



# Illinois

## Energy Codes Compliance Collaborative

Oak Park, IL

May 7, 2018



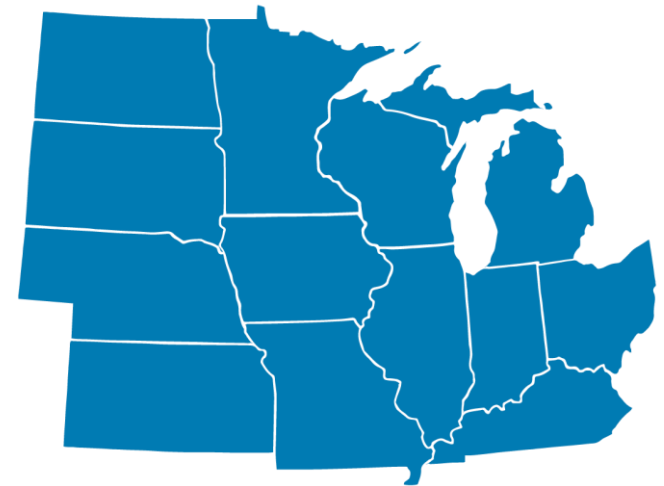
# About MEEA

## *The Trusted Source on Energy Efficiency*

We are a nonprofit membership organization with **160+ members**, including:

- Utilities
- Research institutions
- State and local governments
- Energy efficiency-related businesses

As the key resource and champion for energy efficiency in the Midwest, MEEA helps a diverse range of stakeholders understand and implement cost-effective energy efficiency strategies that provide economic and environmental benefits.



# About MEEA

*The Trusted Source on Energy Efficiency*

You are the experts.



# About MEEA

*The Trusted Source on Energy Efficiency*

You are the experts.

We are here to help.



# Agenda

8:30am-12:00pm

**1. Introductions | Overview | Meeting Goals**

**2. Ongoing Compliance Work in Illinois**

**3. Upcoming Energy Code Studies**

- Upcoming baseline compliance studies
- Other commercial building studies
- Review residential sampling plan

**Break**

**4. Results of Commercial Buildings Retrofit Survey**

**5. Discussion | Review of items identified in past meetings**

**6. Discussion | Collaborative structure**

How do we structure this Collaborative?

**7. Discussion | Involvement in Baseline Studies**

**8. Next Steps | Next Meeting Date**

- Did we meet the goal of today's meeting?
- What else should we work on?



# Illinois

## Energy Codes

## Compliance

## Collaborative

Collaborative Overview  
Meeting Goals



# Meeting Goals

## *Compliance Collaboratives*

- Inform stakeholders about upcoming baseline studies and program
- Begin establishing the key areas that need attention for energy code compliance
- Gain commitment for future participation

# What and Why *Energy Codes Compliance Collaboratives*

- **What:** A group of stakeholders that come together on a regular basis to explore common interests and address obstacles related to **energy code compliance**
- **Why:** To establish a forum for identifying and tackling obstacles to improving energy code compliance (eventual goal 100%)

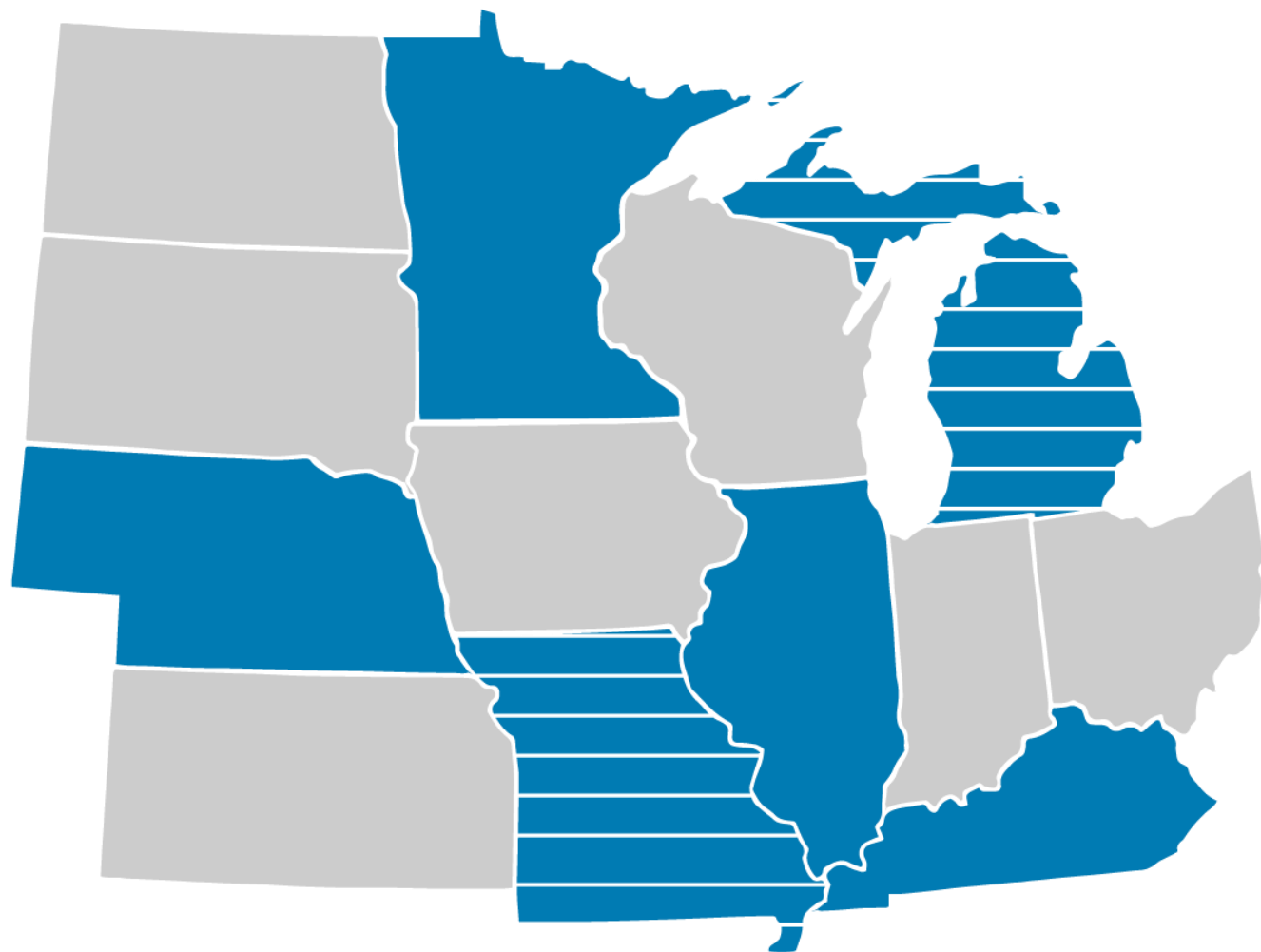


# Potential Benefits

## *Energy Codes Compliance Collaboratives*

- Improved rates and ease of compliance
- Identification and coordination of support and incentives
- Increased education/training opportunities
- Opportunity to learn from shared experiences
- Improved building stock and healthier indoor environments
- Collective understanding of code interpretations and verification
- Awareness of common practices, compliance rates and opportunities for improvement

# Midwest Energy Codes Compliance Collaboratives



■ Existing

▨ In development



# Midwestern Collaboratives

- Nebraska
- Minnesota
- Kentucky
- Illinois
- Missouri (in process)
- Michigan (in process)

# Nebraska *Updates*

- Created homebuilder pamphlet, distributed with every permit
- Residential baseline study almost completed – with students
- Commercial baseline study underway for CZ 5 – with students
- 2 surveys conducted (trainings, members)
- Review of state benchmarking effort
- Next steps: review baseline studies for improvement opportunities

# Minnesota

## *Last Year*

- Created commercial sub-subcommittees
- Working to address definition of “multifamily” and when which code applies
- Working on commercial renovations
- Creating a “Commercial Pathway” document to assist builders and code officials with how to navigate compliance between IECC and ASHRAE.
- <http://www.mnenergycodecompliance.org/>

# Kentucky *Stakeholder Group*



Image courtesy of Only In Your State

# Collaboratives

## *Sample Members*

- Dept of Buildings
- State Energy Office
- Code officials
- MEEA
- EE advocates
- Raters
- HBAs and homebuilders
- AIA and architects
- ASHRAE
- Utilities
- Academics
- League of Municipalities
- Legislative liaison (Nebraska)
- Materials suppliers
- Cadmus (during data collection)



