

Ameren Missouri Energy Codes Compliance Collaborative – Meeting Notes

Wednesday, October 16, 2019

Earthways Center, St. Louis, Missouri

- I. Welcome to St. Louis
 - II. Safety tip: Halloween Safety
 - III. Introductions – Name, Job Title and Employer, Location of Workplace, what efficiency upgrades have you done to your home recently?
In Person:
 - Chris Burgess, Building Program Director/MEEA, Chicago, installed new and efficient windows
 - Nicole Westfall, Building Policy Associate/MEEA, Chicago, will install plastic on windows
 - Ralph Wafer, Plans Examiner/ City of St. Louis, Replaced steam boiler with hot water heater, replaced windows, LED
 - Travis Wood, Policy and Program Administer/Missouri Energy Initiative, Installed new windows
 - Kevin Lohbeck, Building Inspector/University City, installed new hot water tank & seeking bids on new windows
 - Jim Trout, Indoor Environmental Health and Energy Efficiency Advocacy, St. Louis, MO,
 - Richard Reilly, Earthways Center, St. Louis, installed new HVAC, 15 SEER AC, 95 AFUE furnace, LED
 - Matt Belcher, Verdatek Solutions, LLC/ Code Consultant for Ameren Missouri's Energy Code Support Program, Maryland Heights, Building a Net Zero energy cottage
 - Emily Andrews, Executive Director/USGBC Missouri Gateway Chapter, St. Louis, new HVAC system
 - Rajiv Ravulapati, City Energy Project Technical Advisor/City of St. Louis, Renter – has been bugging landlord to replace furnace
 - Lisa Selligman, CEO/Red Dot Studio, Inc. new LEDs in bathroom
 - Justin Terry, Net Zero Residential Home Developer, St. Louis, replaced old aluminum sliding doors with new efficient doors
 - Jeff Friedrich, Project Manager/Ameren Missouri, St. Louis, MO, installed ASHP replacing electric resistance
 - Jessica Deem, Architect and Owner/Virescent, St. Louis, MO, installed more efficient appliances
 - Milton Murray, Adjunct Professor/Washington University, St. Louis, MO, Split system ASHP seeking bids on roof replacement and ridge vent and solar powered fans to ventilate space
 - Stella Steele, Director of Environmental Services/Lochmueller Group Inc., St. Louis
 - Kim Petzing, Program Manager/Franklin Energy,
 - Gretchen Waddell Barwick, Assistant Chapter Director/Sierra Club Missouri Chapter, St. Louis
- Online:
- Ian Blanding, Program Manager for the Ameren Missouri Residential Energy Code Support Program/MEEA, Chicago, IL, Replaced LEDs and doing air sealing
 - Alex Ghanem, Business Development Coordinator, PSD, Philadelphia, Renter – getting on landlord to install more efficient furnace – replace air filter

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- Emily Wolfe, Intern, Metropolitan Energy Center, St. Louis
- Gary Fries, Owner/ASER USA, HERS Rater in St. Louis, Oversaw around 2500 HERS ratings last year, half are IECC ratings
- Judy Gillis, HVAC Program Manager/Ameren Missouri, LEDs and windows next
- Kara Jonas, Sr. Program Manager/MEEA, Chicago, Renter – programmed thermostat
- Laureen Welikson, Sr. Consultant Energy Efficiency Eval & Strategy/Ameren Missouri, replaced AC, Furnace, windows, in process of LEDs
- Eric Wright, Planner/Missouri Division of Energy, Jefferson City, MO, Renter – turned pilot lights off until it gets cold enough
- Ali Mithavayani, Education Program Coordinator/Southface Institute, Atlanta

