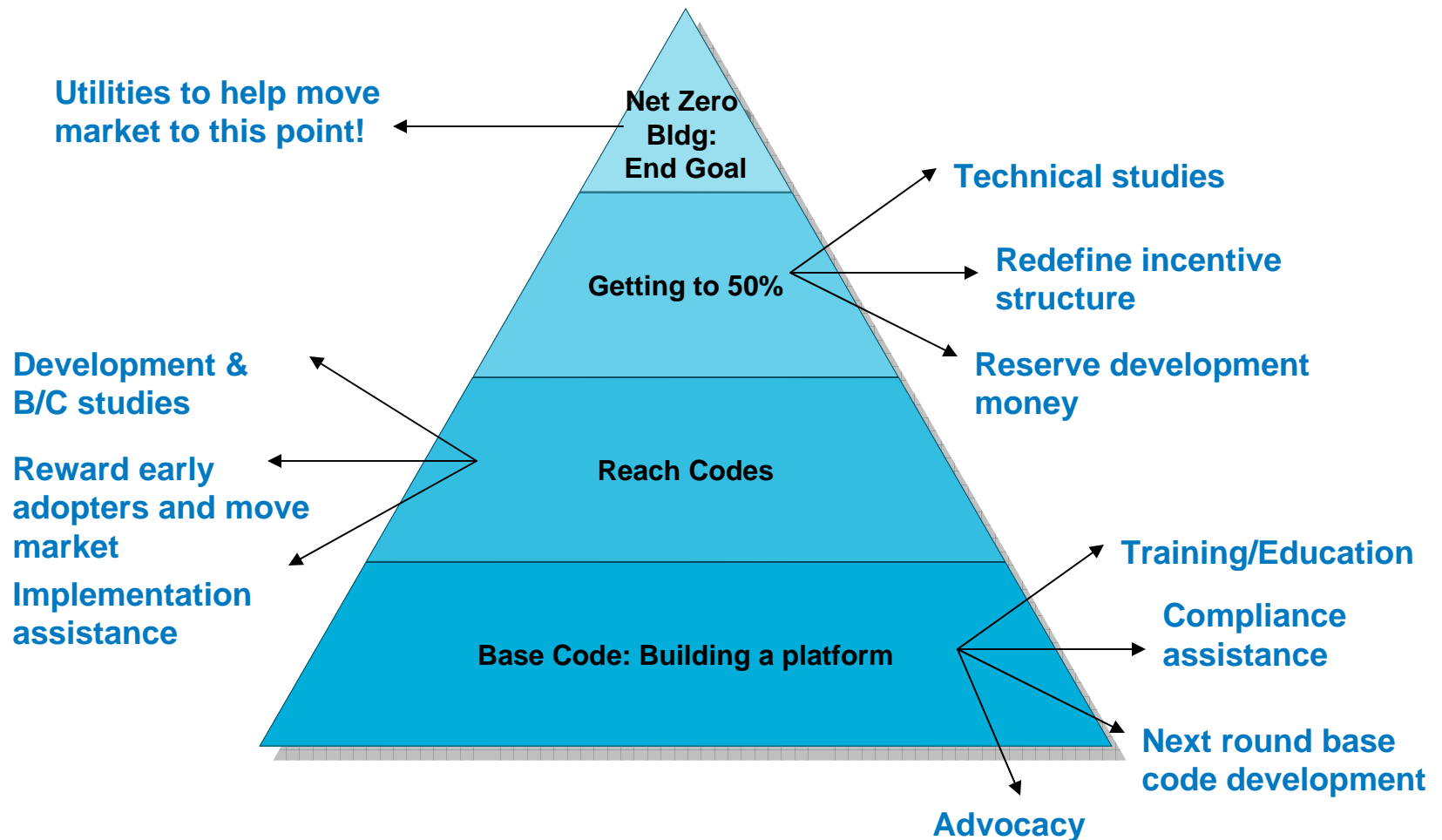
Utility Role in the Codes Pyramid



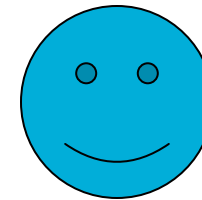
Utility Role in Getting to 50% Energy Savings

- Utilities can play active role in moving market to 50%
- Enhance what we currently do? What do we do different?
- Fund studies to develop Reach codes Gen 2: enhanced features to core performance
- Validate technical feasibility of enhanced measures
- Reserve 'development' money for new technology
- Refine our incentives structure
 - Create reasonable bandwidth for cost?
 - Increase payback periods (lets say from 2 yrs to 5 yrs)?
 - multitiered tiered incentives: for early adopters, for business as usual?

Utility Role in the Codes Pyramid



End Goal: Net Zero Buildings



Jurdy Green™



QUESTIONS?

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Massachusetts Stretch Code

- Origination: Realization that utility programs had proven that market is ripe for higher standards, base code not catching up with technology
- Core Performance package:
 - Different from prescriptive or performance paths of compliance
 - Set of measures through whole building simulation & analysis that can be 'replicable' to similar buildings, warrants cost effectiveness and guarantees 20-30% more energy savings than base code
 - Formation of Mass. Stretch Code, currently administered by Dept. of Energy Resources