# Illinois

## Energy Codes

## Compliance

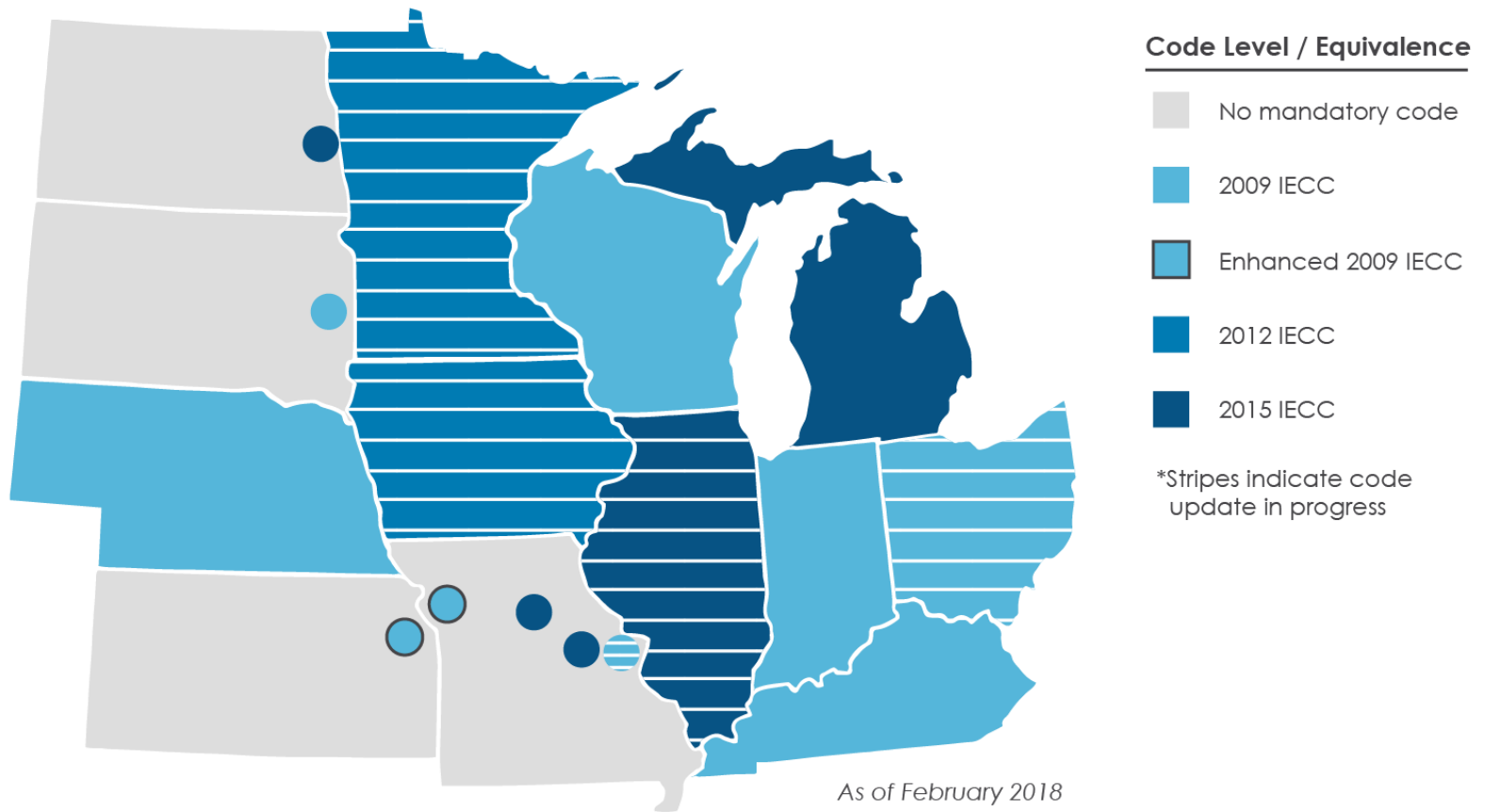
## Collaborative

Ongoing Compliance Work

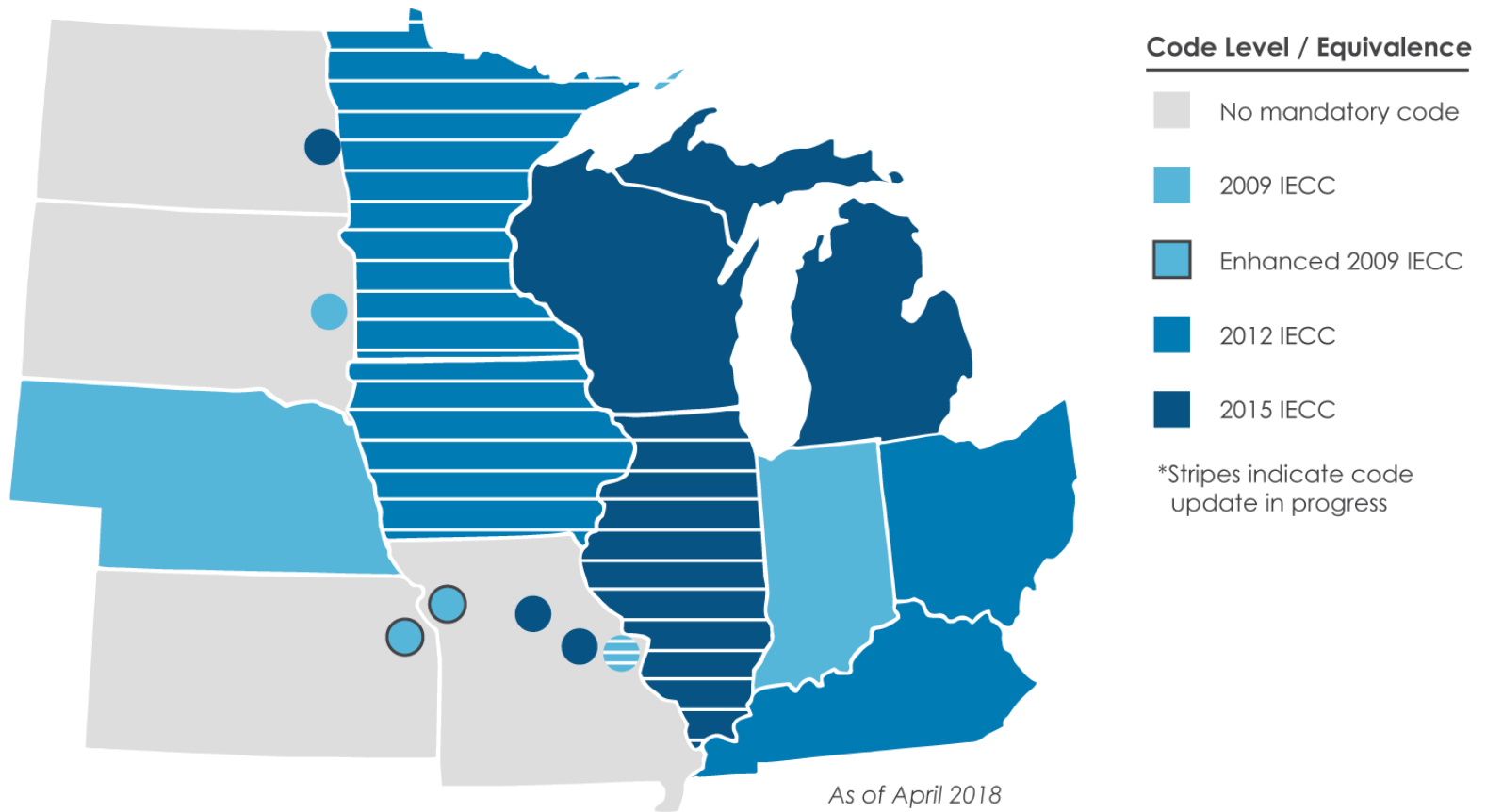




# Midwest Energy Codes Residential Code



# Midwest Energy Codes Commercial Code





*Providing effective energy strategies for buildings and communities*

# Illinois Energy Conservation Code Training Program



# Who we are

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We assist buildings and communities in achieving energy efficiency, saving money, and becoming more sustainable.

We are an applied research program at University of Illinois, working in collaboration with 360 Energy Group.

**Our goal: Reduce the energy footprint of Illinois.**



# SEDAC is the Illinois Energy Conservation Code Training Provider

This training program is sponsored by Illinois EPA



# Energy Code Assistance

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- Technical support
  - 800.214.7954
  - [energycode@sedac.org](mailto:energycode@sedac.org)
- Online resources at [sedac.org/energy-code](http://sedac.org/energy-code)
- Workshops
- Webinars
- Online on-demand training modules



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## Energy Code Training

[Illinois Energy Conservation Code](#)[Workshops](#)[Webinars](#)[Online training](#)[Resources](#)[Contact us](#)

## Energy Code Training

**SEDAC is the Illinois Energy Conservation Code training provider**

The Smart Energy Design Assistance Center (SEDAC) is providing training to increase awareness of the Illinois Energy Conservation Code and to improve the energy efficiency of new construction and renovation in Illinois. Community code officials, construction professionals and trades, and design professionals such as architects and engineers are invited to participate. SEDAC will be offering [workshops](#), [webinars](#), [online training](#), [resources](#), and [technical support](#). This program is funded by the Illinois Environmental Protection Agency (IEPA), in compliance with Illinois law.