IV. Ameren Missouri Residential Energy Code Support Program Update

- Overview of the Program
- Code Compliance Collaborative
 - i. Focus is on compliance – facilitate discussion so all professions have the same understanding of local energy codes and how they are implemented
 - ii. Hoping to engage a diverse range of individuals/groups that work with the energy code
 - iii. Collaborative will travel throughout Ameren’s territory in order to engage professions throughout the territory – useful to identify similarities and differences and level of compliance assistance between areas
- Energy Code Consultant – Matt Belcher
 - i. Travels around Ameren’s territory proactively engaging stakeholders, providing information about the program, answering questions and providing energy code support
 - ii. Report from the Field
 - 1. Interacted with 338 professionals across the territory
 - a. Heading up to Kirksville, MO soon
 - 2. Broad swath of professionals –percentage of professions ranked by number in order: builders, supply houses, code officials, educators, lenders, architects, state and local govts
 - 3. 2018 IECC St. Louis 1-hour Training
 - a. Matt had an opportunity to train City of St. Louis Code Officials at the request of the City
 - b. Trained over 75 St. Louis Code Officials
 - i. Last week had 2 session at Ameren’s facility
 - ii. 1 more in a week or 2
 - c. Basic information on update to the 2018 IECC
 - i. Insulation installation was a key point of discussion
 - 4. Next steps
 - a. Will host an informal 1-hour class on the 2018 IECC – start with builder supply houses to engage builders

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- i. Might have an opportunity to disseminate program information through supply houses
- 5. Questions for Matt:
 - a. Have you talked to any of the architectural schools?
 - i. Matt is meeting with a Washington University next week
 - b. What will the trainings entail in the winter?
 - i. More building science, better energy efficiency, focus on 2018 IECC
 - ii. Collected feedback and finetune information
 - iii. Combine more information for the inspectors
 - c. There are lots of subcontractors, how do you reach them all?
 - i. Carpenters union interested in helping to promote and train
 - d. Case studies of efficient homes?
 - i. Yes
 - e. What feedback are you getting from training?
 - i. Feedback has been great. Builders want us to come back this winter to train all aspects of construction industry, including the superintendents. Gather feedback to improve program
 - f. Is there something that stands out as a top priority?
 - i. Knowledge of how to properly install insulation. City inspectors really like having that information.
 - g. Is there pushback on air balance testing subsiding?
 - i. Still pushback but builders are understanding it and more industries are doing it, so builders want to keep up.
 - h. Is there a big difference of construction between St. Louis City and County?
 - i. No, but big difference in other areas of the state
- In-person trainings – Southface Energy Institute
 - i. Trainings are Free and focused on building science, best practices, introduction to energy code requirements
 - ii. Recap of August Residential Energy Code Concepts Training
 - 1. 43 professionals attended – broad mix, over half were architects and code officials
 - 2. Great feedback from attendees – 9.5/10
 - 3. Liked best: Curriculum Content
 - 4. Recommended future topics- Retrofits and Code, More building science, application to code by inspectors, Smart homes and EE, Indoor Air quality, solar energy, more hands on
 - iii. Upcoming Trainings

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1. 6 trainings in Program Year 2:
 - a. Tentative Locations | Dates
 - i. City of St. Louis | January 8-9, 2020
 - ii. Jefferson City | February 5, 2020
 - iii. Cape Girardeau | February 6, 2020
 - iv. Kirksville | March 11, 2020
 - v. Moberly | March 12, 2020
- Next Steps
 - i. Working with Southface to develop 2020 curriculum
 1. 2018 IECC Retrofit
 2. 2018 IECC New Construction
- Ameren Missouri Real Estate and Audit Program
 - i. Kara Jonas, Program Manager update
 1. Opportunity to add energy efficiency and upgrades when a homeowner first purchases a program
 2. Program length – September 1, 2019 – December 31, 2021
 3. Goal:
 - a. Encourages time-of-purchase energy audits through the distribution of \$200 audit coupons
 - b. Educates real estate agents on how to properly market EE features during the time-of-sale
 - c. Instructs appraisal professionals on how to properly assign value to EE features
 - d. Education to appraisers - 2-day appraisal course
 4. Co-market Ameren Missouri programs
 - a. Distribute homeowner welcome kits
 - b. Welcome kit will include \$200 coupon to encourage time of purchase energy audits, overview of Ameren rebates, list of certified energy auditors, benefits of energy efficiency
 - i. Energy audits can be redeemed through list of certified energy auditors
 5. Appraisal course – scheduled for December 2 and 3, 2019
 6. Engagement Opportunity – Real Estate and Appraiser Subcommittee
 - a. Talk through strategies to ensure EE is valued during real estate transactions, including:
 - i. MLS green data fields
 - ii. Realtor education, outreach and engagement
 - iii. Valuation tools and methods
 - iv. Energy disclosure
 - b. If interested in joining, Email Kara Jonas at Kjonas@mwalliance.org
 7. Question or statements

