

The Pennsylvania Experience

Lessons form the field

Presenters

Mark Fortney

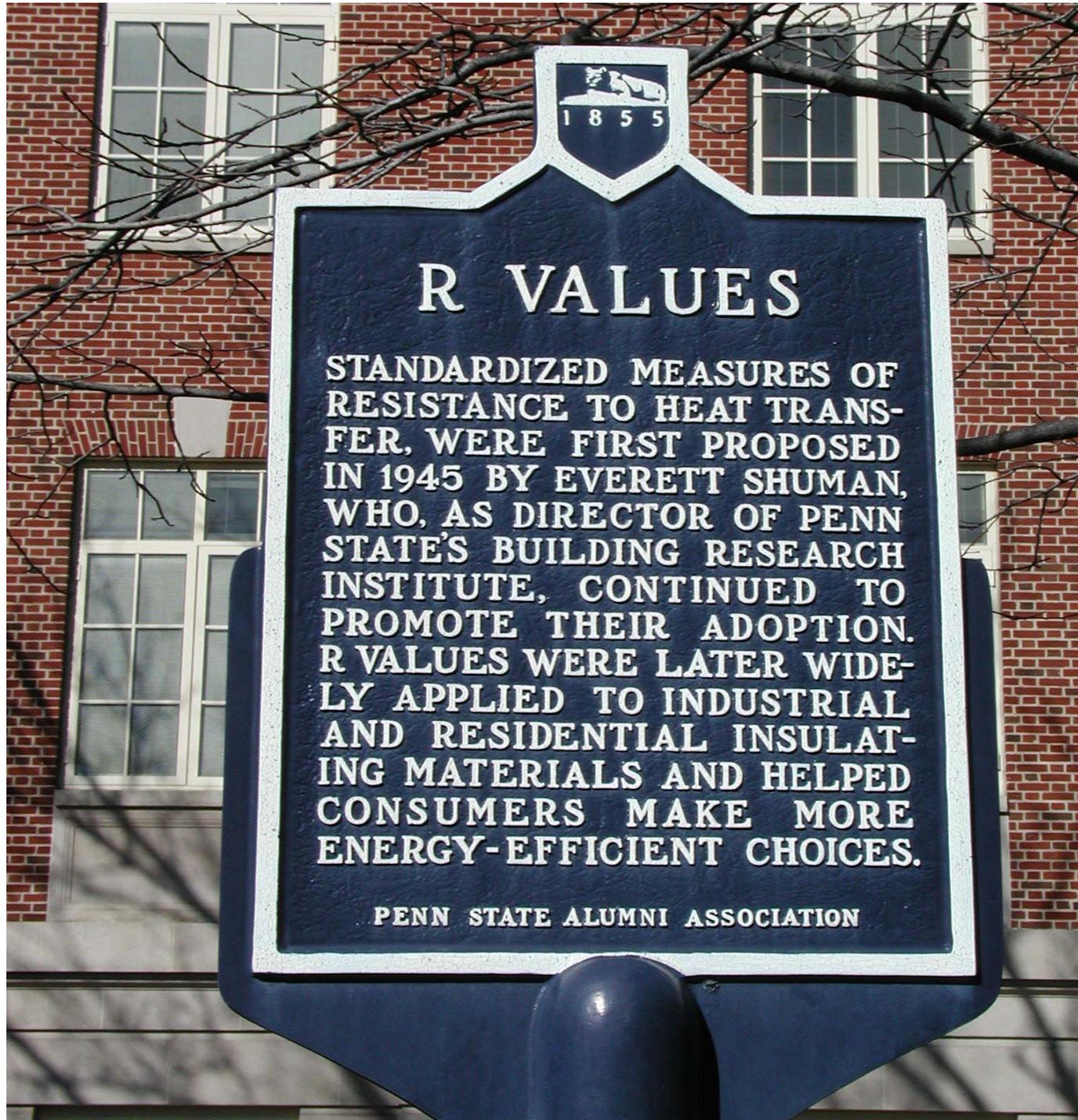
Director

Pennsylvania Housing Research Center

Mike Turns

Housing Program Development Specialist

Pennsylvania Housing Research Center



Outline

1. Background of Codes in PA
2. Overview of field findings
3. Plan review & Inspections

Program scope

Limited to **residential** construction

- **Detached one and two-family dwellings**
 - **Townhouses**
 - **R-2 Occupancies**
 - **R-4 Occupancies**
- } IRC limited to 1 & 2 family / townhouses

History of PA Energy Codes

1980 Act 222

R

Municipal Facts

2,564 municipalities.

80% with < 5,000 people.