Smart Energy Design Assistance Center  
University of Illinois  
1 St Mary's Road | Champaign, IL 61820  
800.214.7954 | [Info@sedac.org](mailto:Info@sedac.org)

 Department of  
**LANDSCAPE ARCHITECTURE**

[CONTACT](#)[NEWSLETTER](#)

# 2015 IECC:

<https://codes.iccsafe.org/public/document/toc/545/>

# Illinois Amendments:

<https://www2.illinois.gov/cdb/business/codes/Documents/Illinois%20Specific%20Amendments%20with%20Modifications%20Shown.pdf>

# 2018 IECC:

<https://codes.iccsafe.org/public/document/iecc2018>





# Questions?

[energycode@sedac.org](mailto:energycode@sedac.org)  
800-214-7954





# Illinois

## Energy Codes

## Compliance

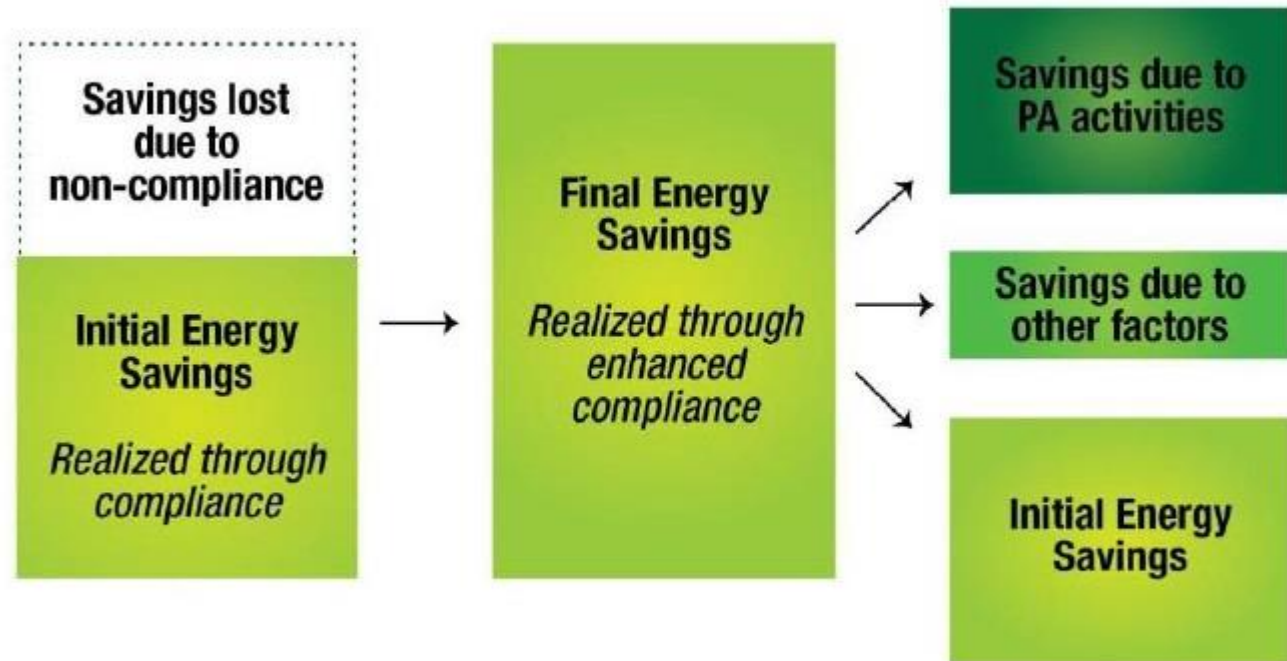
## Collaborative

Upcoming Baseline  
Compliance Studies



# Opportunities for Claimed Savings

## *Energy Code Compliance*



Source: *Attributing Building Energy Code Savings to Energy Efficiency Programs (2013)*, Institute for Market Transformation, Institute for Electric Innovation, Northeast Energy Efficiency Partnerships



# Illinois Energy Code Baseline Study

Illinois Energy Code Compliance Collaborative

May 7, 2018



# Outline

- Background
- Overview of Project
- Residential Protocol
  - Data Collection
  - Data Analysis
- Commercial Study
- Questions/Next Steps

# Residential Study

## Background

- In 2014 the US Department of Energy funded residential energy code compliance studies in seven states, including KY
- Establish residential energy code **compliance baseline**, and determine if focused training & support can improve compliance.
- 3-year, three phase, statewide program targeting new, **single-family homes**
  - Baseline Study and Analysis
  - Intervention
  - Post Intervention Baseline Study and Analysis
- MEEA was the lead agency for the KY Study

# Residential Study

## *Identifying Key Items*

- Prior to starting the study, the Pacific Northwest National Laboratory (PNNL) conducted **sensitivity analysis**
  - Based on prescriptive and mandatory provision of the 2009 IECC
  - Determined which code requirements drive the majority of energy savings (*Key Items*)
  - Same key items for all climate zones
- Eight states participated in the studies, including Kentucky, Alabama, Arkansas, Georgia, Maryland, North Carolina, Pennsylvania, and Texas

# Residential Study

## Key Items

- **Envelope Tightness**  
(ACH50)
- **Window Solar Heat Gain Coefficient**
- **Window U-factor**
- **Wall Insulation**  
(R-value and Quality)
- **Ceiling Insulation**  
(R-value and Quality)
- **Foundation Insulation**  
(R-value and Quality)
- **High Efficacy Lighting**
- **Duct Leakage**  
(CFM25)
- **Manual J Data**  
*(not a DOE key item)*
- **Manual D Data**  
*(not a DOE key item)*



# PHASE ONE

## *Data Collection & Analysis*

# Phase 1 Overview

- Establish **statewide** sampling plan
- **Contact** jurisdictions and HBA's to obtain lists of permitted homes under construction
- Contact builders / owners to **gain site access**
  - Identify Manual J and Manual D homes
- Schedule **data collection** visits
- QC data and upload to Pacific Northwest National Laboratory (PNNL) for **analysis**
- **Share analysis** with stakeholders
- Start **support program!**

# Phase 1 Overview

- Homes will be visited **either** at insulation stage or just before Certificate of Occupancy
- A complete set of data will **not be collected from any single home** – data will be aggregated in order to be analyzed
- Data collectors will not interfere with ongoing operations and will be **on site for less than an hour**
- All collected data will be **scrubbed of identifying information** prior to analysis
- All individual home data will be given a **unique identifier** similar to IL-1000, IL-1100, IL-1200, etc.

# Phase 1

## *Data Collection Process*

- Follow DOE data collection **protocol**
  - Randomized Sampling Plan
  - Key Items Must be Observed
  - Minimum of 63 Observations of Each Key Item
  - Single Visit to a Given Home
  - Statistically Significant Results at State Level
- Survey team will spend about **4-5 months** collecting field data
- Collaborative will **provide feedback and guide** the project



# Phase 1

## *PNNL Analysis*

PNNL will conduct three separate analyses of the collected data

- ***Statistical Analysis***
  - Examination of the field data, and data distribution relative to compliance requirements
- ***Energy Analysis***
  - Modeling of energy consumption representative of observed homes
- ***Measure-Level Savings Analysis***
  - Projection of potential savings associated with improved compliance

# Phase 1

## *Measure-Level Analysis*

- Key items are **individually examined** to determine the number of worse-than-code observations
- All key items having 15% or more **non-compliant observations** are included in the measure-level analysis
- An individual “as-built” model is created for **each non-compliant value**, with all other values remaining at code compliant levels

# Phase 1

## *Measure-Level Analysis*

- This allows the savings potential from each key item to be **evaluated in isolation**
- Differences in energy use are **weighted** according to the frequency of each observation to arrive at an average energy savings potential for each key item
- State-specific construction volumes and fuel prices are then used to calculate the energy **savings potential of full compliance** for that key item



# Phase 1

## KY Annual Potential Compliance Savings

Key Measure		Annual Savings	
		Energy (MMBtu)	Cost (\$)
1	Envelope Air Leakage	27,182	\$484,314
2	Ceiling Insulation	11,372	\$215,656
3	Exterior Wall Insulation	9,277	\$171,044
4	Foundation Insulation	6,800	\$108,156
5	Lighting	5,742	\$197,544
6	Duct Leakage	2,135	\$43,142
<b>Total</b>		<b>62,508 MMBtu</b>	<b>\$1,219,856</b>

# Phase 1

## KY Cumulative Potential Compliance Savings

Measure	Total Energy Savings (MMBtu)			Total Energy Cost Savings (\$)		
	5yr	10yr	30yr	5yr	10yr	30yr
Envelope Air Leakage	407,730	1,495,010	12,639,630	\$7,264,710	\$26,637,270	\$225,206,010
Ceiling Insulation	170,580	625,459	5,287,971	\$3,234,844	\$11,861,095	\$100,280,170
Exterior Wall Insulation	139,155	510,235	4,313,805	\$2,565,660	\$9,407,420	\$79,535,460
Foundation Insulation	101,997	373,989	3,161,903	\$1,622,345	\$5,948,598	\$50,292,689
Lighting	86,130	315,810	2,670,030	\$2,963,160	\$10,864,920	\$91,857,960
Duct Leakage	32,025	117,425	992,775	\$647,130	\$2,372,810	\$20,061,030
<b>TOTAL</b>	<b>937,620</b>	<b>3,437,939</b>	<b>29,066,211</b>	<b>\$18,297,844</b>	<b>\$67,092,095</b>	<b>\$567,233,170</b>