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- a. Educating real estate agents and appraisers is critical to sell energy efficiency to builders
 - i. Codes program is co-messaging this program
- b. Clarification – program is for Ameren Missouri electric customers and does not include gas only customers at this time
- c. What are the green fields that are available and searchable on the MLS?
 - i. There is no set requirement for green data fields. MEEA conducted an analysis to determine what MLS have green data fields. Very few MLS's have these data fields now but as more include them it should result in a domino effect.
 - ii. [MEEA Fact sheet – Green MLS](#)
- d. Can you speak more about what the subcommittee can do on energy disclosure ordinances?
 - i. MEEA conducted an analysis on which cities and states nationally that have adopted energy disclosure ordinances. Can take a lot of different forms. Not a lot nationwide, but the subcommittee can certainly discuss this topic.
 - ii. MEEA Fact Sheet – [Energy Disclosure Ordinances](#)
- e. Has there been any talk about doing an energy audit as part of the building inspection?
 - i. Because there is no mandate for energy disclosure, a homeowner would not take the time to invest in an energy audit when getting ready to move out of the home. Not required that the audit needs to be done during the time of purchase.

V. Discussion | Goals of the Collaborative

- Questions

- i. What challenges are you experiencing with compliance in the field?
 - 1. House as a system (ventilation, air sealing, moisture management)
 - 2. HVAC Oversizing
 - 3. 2018 IECC Implementation, lack of energy code consistency, existing economic stakeholders
 - 4. Existing Buildings/Retrofit
 - a. Historic buildings exemption
 - 5. Basement Insulation
 - 6. Insulation Installation
 - 7. Duct Leakage
 - 8. Consumer knowledge
 - a. Home rehabs
- ii. What are the top 3 challenges out of the list above? (# of votes)

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1. House as a system (ventilation, air sealing, moisture management) – (13)
 2. 2018 IECC Implementation, lack of energy code consistency, existing economic stakeholders – (12)
 3. Existing Buildings/Retrofit – (6)
 4. Consumer knowledge – (6)
 5. HVAC Oversizing – (5)
 6. Insulation Installation – (2)
 7. Duct Leakage – (2)
 8. Basement Insulation – (0)
- iii. What is needed to improve compliance with these challenges? Who are the key stakeholders?
1. House as a system:
 - a. Value add/benefits
 - b. Liability protection (builders)
 - c. Key stakeholders: HVAC contractors important, but includes all stakeholders from design professionals to subcontractors
 - d. Code consistency is important (between energy code and other codes and across jurisdictions)
 - e. Improve understanding of building science
 - f. In rural areas, engage utilities
 - g. Engage stakeholders from health and buildings industry (healthy homes) to demonstrate connection
 - h. Provide specific technical information on ventilation
 - i. Learn from other states/jurisdictions
 - j. Universities/community colleges – student representatives
 - k. Educate homeowners on moisture management/ventilation
 - l. Realtor training
 - m. Assessors/ appraisers understanding of EE (trainings); identify green appraisers/lenders
- iv. Discussion- What is needed to improve compliance with these challenges?
1. 2018 IECC Implementation, lack of energy code consistency, existing economic stakeholders
 - a. Builders well versed in building science are not affected as much by code changes. They understand the benefits of building the house as a system and are educated.
 - b. 2009 IECC is more prescriptive and less performance measures, 2018 IECC critical to understand the house as a system because the code is more stringent and requires a tighter building envelope and mechanical ventilation.
 - c. SIPs are a great method to get close to 2018 IECC compliance without doing much else
 - d. Are inspectors looking at insulation during inspections?

