



Ameren Missouri: Residential Energy Code Support Program

Ian Blanding & Matt Belcher
Midwest Energy Codes Conference



Background

Energy Codes in Missouri



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
- Six key opportunities for improved compliance were identified

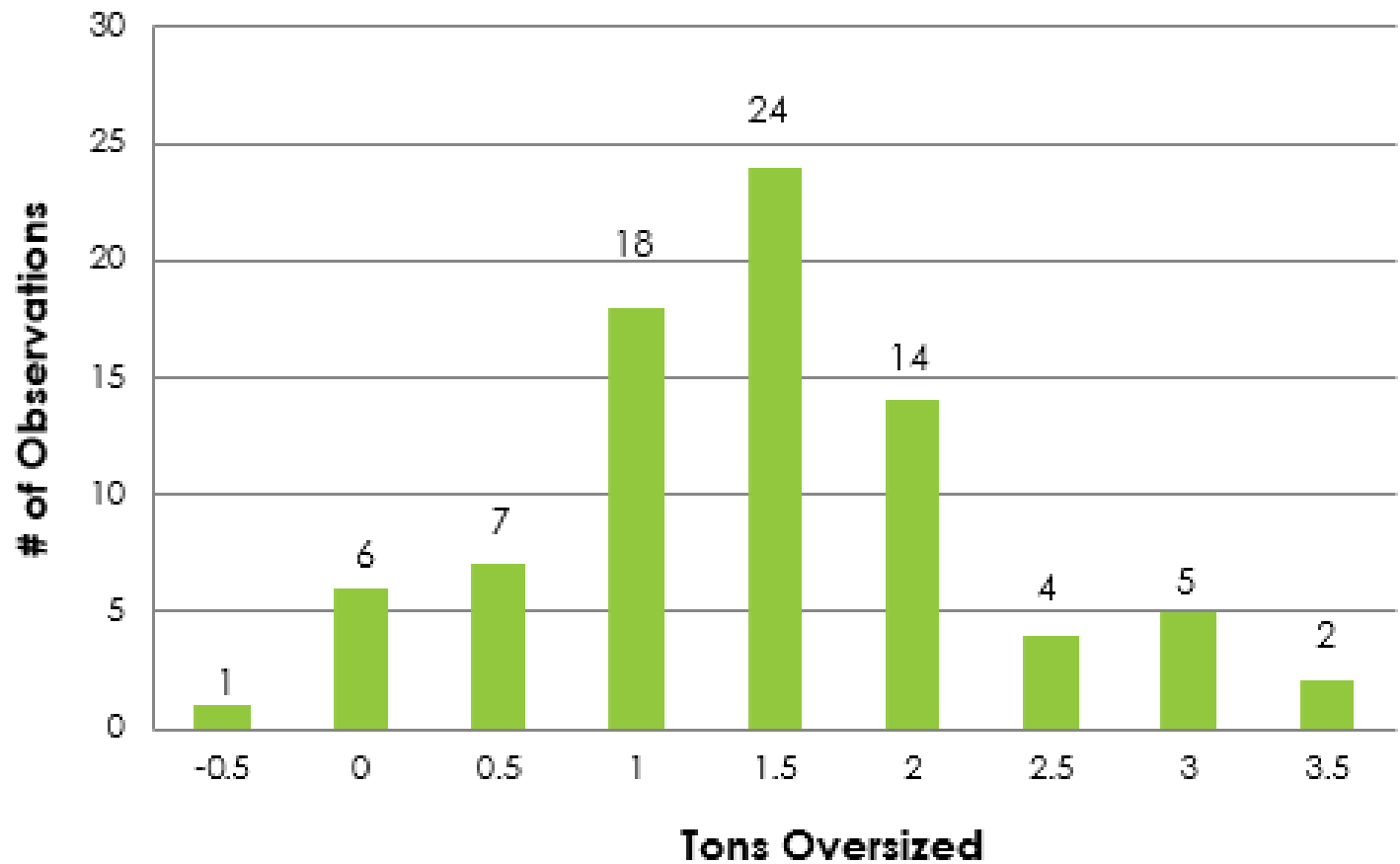
Findings from Study

Potential 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
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
TOTAL	11,445,719	1,485,512	187,604	\$1,405,534	1,702,761	\$3,108,297