# HVAC Right-Sizing

## *Potential Analysis Results*

- An ACCA **Manual J analysis** was performed on homes and the design unit compared to the installed unit
- Phase 1 data found that the average installed unit was **oversized by 159%** compared to the design unit
- Annual potential demand savings from right-sizing was **~2.4 MW**
  - There was also an additional **2.9 MW** of demand saving potential from key item compliance
- Annual unnecessary consumer expense associated with oversizing was estimated at about **\$30 million dollars annually**

# HVAC Design

## *Manual D Analysis*

- The ACCA **Manual D analysis** is designed to better understand the air distribution system
- **Connect the dots** to 4 aspects of the system
  - Unit Size
  - Duct Design (layout and sizing)
  - Duct Leakage
  - Room Air Flow (cfm)
- Duct design will compare installed system with **individually modeled** software design
- Room-by-room loads will be **calculated and compared** to actual flow rates
- The goal is to see if **proper air flow** is being delivered using compliant components
- If not, then **identify the common issues**

# Commercial Survey

## Overview

- Similar to the residential study, the commercial study will **survey high impact measures** and analyze the results
- Unlike the residential survey, the commercial survey is **not intended** to carry the “statistical significance” label
  - Too many use types and size variation to cost effectively survey
- Will survey **most common** commercial building types
- Sampling plans and methodology are **being finalized**
- Preliminary sampling plan appears **less concentrated** than residential plan

# Commercial Survey

## *Other Studies*

- DOE Study
  - Baseline study looking at Office and Retail Buildings
  - Climate zones 3A and 5A
  - Currently in NE and IA
- ASHRAE Study
  - RFP for energy use study for medium sized office buildings and secondary schools
  - 90.1-2004 and 90.1-2010

# PHASE TWO

## *Training and Education*

# Phase 2 Overview

- Phase 2 programs are **based on findings** of Phase 1
- Measure level analysis allows for **tightly focused** education and training that can delve deeper
- Individualized assistance for **each sector** – code officials, contractors, and design professionals
- Central idea of Phase 2 is to focus on code officials, builders, and design professionals, and **pro-actively reach out to them**



# Phase 2 Caveats

- The Phase 2 programs discussed are a review of the residential **programs implemented in KY** which ran for two years, 2016 and 2017
- IL programs will be based on the **findings of the baseline survey** and will include commercial buildings
  - IL will have its own unique mix
- IL also has ongoing state sponsored training and continuing utility EE programs, **KY had neither**
  - <http://www.epa.illinois.gov/topics/energy/index>
- The code support program will be designed to supplement existing programs with focused **complementary programs**

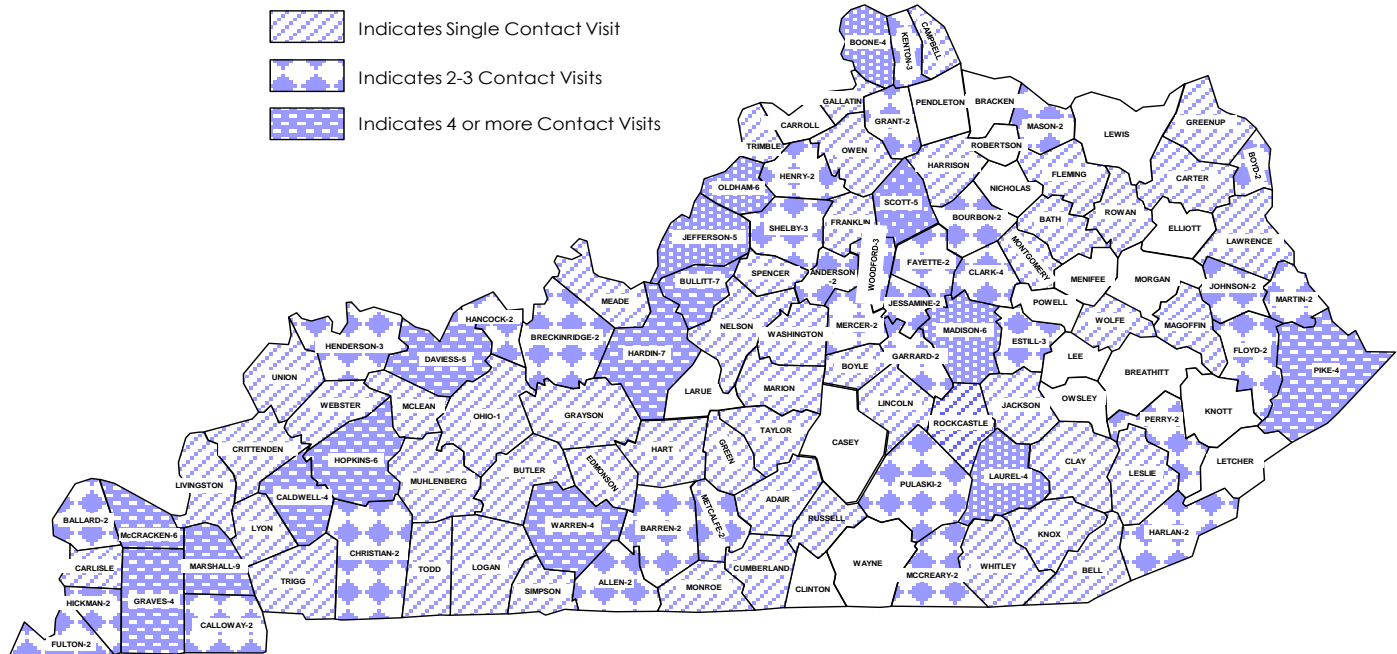
# Phase 2

## *Circuit Rider Program*

- Hired **retired code official** as circuit rider
- **Pro-actively** reach out to code officials, homebuilders, and other stakeholders on a regular basis
- Provide **individual assistance** at stakeholder's office or jobsite
- Establish and maintain **trusted** advisor relationship
- Traveled over **32,450 miles**

# Phase 2 Circuit Rider Program

## Kentucky Circuit Rider Visits Through 09/27/2017



# Phase 2

## *In Person Training Program*

- **25 full-day** training sessions offered in 14 different counties across the state
- **1 half-day** class for stakeholder group
- Classes approved for **CEU credits** required for code officials and HVAC contractors
- Almost 400 students and over **3,000 contact hours**
- Training Topics
  - HVAC Design and Sizing Principals
  - Air Sealing and Insulation Principals
  - Common Compliance Challenges

# Phase 2

## *Other Programs*

- Project website with collaborative meeting slides, reports, links to useful information, etc.
- Telephone and email “hot line”
  - Wildly underutilized resource
- Online Videos
  - 14 short videos on You Tube
  - Introductory in nature
- Research and Analysis
  - Visual Inspection and ACH
  - High Efficacy Lighting Enforcement Gap
  - Duct Leakage in Conditioned Space

# Phase 2 Outreach

- Created 14 short (4-14 minute) code overview videos and posted on YouTube, with about **700 views** to date
- Made 37 presentations with a total attendance of **1,128 people**
- Distributed about **1,500 pieces** of compliance literature
  - 734 compliance guides
  - 380 compliance certificates (blank)
  - 254 code books
  - 49 insulation guides
  - 49 resource cards

# PHASE *THREE*

*Déjà Vu All Over Again*

# Phase 3

## *Methodology*

- Create a **new** randomized sampling plan
- Conduct a **second** data collection effort following the same protocol
- Analyze and compare Phase 3 data to Phase 1 data to **determine impact** of Phase 2



# KY PNNL Results

*(Since the final report has not of been officially issued they won't let me call it a PNNL Analysis)*

# Measure Comparison

KY - Non-compliance comparison: Phase I to Phase III			
Measure	Phase I Non-Compliance	Phase III Non-Compliance	Percentage Point Improvement
Envelope Air Leakage	32%	2%	30
Ceiling Insulation (R-value)	13%	11%	2
Ceiling Insulation (quality)	58%	40%	18
Exterior Wall Insulation (R-value)	1%	0%	1
Exterior Wall Insulation (quality)	66%	58%	8
Foundation Insulation (R-value)	19%	30%	-11
Foundation Insulation (quality)	86%	76%	10
Lighting	67%	60%	7
Duct Leakage (conditioned space)	80%	65%	15
Duct Leakage (unconditioned space)	32%	39%	-7
Window U-Factor	2%	9%	-7