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- i. St. Louis City currently is not but plan to add it to their inspections
 - ii. Lots of jurisdictions do not do this
 - 1. If code officials are not inspecting, the liability is on the builders to properly install insulation and meet the code
 - iii. Fact sheets on insulation installation could be great insert into builder's quality control manuals
 - e. Health
 - i. How to get fresh air into the home?
 - 1. Lots of builders are using bath fans to do this. This is an implementation issue and health issue, although the code allows it.
 - ii. DOE programs recommend they do not use bath fans
 - 1. Code training as part of the program highlights the reasoning to install balanced ventilation
 - iii. Code does allow bath fans; how do we communicate to builders that balanced is better?
 - 1. Utilize messaging in Mike's training and incorporate into a fact sheet
 - iv. What is ASER USA seeing in energy code implementation and ventilation?
 - 1. Lots of options being used – ERV/HRV, exhaust, positive airflow (air cyclers)
 - 2. Exhaust only is being used but starting to see the inclusion of supply when bath fans are running
 - 3. ERV – being used more in custom homes and where people are knowledgeable
 - 4. In homes that are extremely tight – below 3ACH50 – seeing a powered air cyclers to positively charge homes as worry of not enough air with all bath fans, kitchen hoods, and dryer vents
 - 5. Lots of time being spent by architects in design process before build process
- 2. Existing Buildings/Retrofit
 - a. Working with contractors on how to retrofit houses with SIPs from the inside
 - i. Figuring out how to build within existing structures
 - b. Lots of historic homes in St. Louis
 - i. In order to retrofit home, need to be mindful of historic buildings

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- c. We need to talk about affordability with existing buildings
 - i. Matt are there any community partners you can work with to get this information out?
 - 1. Grant park, etc. would benefit from more education
- d. What is dividing line for 50% retrofit to full code compliance?
 - i. All based on dollar value. When come in and fill out building permit, add own dollar value.
 - ii. 98% of all homes are existing buildings
- e. Are builders trying to avoid the energy code by going above 50%?
 - i. Disincentive to do full upgrade because of this.
 - 1. Clarification: If you change a measure, it must be brought up to code. But if you do more than 50% improvement of the value of the house you would need to bring the entire house up to code.
- f. Lots of health improvements when bringing old and existing homes up to code.
- g. PACE is being used widely across the City of St. Louis for lots of efficiency improvements
 - i. Has Matt connected with folks at Wygreen to reach their list of contractors that are doing the improvements?
 - 1. Yes, and this could be a great resource for the 2018 IECC retrofit training
 - ii. Part of reason for people to use PACE in underserved neighborhoods is because people cannot get access to affordable credit
 - iii. Pushback on commercial level from Ameren – now that code is too stringent in City of St. Louis, they cannot claim efficiency improvements and credits
 - 1. Can Ameren ramp up their programs and raise the bar even higher to account for a rising code?
 - a. Trying to raise the bar where they can but some technologies are maxed out, like LEDs
 - 2. PUCs are looking at accepting a broader spectrum of benefits like health, air quality, building shell, etc. This could help account for changes in baseline.
- v. Collaborative next steps

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1. Subcommittee and outreach and engagement
 - a. Would like to know more about what the collaborative is doing with respect to energy disclosure policies.
2. Recommendations for future collaborative meetings
 - a. Invite guest speakers to the collaborative
 - i. Hear from someone who attended a training or participated in the program and how they changed practices
 - ii. Hear from an Ameren Missouri representative to speak on single and multifamily low-income programs and focus
 1. Could be arranged for the February meeting
 - b. Joint meeting with healthy homes initiative – could we have a joint meeting?
 - i. Are healthcare providers involved in this?
 - ii. Yes, they should be
 1. Ameren is exploring the relationship between health and EE
 - iii. Program in KC – funded by health forward, healthy homes, fund EE improvements through foundation
 - c. Create a shared document
 - i. Include locations of where Matt visited to add recommendations on next places