

# Ameren Missouri Energy Codes Compliance Collaborative

Ian Blanding  
Program Manager  
Residential Energy Code Support Program



# Safety 101: Halloween Safety

## When Trick or Treating

- Children and adults are reminded to put electronic devices down, keep heads up and walk, don't run, across the street
- Instruct children to travel only in familiar, well-lit areas and stick with their friends
- Tell your children not to eat any treats until they return home

## While Driving

- Watch for children walking on roadways, medians and curbs
- Enter and exit driveways and alleys carefully
- At twilight and later in the evening, watch for children in dark clothing

Source: National Safety Council

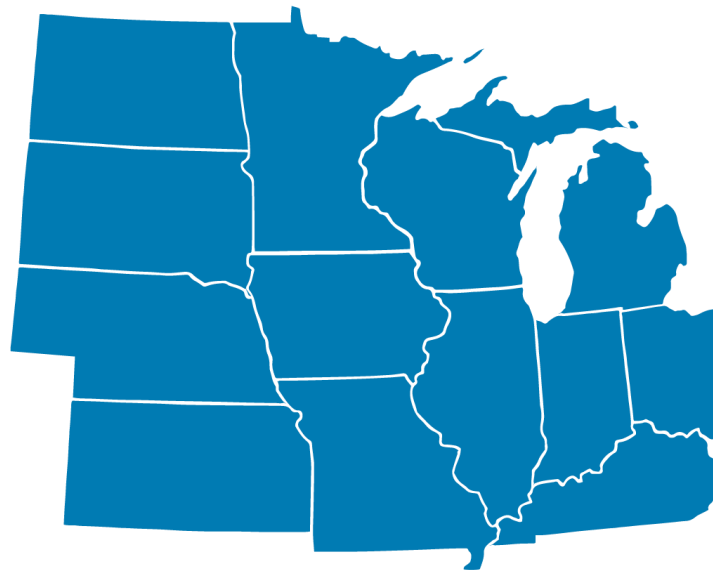


# Agenda

- Introductions: 9:30 – 9:45am
- Program Update: 9:45 – 10:30am
- Break: 10:30 – 10:45am
- Discussion | Compliance Challenges: 10:45 – 11:45am
- Opportunities/Next Steps: 11:45am – 12:00pm
- Lunch and Networking: 12:00 – 1:00pm

# About MEEA

- We are a nonprofit membership organization with 160+ members including:
  - Utilities
  - Research Institutions and advocacy organizations
  - 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



# Introductions

- First, let's get to know each other!
  - Name
  - Job Title and Employer
  - Location of Workplace
  - What efficiency upgrades have you done to your home recently?



**Program Update**

# Ameren Missouri Residential Energy Code Support Program

- What?
  - A 3-year comprehensive program funded by Ameren Missouri to improve understanding and support compliance with local residential energy codes.
- Why?
  - Currently resources and training on local residential energy codes are limited. Better understanding of codes = improved compliance = more efficient construction = greater customer satisfaction
- How?
  - Collaborative Discussion, Proactive Engagement, In-Person Training, Useful Resources



## Background

- MEEA managed a statewide residential energy code baseline study funded by Missouri Division of Energy
- Baseline study surveyed residential construction practices (2016) relative to the energy code
- Five key opportunities for improved compliance were identified
- Ameren Missouri included a code support program in their 3-year filing
- MEEA developed the program and hired a team





# Overview of Program

- Code Compliance Collaborative
  - Space for residential construction professionals to discuss opportunities and barriers to energy code compliance
- In-Field Code Consultant
  - Proactively engages building industry to educate, investigate and improve energy code understanding in a small group or 1-on-1 setting
- In-Person Classroom Training
  - Full day training focused on the what, why and how of the residential energy code