## Phase 1

## Phase 3

Measure	Total Energy Savings (MMBtu)	Total Energy Cost Savings (\$)	Total State Emissions Reduction (MT CO2e)		Total Energy Savings (MMBtu)	Total Energy Cost Savings	Total State Emissions Reduction (MT CO2e)
Envelope Air Leakage	27,182	\$484,314	3,092		581	\$10,321	65
Ceiling Insulation	11,372	\$215,656	1,080		4,835	\$91,786	595
Exterior Wall Insulation	9,277	\$171,044	1,102		8243	\$151,974	976
Foundation Insulation	6,800	\$108,156	668		11,676	\$178,905	1,075
Lighting	5,742	\$197,544	1,427		4,454	\$153,383	1,130
Duct Leakage	2,135	\$43,142	284		17,151	\$342,217	2,251
<b>TOTAL</b>	<b>62,508</b>	<b>\$1,219,856</b>	<b>7,653</b>		<b>46,941</b>	<b>\$928,585</b>	<b>6,093</b>
<b>Saving</b>					<b>25%</b>	<b>24%</b>	<b>20%</b>

# Residential Study

## *Proposed Sampling Plan*

- Sampling plan is based on **US Census** single-family permit data
- All permits locations (by jurisdiction) are assigned an **random number**
- The random numbers are put in numerical sequence and the **first 63** are the sampling plan
  - PNNL determined that a minimum of 63 data sets were required for statistical significance
- Places with more permits will likely get more slots but it is **not strictly proportional**



# Conclusions

## *Really Just Some Observations*

- There is an **opportunity for improving** the building quality through improved compliance
- Actual improvement can be achieved in **cost-effective ways**
- Opportunity for **ongoing stakeholder engagement**
- **Others have learned** from the KY study
  - Ameren MO

# Questions



***Thank You For Your Participation!***

Chris Burgess

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312-784-7261









# Illinois

## Energy Codes

## Compliance

## Collaborative

--Break--





# Illinois

## Energy Codes

## Compliance

## Collaborative

Results from Commercial  
Buildings Retrofit Survey





# Existing Commercial Buildings and the Energy Code: An Illinois Enforcement Study

IL Energy Codes Collaborative



# Code Official Survey

## Background

- Vast majority of energy use (and savings) are in existing buildings
- IEBC Section 104.10: “Wherever there are practical difficulties involved in carrying out provisions of this code, the *code official* shall have authority to grant modifications for individual cases”
- Variance – deviation from code requirements

# Code Official Survey

## *Objectives*

- Assess how the commercial chapter of the 2015 IECC is understood and enforced in existing building alterations, renovations or retrofits
- Understand how often variances to the energy code are requested and granted for these projects
- Identify main reasons why variance requests are made and granted

# Methodology

## Survey Design

- 10-15 minute survey
- Distributed to code officials in IL
- Three Sections to Survey:
  - Qualifying questions
  - Permitting differences in building components:
    - Roof replacements
    - Exterior wall modifications
    - Window modifications
    - Lighting alterations
    - HVAC system alterations
  - Feedback: Useful tools/guidance for enforcement
- Results collected over 1 month

# Qualifying Questions



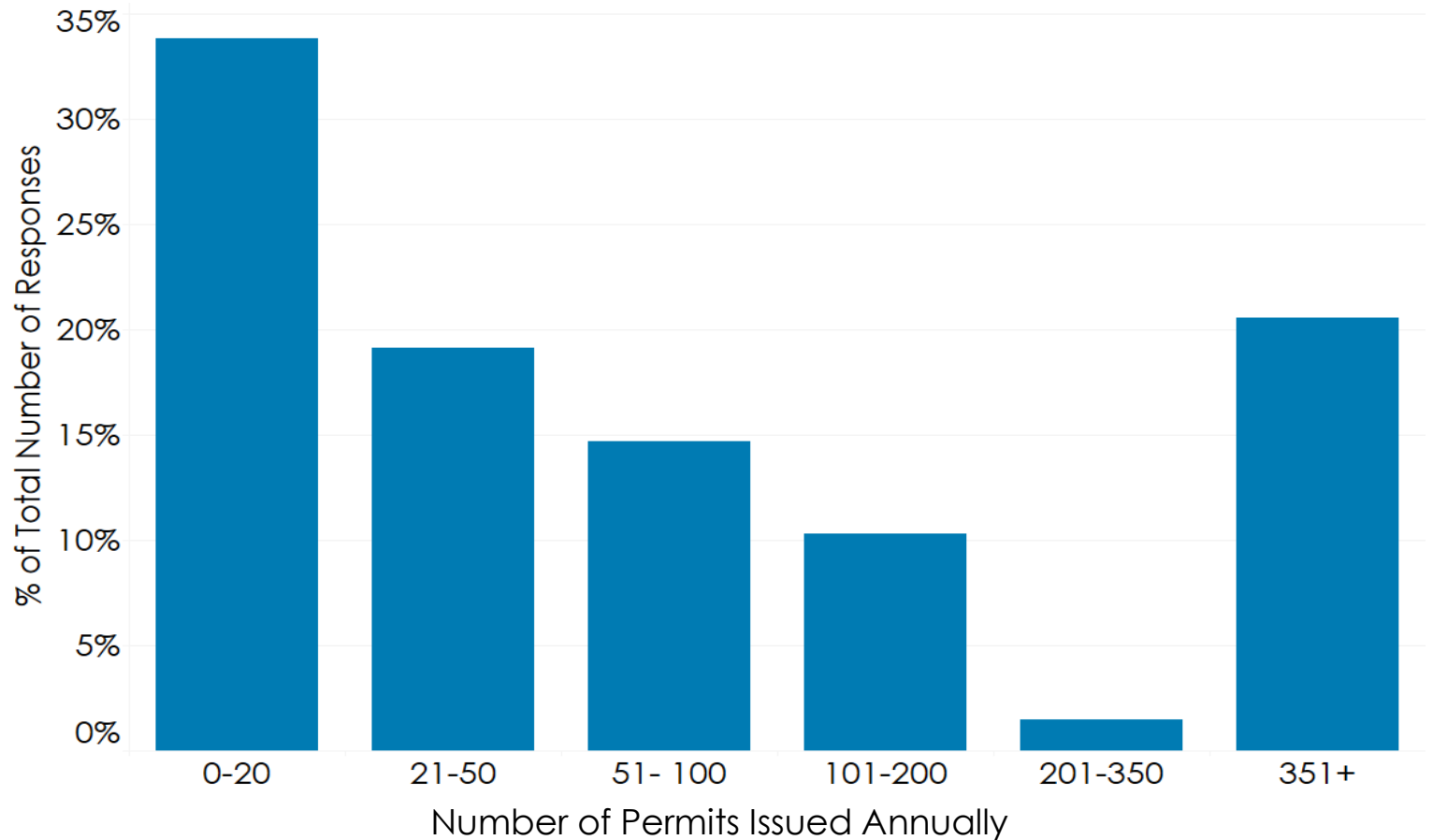
# Findings

## *Qualifying Questions*

- 69 Code Officials Responded
- Mainly working in CZ 5, with some working in 4, and some in both 4 and 5
- All directly involved in enforcement of commercial energy code
- 75% said enforcing energy code in existing buildings is important or extremely important

# Findings

## *Annual Permits Issued*



60% stated that existing building permits made up over 71% of total permits issued