Findings from Study

AC was way oversized



A Support Program was Born

Ameren Missouri



POWER
TO SAVE

Residential Energy Code Support Program

[Program Information](#)

[Frequently Asked Questions](#)

[Contact Us](#)



Residential Energy Code Support Program

Home is where the heart is, but it's also where several energy-saving opportunities can be found! The Code Support Program from Ameren Missouri provides home builders, code officials and other industry professionals with trainings, educational materials and resources designed to ensure quality, energy-efficient home design and construction.

[Register for Upcoming Trainings](#)

Why Participate?



Overview of Program

How do we address non-compliance?

- Code Compliance Collaborative
 - Opportunity 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
- Resources
 - Key educational resources and handouts were developed

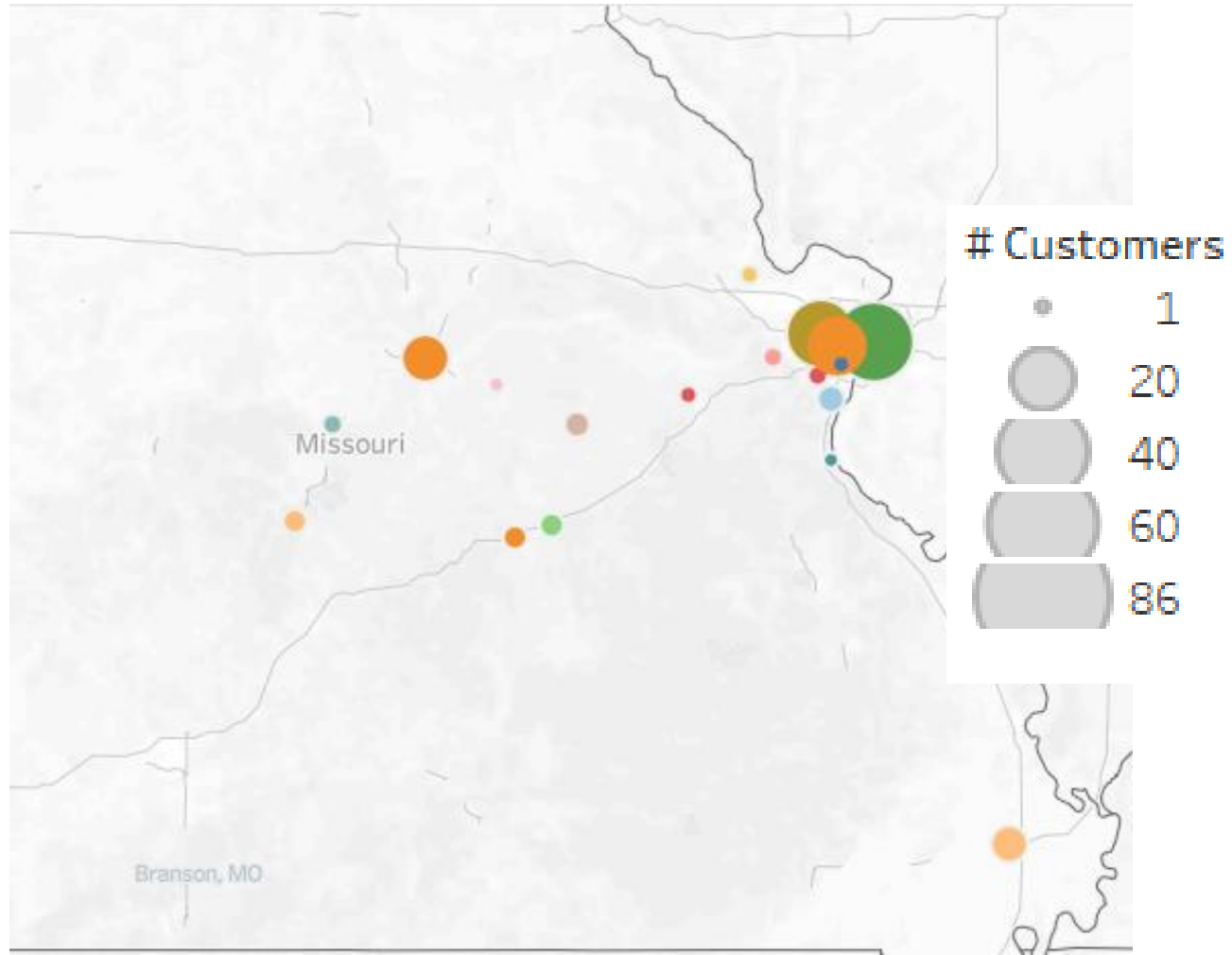
Code Collaborative

- 3 meetings in 2019
- In-person and virtual
- Opportunity to spread the word
- Gather feedback to feed the program
- Identify areas of concern