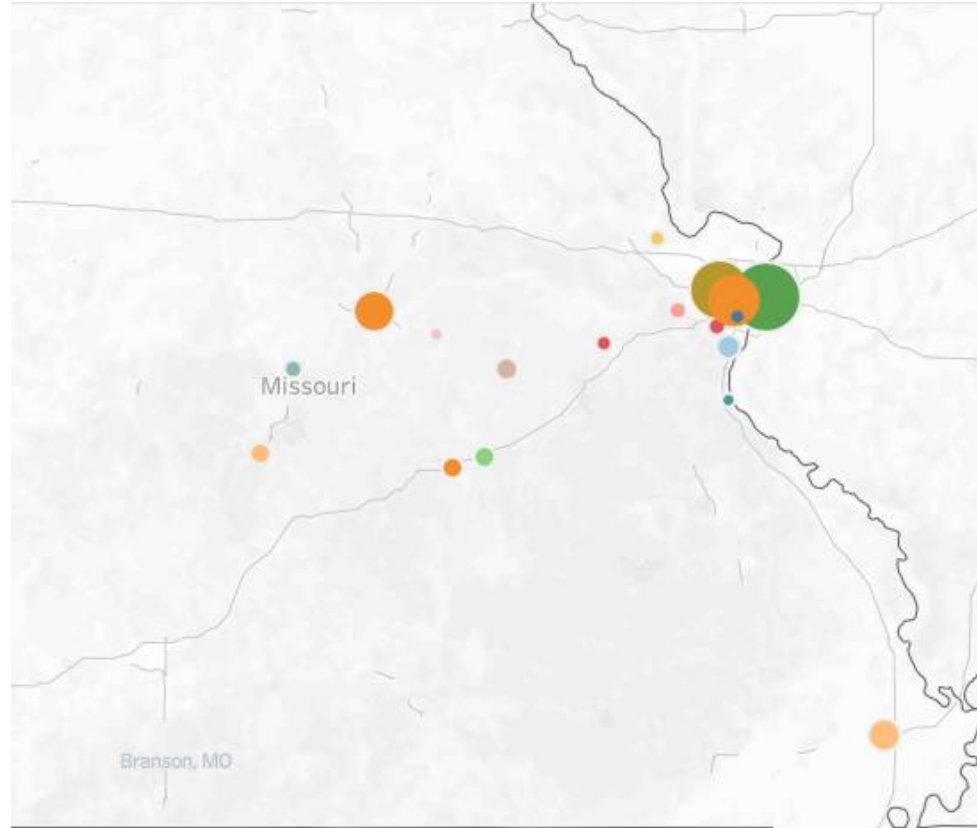
## Matt Belcher | Update

- Current Outreach/Impact
- Informal 2018 IECC Training – 1-hour course
  - City of St. Louis
  - MABOI, MACE, AGC
- Collaboration with supply houses

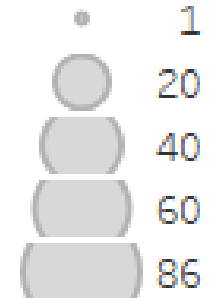
# Outreach | Locations Visited

City

- Affton
- Arnold
- Brentwood
- Camdenton
- Crestwood
- Creve Coeur
- Crystal City
- Eldon
- Fenton
- Jefferson City
- Kirkwood
- Linn
- Maryland Heights
- Owensville
- Richmond Heights
- Rock Hill
- Rolla
- Sikeston
- St. James
- St. Louis
- St. Paul
- Sunset Hills
- Town and Country
- Union
- Wildwood