+90% municipalities enforce UCC

11 code updates in one step

Limited Enforcement (very limited)

Almost no local enforcement knowledge on energy codes.

• Act 45

2007

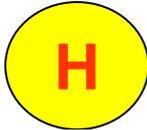
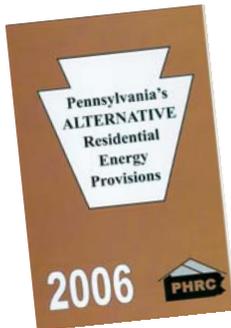
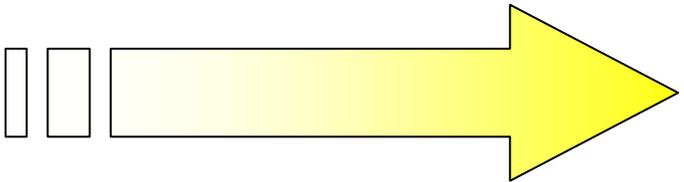
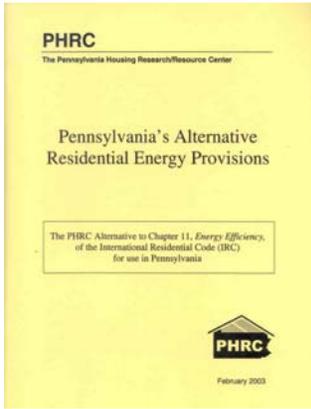
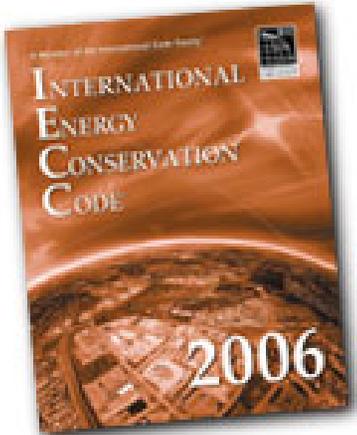
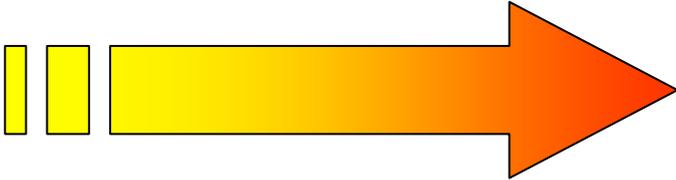
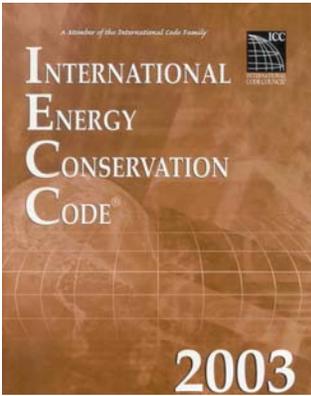
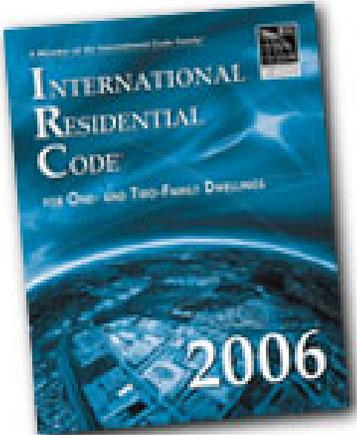
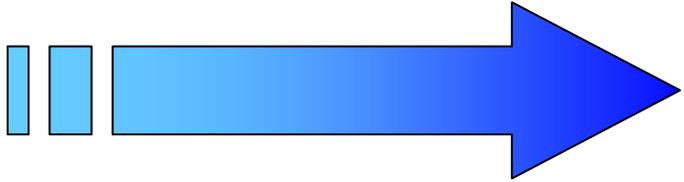
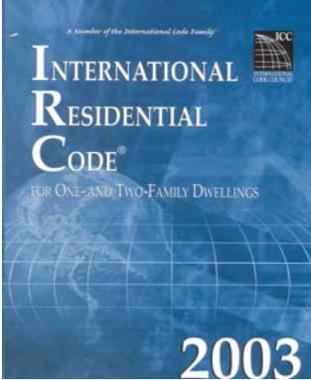
Updates to 2006 ICC

ZNALEZIONE NA
WWW.JOEMONSTER.ORG

Harrisburg can't
tell me what to do!