# Findings

## Permits Required by Project Type

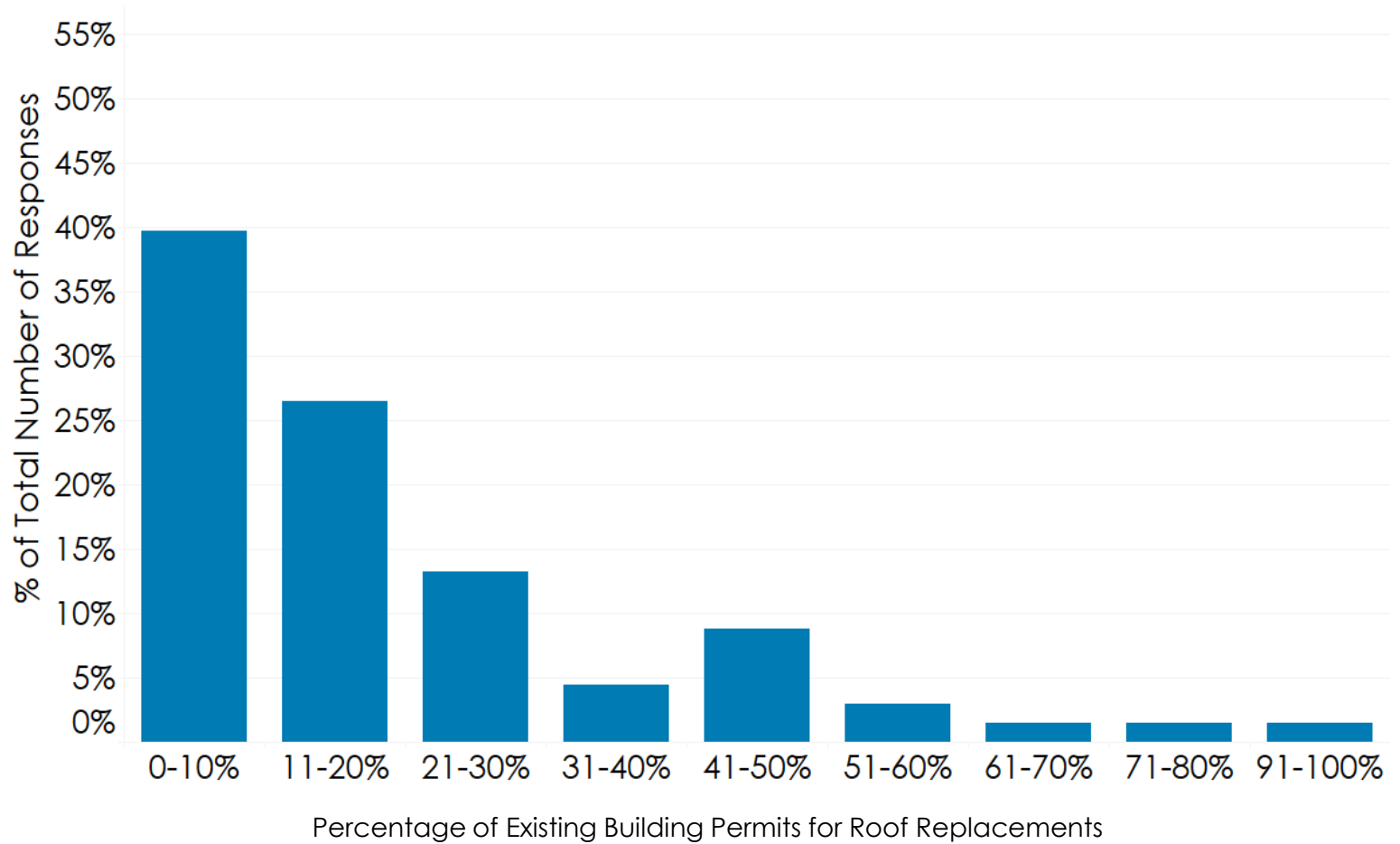
Project Type	Requires Permits	Does Not Require Permits
Roof Alterations	94.12%	5.88%
Exterior Wall Modifications	97.01%	2.99%
Window Alterations	82.26%	17.74%
Lighting Alterations	80.33%	19.67%
HVAC Alterations	86.44%	13.56%