# Customers

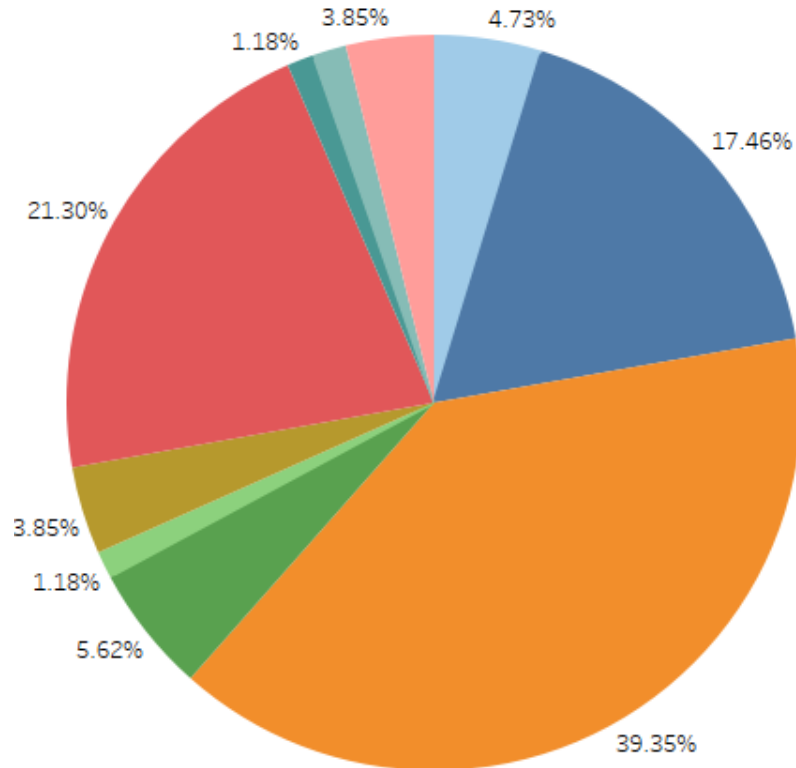


# Outreach| People and Professionals

## Profession

- Architect
- Code Official
- Construction Trade
- Education
- Energy Rater
- Lender
- Manufacturing/Supply House
- Non Profit
- Real Estate
- State Gov.

338 Professionals



# 1 Hour 2018 IECC Training | City of St. Louis

- City of St. Louis
  - 8/7 -Trained 25 Plans Examiners
  - 10/9 – Trained 52 Field Inspectors
- Future Sessions
  - Missouri Association of Building Officials and Inspectors (MABOI)
  - Missouri Association of Code Enforcement (MACE)
  - Associated General Contractors of America (AGC)



# 1 Hour 2018 IECC Training | Building Supply Houses

- Partnership with Forest Products – Material Building Supplier
  - Provide 1-hour trainings to customers
  - Supply stores with program resources
  - Gradually reach all supply stores
    - Forest Products supplies materials to stores throughout the Ameren Territory



## Matt's Contact Information

Matt Belcher  
Energy Code Consultant  
(314) 749-4189  
[matt@moenergycodesupport.org](mailto:matt@moenergycodesupport.org)