Energy Code Consultant

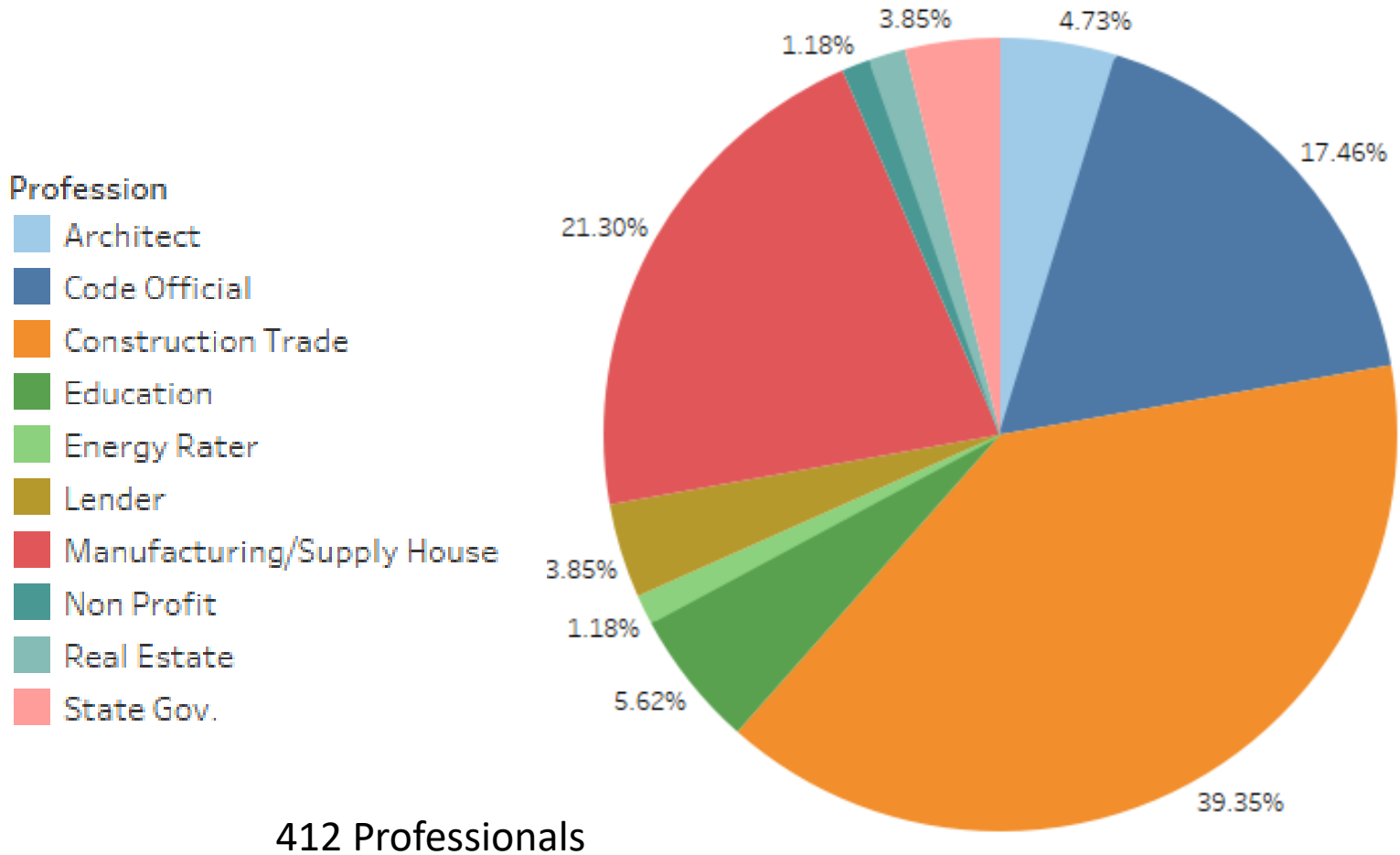
Locations Visited

- 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



Energy Code Consultant

People and Professionals



Flexibility is key

Follow the Adoption Trail

- Unplanned opportunity for 1-hour training
 - City of St. Louis – update to 2018 IECC
 - Inspectors requested training
 - Developed key points to prime for longer training
- Word got out
 - Requests from code official groups, supply houses, building and design firms and others

In-Person Training

- Held 4 trainings in 2019
- Focused on building science – the “why” behind the code
- Local HBA, Code Officials and Architects were big supporters
- Timing is key to success

Resources

Quick Field Guides

ENSURING QUALITY CONSTRUCTION BY

City of St. Louis, Missouri Professionals



The City of St. Louis has adopted an amended version of the 2018 International Energy Conservation Code (2018 IECC) as the baseline code for residential buildings in the city. You can use the checklist below to verify key residential code requirements that are easy to identify.

While this checklist doesn't include every requirement, it serves as a helpful guide for professionals as they seek or verify compliance with the local residential energy code in the field. Please refer to your local published energy code for complete documentation of all requirements and consult your local code official for questions and clarification. In Missouri, building energy codes are adopted at the local level, so these requirements may not apply to all jurisdictions in the state.