# Differences in Permitting

## Breakdown by Building Component

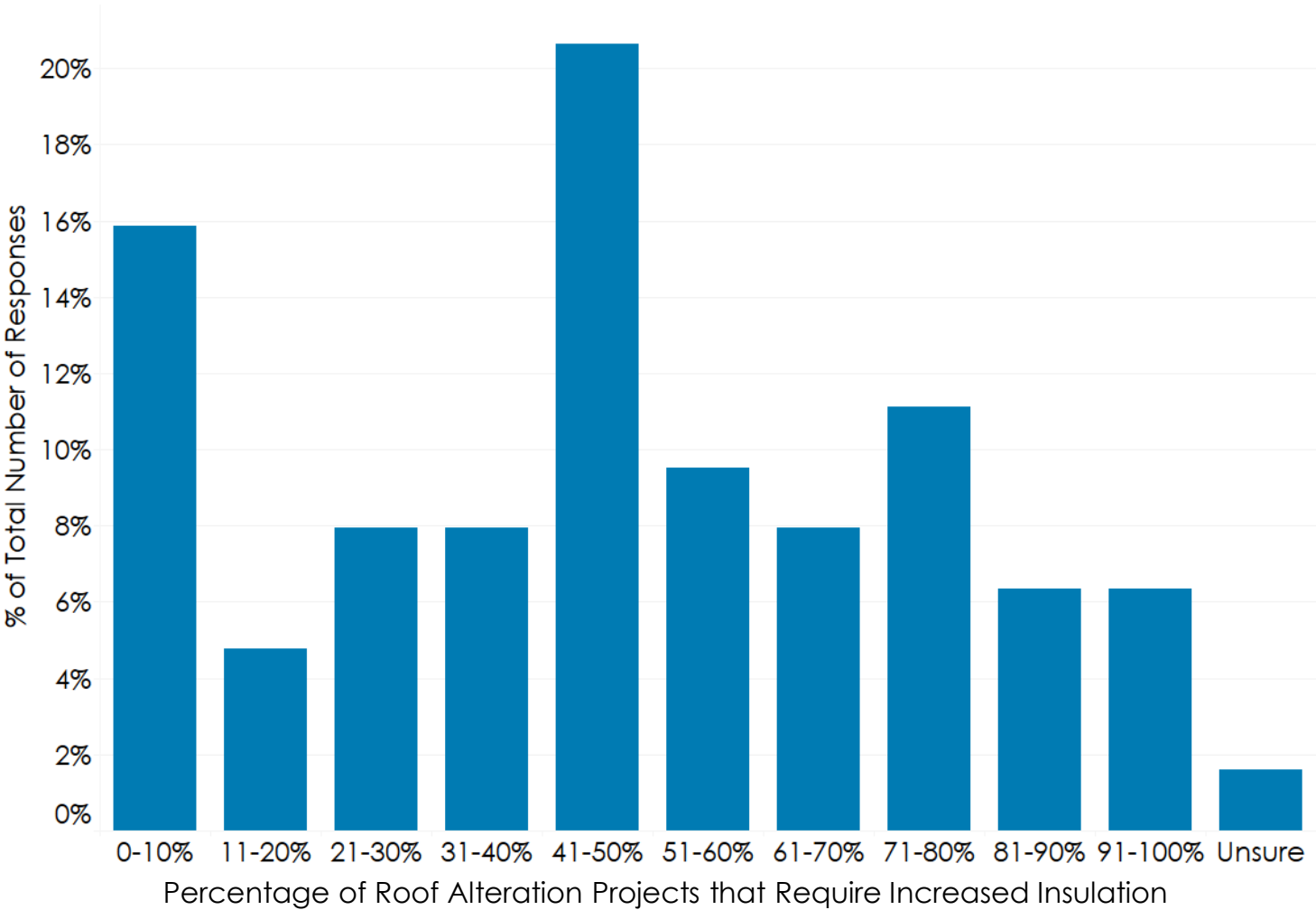
# Findings

## Roof Replacement Permits



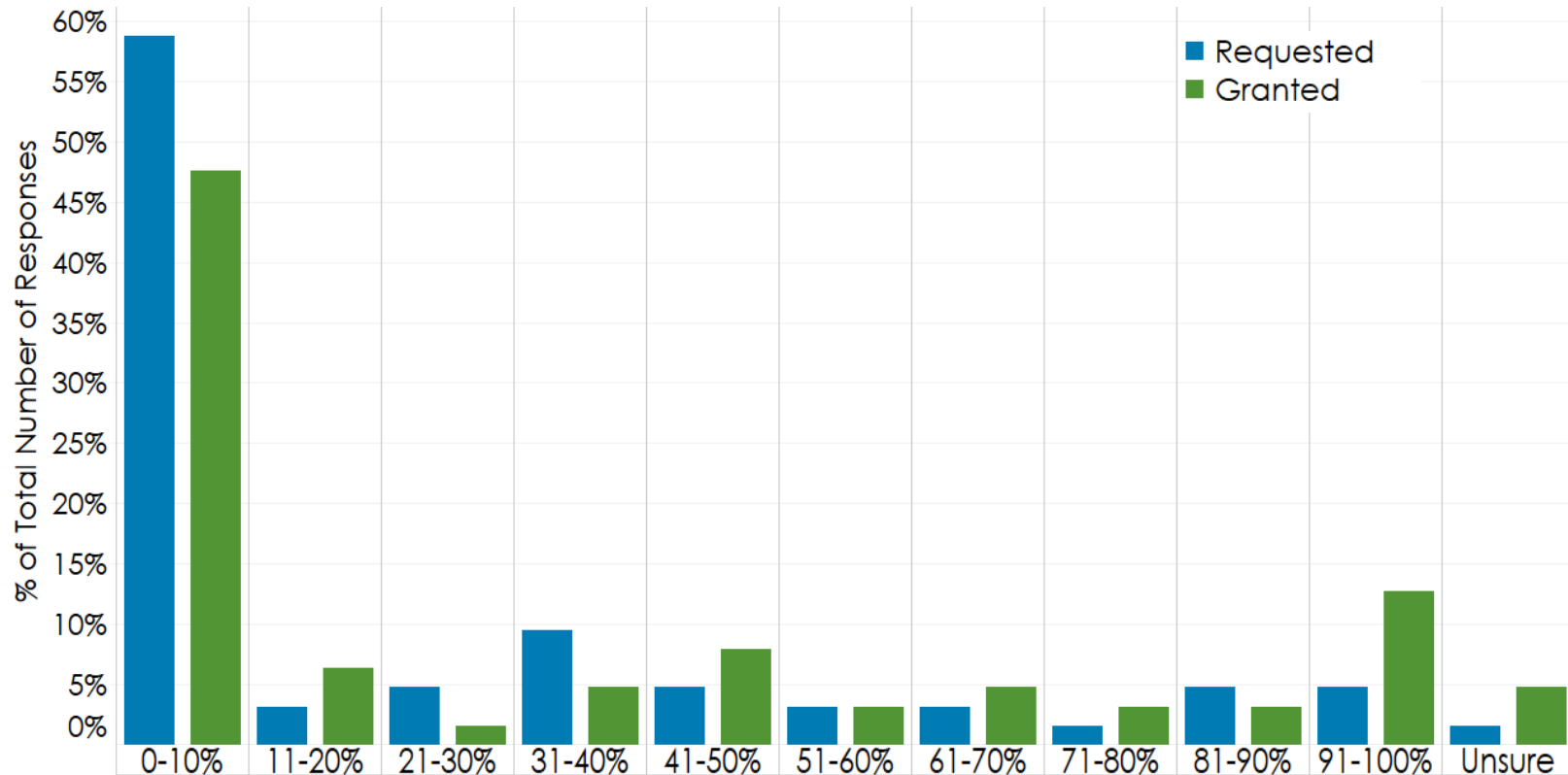
# Findings

## Roof Alterations Requiring Efficiency Updates



# Findings

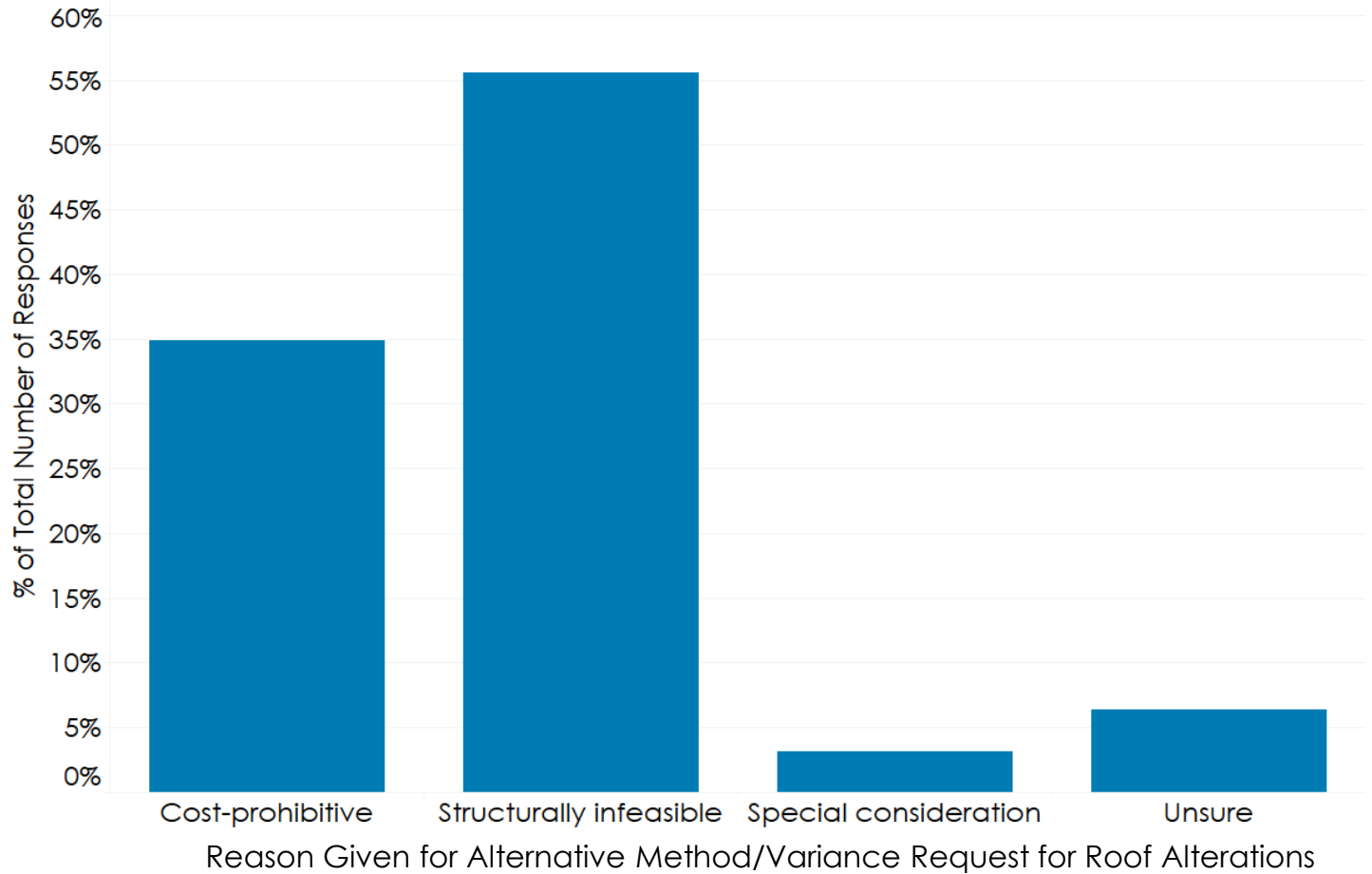
## Roofing Variance Requests



Percent of Roof Alteration Projects Requesting/Granted Variance

# Findings

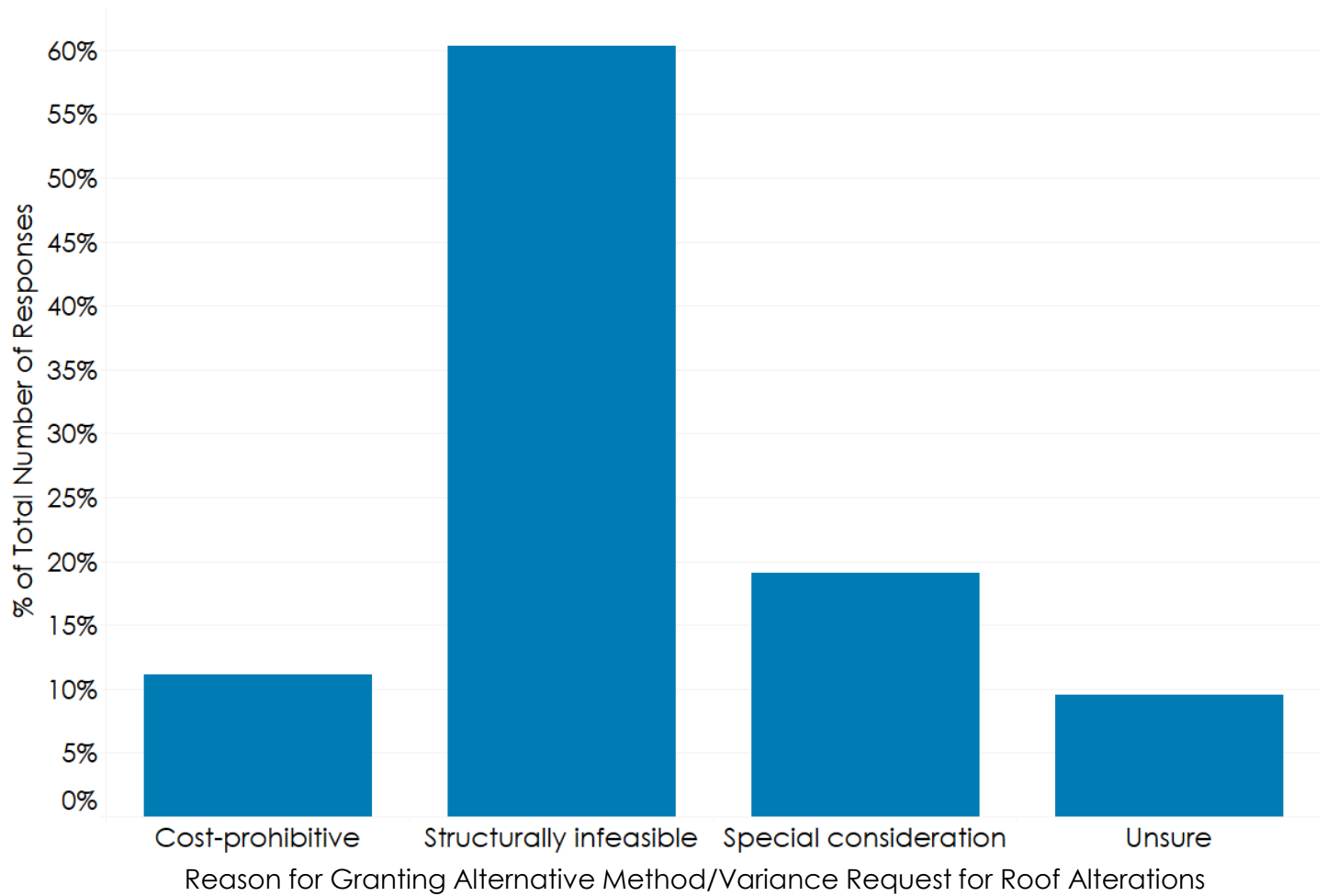
## *Reason for Requesting Roofing Variance*