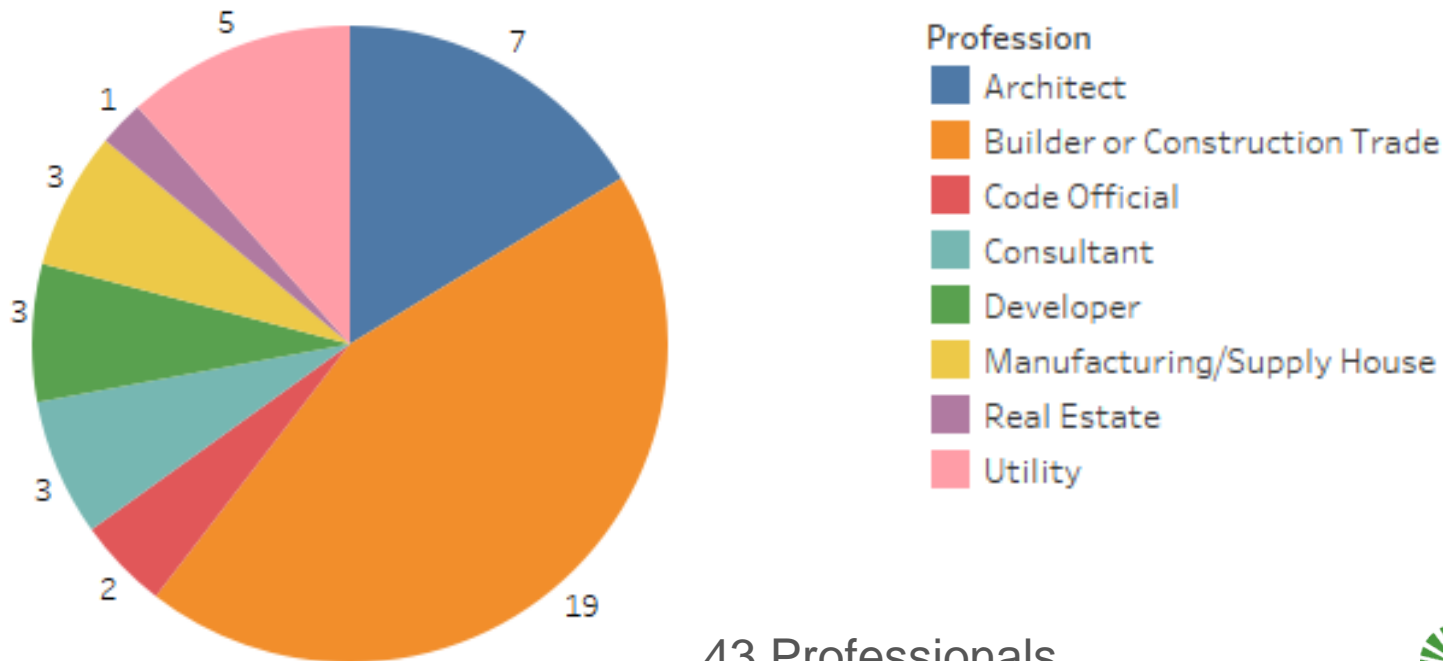


## Southface | Update

- Recap of July Training
- Curriculum Focus
- Tentative Training Dates and Locations



# July Trainings: People and Professions



43 Professionals

## July Trainings: General Feedback

- Overall Satisfaction: 9.5/10
- Liked Best: Curriculum Content

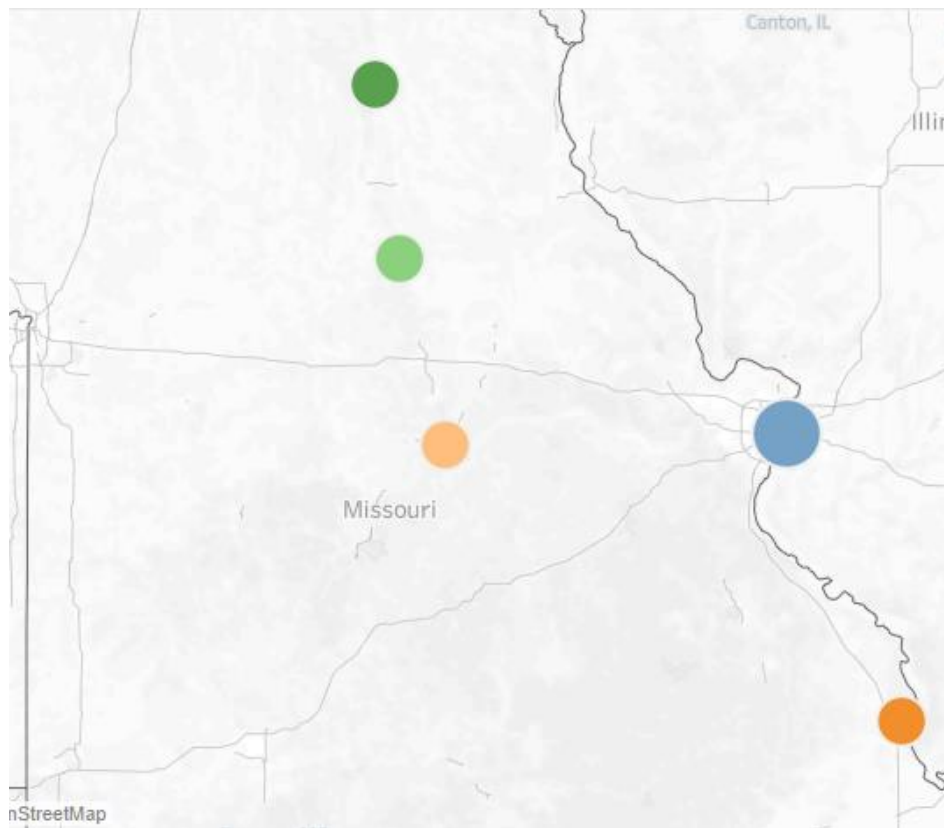
## Recommended Future Topics

- Retrofits and Code
- More Building Science
- Application of Code by Inspectors
- Smart Homes and EE
- Indoor Air Quality
- Solar Energy
- More Hands On