Mandatory Requirements:

Energy Certificate

- Energy certificate located on circuit breaker box is completed and signed

Air Sealing

- All holes between floors and through exterior walls/ceilings have been sealed with caulk or foam, in accordance with table 402.4.1.1.
- Air leakage rate tested and verified to be ≤ 3 ACH50

The first criteria when determining an insulation installation's grade is measuring any missing insulation.
(Diagrams based on Home Energy Rating System Standards)



Mechanical Ventilation

- Installed according to requirements in the 2018 International Residential Code or International Mechanical Code

Windows & Doors

- Windows, skylights and sliding glass doors infiltration rate ≤ 0.3 cfm/ft²
- Swinging doors infiltration rate ≤ 0.5 cfm/ft²

Other Requirements



Motivating Utility Factors

Big impacts, but why?

- Energy and Demand Savings
- Cross promoting other programs
- Flexibility to respond to customer needs
- Engage non-typical EE customer base
- Good will program
- Gather feedback from collaborative
- Program opens door for other opportunities

Changes for 2020?

- Real Estate and Appraiser Training
 - Great interest from collaborative
- New training curriculum based on feedback
 - 2018 IECC
 - Code and existing buildings
- Expanded informal 1-hour training
- Supply house integration

Lessons Learned

- Networks are key
- Find local champions
- Let the Collaborative be your guide
- Be flexible and adapt
- Hire a Matt Belcher clone

Thank you!

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