January 1, 2007 3 year cycle



PA
Energy Code
Evaluation
&
Technical Assistance
Program

PA Energy Code Evaluation

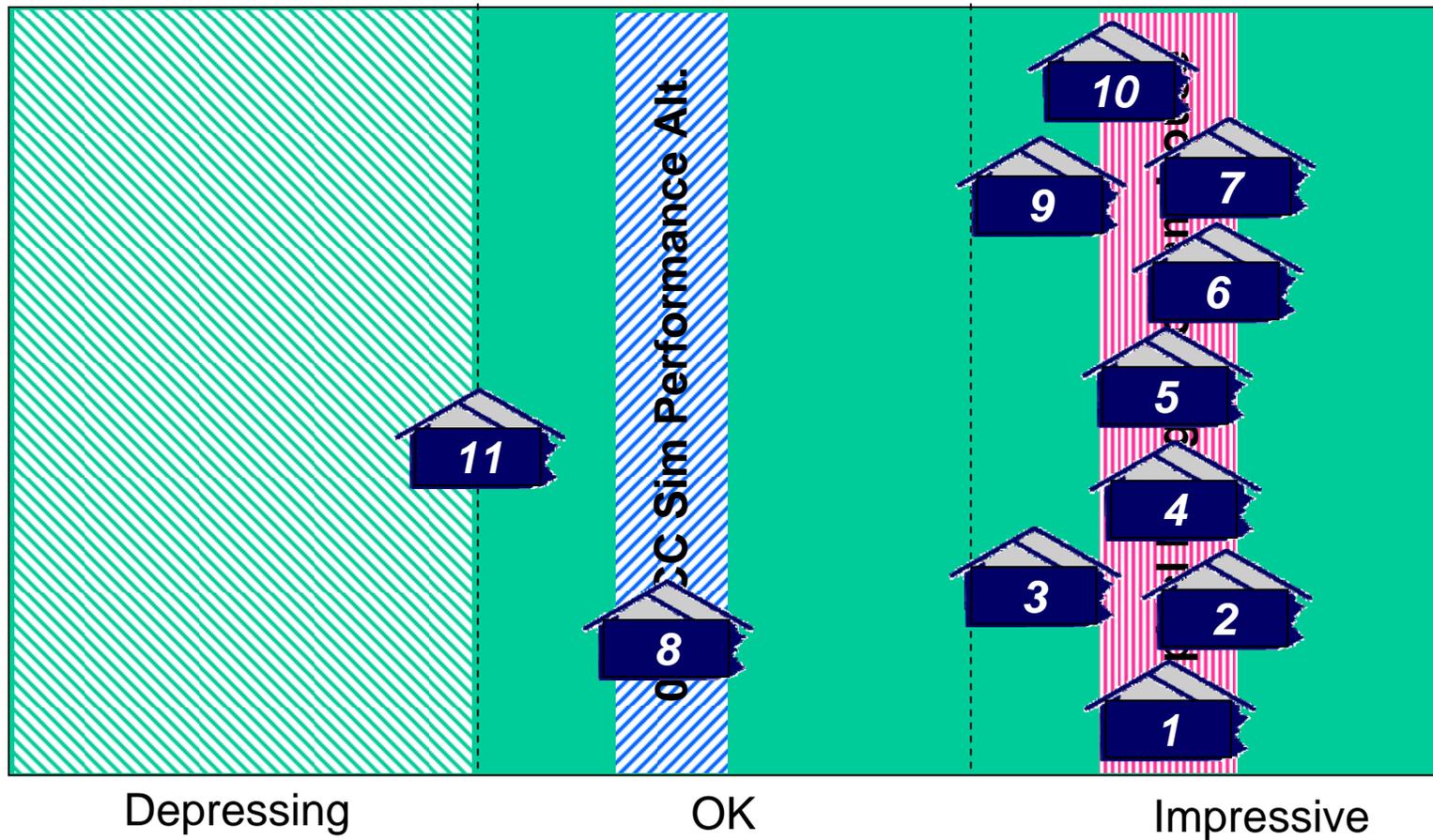
- Primary
 - Technical assistance to municipalities & 3rd party agencies.
- Secondary
 - Determine how the energy code is being enforced. (common compliance problems and how to avoid them).
 - Quantify actual home performance vs. code.

PA Energy Code Evaluation

Worked with code groups to market program.