## 2020 Curriculum

- In process of developing 2020 curriculum
- Curriculum Focus
  - 2018 IECC Retrofit
    - Collecting videos/images of retrofit scenarios
  - 2018 IECC New Construction
    - Application based for design, build and inspect

# Tentative Training Schedule



## Month, City

- January, St. Louis
- February, Cape Girardeau
- February, Jefferson City
- March, Kirksville
- March, Moberly

## Next Steps

- Developing 2018 IECC 6-hour Course (Southface)
- Developing Fact Sheets (MEEA + Collaborative)
  - *Air Sealing, Moisture, Ventilation – House as a system*
  - *Existing Buildings and the Energy Code*
  - *Guide to Efficient Lighting*
  - *Guide to HVAC Sizing*
  - *Guide to Basement Insulation*
  - *Guide to Duct Sealing*

## Energy Efficiency and Real Estate

- Homes that have energy efficiency features and/or certifications properly marketed during the time-of-sale tend to sell faster and for a premium than similar, less efficient homes
- Problem: Agents may not know how to properly market EE, and appraisers may not know how to assign value to EE
- Ameren Missouri's Real Estate Audit program works to solve these issues and encourages time-of-purchase energy audits and upgrades



# Real Estate Audit Program

- Encourages time-of-purchase energy audits through the distribution of \$200 audit coupons
- Educates real estate agents on how to properly market EE features during the time-of-sale
- Instructs appraisal professionals on how to properly assign value to EE features
- Program length: September 1, 2019 – December 31, 2021
- 2-day appraisal course scheduled with Greater St. Louis Chapter – December 2<sup>nd</sup> and 3<sup>rd</sup>
- Conducting outreach to realtor boards and chapters within Ameren Missouri's service territory to schedule 2019 and 2020 Green Designation courses



## Homeowner Welcome Kits

- Audit coupon
- Ameren Missouri rebate overview
- List of certified energy auditors
- Benefits of an audit fact sheet
- General program information





# Subcommittees | Engagement Opportunities

- Real Estate & Appraiser Subcommittee
  - Talk through strategies to ensure EE is valued during real estate transactions, including:
    - MLS green data fields
    - Realtor education, outreach and engagement
    - Valuation tools and methods
    - Energy disclosure

Email Kara Jonas at [Kjonas@mwalliance.org](mailto:Kjonas@mwalliance.org) if you are interested in joining





**15 Minute Break**

## From the Field/Collaborative: Key Compliance Challenges

1. House as a System
2. 2018 IECC Implementation/energy code inconsistency/existing economic stakeholders
3. Existing Buildings/Retrofit
4. Consumer Knowledge
5. HVAC Oversizing
6. Insulation Installation
7. Duct Leakage
8. Basement Insulation

## Recap from Last Collaborative Discussion

What's needed to improve compliance with the house as a system (ventilation, air sealing, moisture management)?

- Value add/benefits
- Liability protection (builders)
- Code Consistency
- Engage healthcare and healthy homes industry
- Training for: students, realtors, appraiser,
- Provide technical resources



## Discussion | Other Key Compliance Challenges

How to address compliance challenges with the following:

- 2018 IECC Implementation, lack of energy code consistency, existing economic stakeholders
- Existing Buildings/Retrofit
- Consumer Knowledge



Next Steps

## Next Collaborative Meeting: Save the Date

- Date: Tuesday, February 4, 2020
- Location  
St. Louis
- First meeting of 2020



A close-up photograph of a person with short dark hair, wearing a green and white plaid shirt, playing a red electric guitar. The person is looking down at the guitar. The guitar has a white pickguard and a light-colored fretboard. The background is blurred, showing what appears to be a stage or rehearsal space with some equipment. A green banner with white text is overlaid on the right side of the image.