# Findings

## *Reason for Granting Roofing Variance*



# Findings

## *Differences Between Building Components*

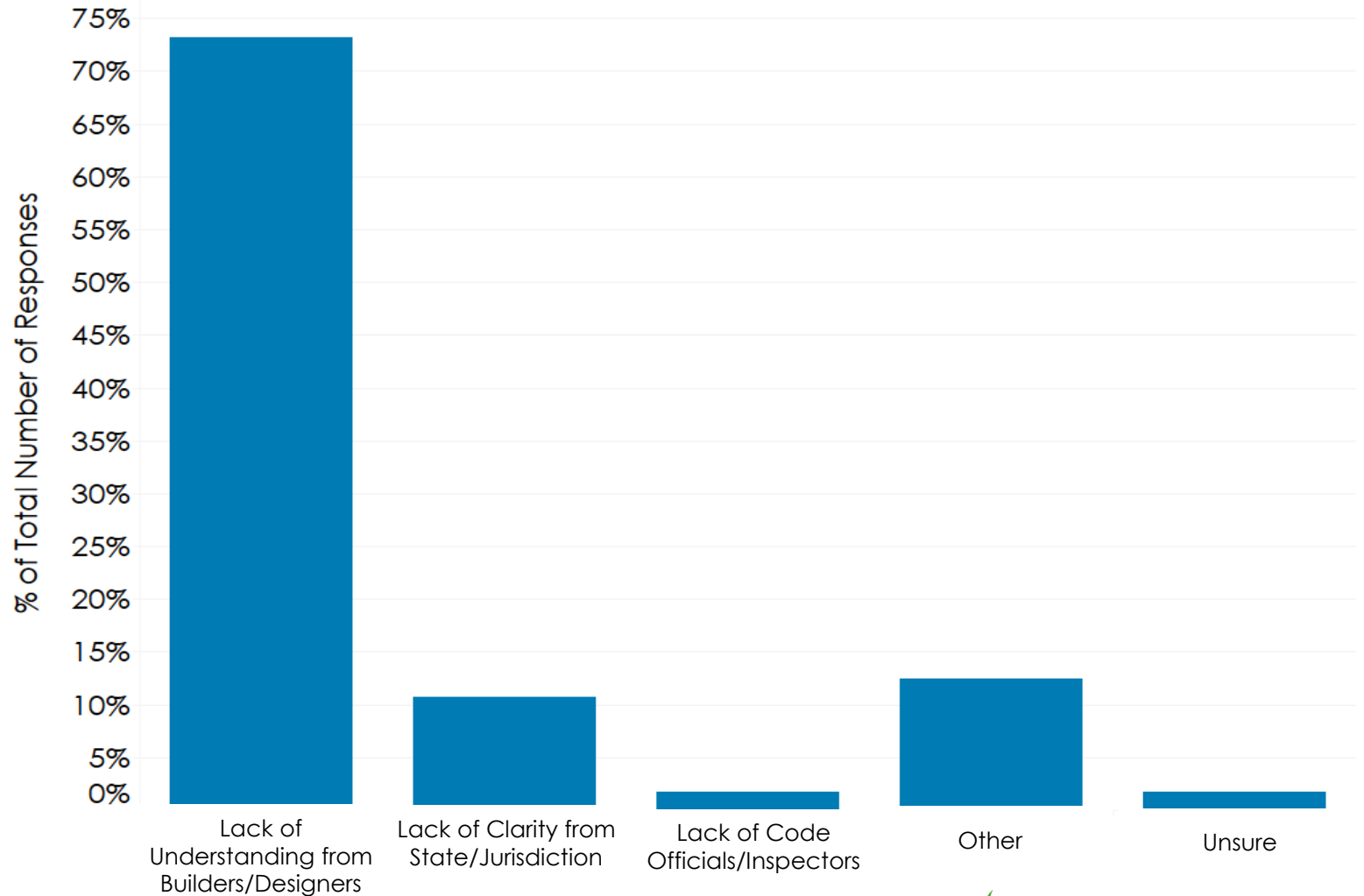
- Fewer permits were issued for modifications to building thermal envelope than lighting and HVAC alterations
- Projects to modify windows, lighting and HVAC often required improving the level of efficiency
- If variances were granted for window, lighting, and HVAC alterations, they were because of special considerations given due to overall compliance

# Code Official Feedback

## Enforcement

# Findings

## Biggest Enforcement Issue



# Findings

## *Additional Trainings and Guidance*

- 59% expressed interest in receiving ICC certified trainings on energy code compliance
- Some thought more clarity written into the code and additional guidance about variances would be beneficial
- A few suggested real-world examples would be helpful when applying commercial energy code to existing buildings

# Findings

## *Additional Code Official Thoughts*

- The energy code is not enforced uniformly across jurisdictions
- Some code officials are more lenient than others about energy code requirements
- Some code officials see the energy code as unrelated to matters of public health and safety

# Conclusions

## *Key Findings*

- More permits issued for lighting and HVAC modifications than changes to building thermal envelope
- Builders and designers rarely request a variance to the energy code
- Requests for variance are rarely granted
- Primary challenge to enforcing energy code was lack of understanding by builders/designers

# Conclusions

## *Next Steps*

- Possible training opportunities for code officials and builders/designers
- Work with ICC to include more clarity around variances and existing buildings in code commentary
- Guidance from state interpretation
- Guidance from collaborative



Thank you!

*Nicole Westfall*  
*Midwest Energy Efficiency Alliance*  
*nwestfall@mwalliance.org*





# Illinois

## Energy Codes

## Compliance

## Collaborative

Discussion:  
Items Identified in Past Meetings



# Illinois

## *Energy Codes Compliance Collaborative*

- Formed early 2017
- Part of startup of statewide utility energy savings program (Lack of state budget prevented full program implementation)
- 3 meetings February 2017
  - O'Fallon
  - East Peoria
  - Oak Brook

# Illinois

## *Past Oak Brook Discussion*

- AHJ's short-staffed
- Understanding code book different than knowing how to implement in the field
- Questions about who enforces and who to ask
- Enforcement varies across the state
- Some officials do not want to stick their necks out

## *Past Oak Brook Discussion*

- Energy Codes not seen as life-safety
- Confusion over 3<sup>rd</sup> party roles
- Many types of modeling software; what do code officials accept?
- Modeling software is only as good as information put into it; not all assumptions are equal
- Too many codes to keep track of

# Illinois

## *Past Oak Brook Discussion*

- Concerns about code assistance going away
- Owners and developers claim changes and/or codes are too costly
- Consumers need to be educated before builders will prioritize energy codes
- Not every jurisdiction can afford new code books

## *Past Oak Brook Opportunities*

- The collaborative can help inform with the code changes.
- On-site training: envelope sealing, duct sealing.
- Clarification from the state to local jurisdictions that they are supposed to enforce the energy code.
- New software interface for modeling so CEOs can see inputs
- Consumer/homeowner education

## *Past Oak Brook Opportunities*

- Educate local government, decision-makers
- Better communication and consistent clarification of acceptance of the 3<sup>rd</sup> party verifiers
- Improve QAC for raters.
- Template checklist for plan review and for inspection.
- Video about the inspections
- “Success w/energy codes”: actual photos of right/wrong



*What is one specific item that you see  
is lacking in compliance?*

*What is one thing you need to help  
improve compliance?*



# Illinois

## Energy Codes

## Compliance

## Collaborative

Discussion:  
Collaborative Structure



# Nebraska

- Formed Jan 2013, based on BCAP gap analysis, continuation of adoption group
- Set up by MEEA & BCAP
- MEEA & NE Energy Office co-chair
- Had subcommittees, now doesn't
- Meets quarterly
- Sets annual goals
- Mainly residential but wants more commercial involvement

# Kentucky *Stakeholder Group*

- Formed Fall 2014
- Essential part of Energy Code Compliance Improvement Program
- Group helpful in outreach, providing feedback on trainings, creating local messaging
- Met quarterly

# Minnesota

## *Structure and Committees*

- Formed in 2014
- Interpretation & Verification
- Residential Education & Training
- Commercial Education & Training
- Multifamily
- Policy
  - (determining if Collaborative will take on adoption)

# Illinois *Collaborative Structure*

- Formed 2017
- MEEA facilitates
- Meets how often?
  - Phone vs. in-person
- Any annual goals?
- Any subcommittees?



# Illinois

## Energy Codes

## Compliance

## Collaborative

Discussion:  
Involvement in Baseline Studies



# Baseline Studies

## *Key Observational Items*

- Envelope Tightness
- Window U-factor
- Wall Insulation
- Ceiling Insulation
- Foundation Insulation
- High Efficacy Lighting
- Duct Leakage
- Manual J Data
- Manual D Data
- **Anything else?**





# Illinois

## Energy Codes

## Compliance

## Collaborative

Next Steps  
Next Meeting Date



*What would you like to see covered at  
the next meeting?*

*What did we miss today?*

# Next Steps

- Encourage participation from peers in the collaborative
- Attend next meetings
- Participate in Baseline Studies
- Follow-up on existing buildings survey?
- Anything else?

# Questions?

Contact

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