- Pennsylvania Construction Code Academy
- Pennsylvania Association of Building Code Officials
- Pennsylvania Building Officials Council
- Pennsylvania Association of Code Officials
- Lancaster Association of Code Officials

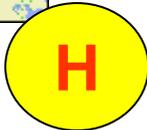
House Performance Findings



Air Leakage

H

PA Energy Code Evaluation



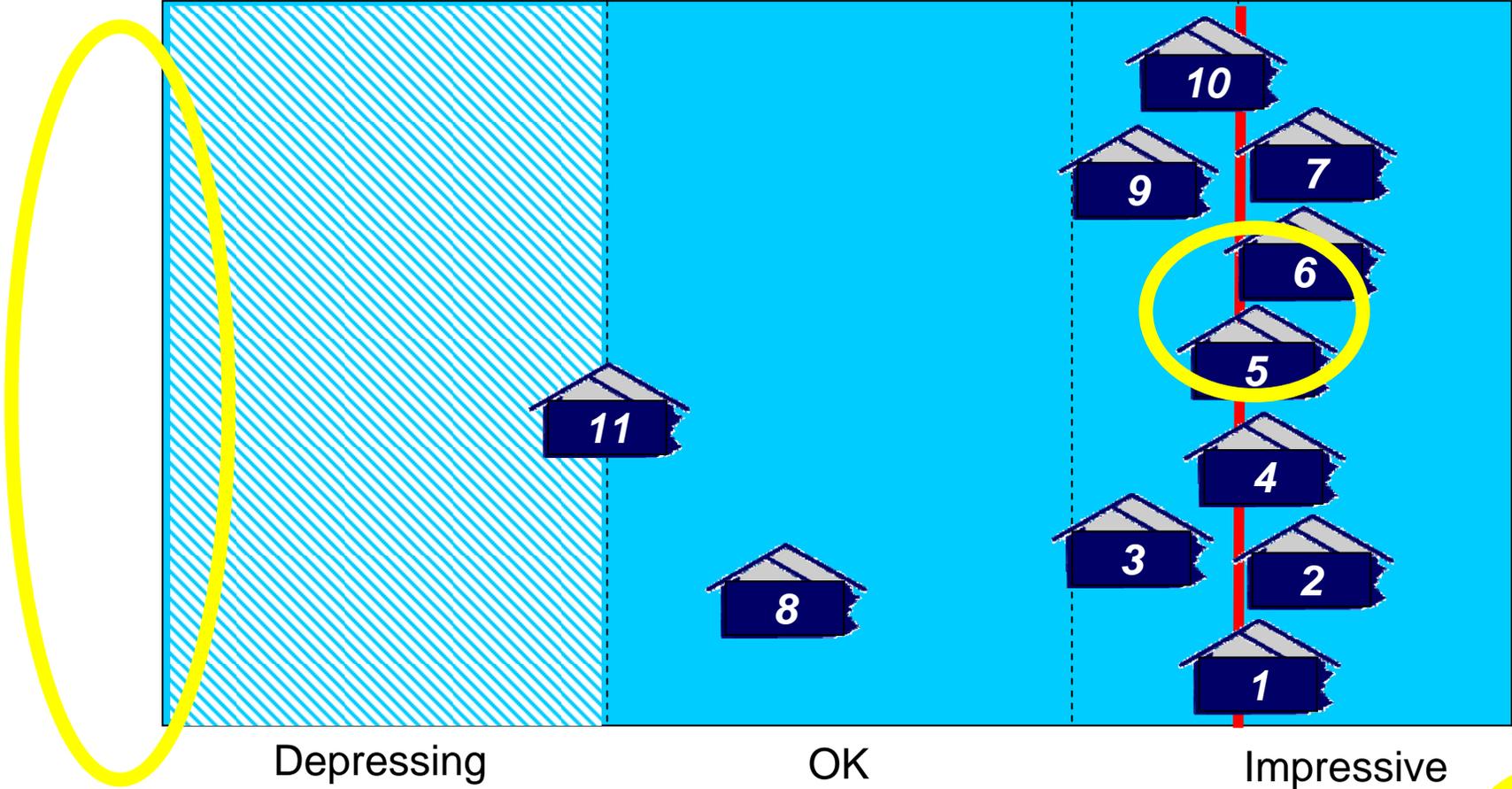
PA Energy Code Evaluation

Provided the following:

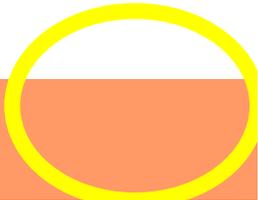
- Detailed Plan review
 - Reviewed plan submittal forms and plan review checklists
- In-house meeting to discuss
 - Overview of plan review and inspection process
 - Experience and certifications of staff
- In-field rough framing inspection
- In-field insulation inspection (if they do one)
- Final Inspection
- Detailed performance review of house
 - Blower door, duct blaster, IR scan, computer simulation, etc.
- Report to participants with recommendations
- Report to DOE & Public

House Performance Findings

Energy Star Limit



Duct Tightness



Big Issues

1. Continuous thermal envelope.
2. Conditioned vs. un-conditioned basement.
3. Above grade vs. basement wall?
4. Slab insulation.
5. Air sealing.
6. Ducts – substantially airtight?