## Lunch & Networking



## Contact Information

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## Goals and Rationale of Study

- Comply with American Recovery and Reinvestment Act (ARRA) requirements
- Establish residential energy code compliance baseline
- Determine potential energy savings from improved compliance
- 1-year, statewide study focused on new, never occupied single family homes
- Study was funded by Division of Energy and led by MEEA
- Data collection was conducted March - June 2016



# Potential Energy Savings (Annual)

## *Measure Level Savings*

Measure	Electricity Savings (kWh at meter)	Natural Gas Savings (therms)	Energy Savings (MMBtu)	Electricity Savings	Natural Gas Savings (dollars)	Energy Cost Savings (dollars)
Basement Wall Insulation	732,822	847,765	87,277	\$89,990	\$971,746	\$1,061,737
Duct Leakage	3,706,493	400,964	52,743	\$455,157	\$459,603	\$914,760
Lighting Efficacy	4,830,095	-64,040	10,076	\$593,136	\$-73,405	\$519,731
Wall Insulation	1,624,312	203,688	25,911	\$199,466	\$233,476	\$432,942

Fuel Prices		
Electricity	0.12	\$/kWh
Natural Gas	1.15	\$/therm

# Homes	
CZ4	10,061
CZ5	278



# Potential Energy Savings (Annual)

## *Measure Level Savings*

Measure	Electricity Savings (kWh at meter)	Natural Gas Savings (therms)	Energy Savings (MMBtu)	Electricity Savings	Natural Gas Savings (dollars)	Energy Cost Savings (dollars)
Window U-Factor	329,806	75,268	8,652	\$40,500	\$86,276	\$126,776
Ceiling Insulation	222,191	21,867	2,945	\$27,285	\$25,065	\$52,351
<b>TOTAL</b>	<b>11,445,719</b>	<b>1,485,512</b>	<b>187,604</b>	<b>\$1,405,534</b>	<b>1,702,761</b>	<b>\$3,108,297</b>

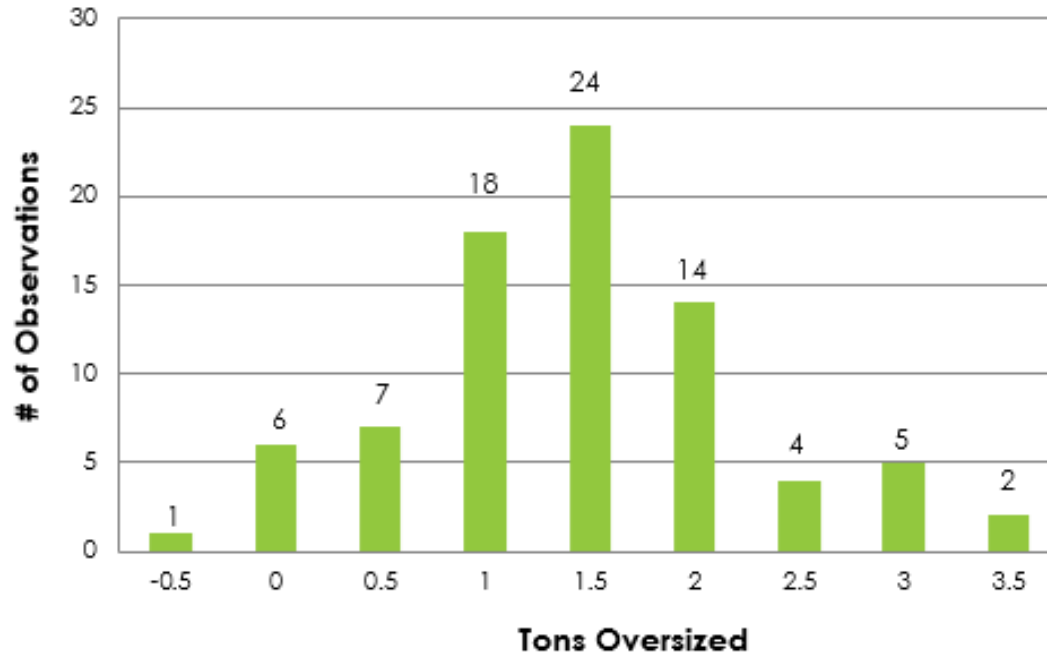
Fuel Prices		
Electricity	0.12	\$/kWh
Natural Gas	1.15	\$/therm

# Homes	
CZ4	10,061
CZ5	278



# Installed AC Units

## *Tons Oversized*



# The Team

