

POLICY MEMO



TO: Mayor Lucas, Councilmembers, and Staff of the City of Kansas City, Missouri (“the City”)
FROM: Mary English, Program Manager, Metropolitan Energy Center;
Emily Wolfe, Sr. Public Affairs Coordinator, Metropolitan Energy Center
DATE: March 7, 2024
RE: Overview and Impact of the 2021 International Energy Conservation Code (IECC)

Executive Summary

Building codes, like the International Energy Conservation Code (herein referred to as “the IECC energy code”), are designed to ensure building occupant health and safety is preserved and at the forefront of builders, building owners, and operators’ minds. They are a crucial piece of policy. When they are not updated with modern technologies, energy costs can skyrocket, occupant health outcomes can decline, and their durability in extreme weather can weaken.

Background

The IECC energy code is one of many building codes, such as fire, electrical, structural, or plumbing. National model codes, including the energy code, are updated/developed every three years. Any interested party can participate in the development processes. States or local governments can choose to adopt the national model codes, modified versions, or their own specific codes.

In the Kansas City region, municipalities typically update their building codes every six years with a heavily amended IECC energy code.¹ In January of 2020, the KCMO City Planning & Development Dept. began the process to update their 2012 building codes. In October of 2022, Ordinance No. 220364 was passed to adopt the 2021 IECC with an effective date of July 1, 2023 (see attached timeline for additional information).

Impact of the IECC Energy Code

The IECC energy code covers wall/floor/ceiling insulation, windows, air leakage, and ducts. Below are a few examples of how a complete (unamended) IECC energy code, when followed, can provide residents with healthy, safe, and comfortable places to live and work for years to come.

- **Ensure healthier, more comfortable buildings:** When a community adopts code updates, public health improves. In partnership with Children’s Mercy Hospital and the University of Missouri – Kansas City, MEC recently published a study that found a reduction of pediatric asthma encounters and a reduction in the severity of those encounters when homes of children diagnosed with asthma were upgraded to improve energy efficiency.² The study demonstrates an energy-efficient home can truly be lifesaving.
- **Extreme weather protection:** According to the Federal Emergency Management Agency (FEMA), building performance mitigation efforts such as building code adoption and enforcement is one of the strongest strategies jurisdictions can take to protect their communities against extreme weather. Building performance mitigation efforts improve occupant health and safety during a disaster, protect the local tax base, encourage continuity of essential services, and support more rapid recovery. In 2022 FEMA published a Building Codes Strategy program to help communities stand stronger in the face of natural disasters.
- **Promote Energy Equity:** Even when living in smaller homes, low-income families use more energy per square foot than their wealthier counterparts, while still experiencing hotter homes in the summer and colder homes in the winter due to poor construction and maintenance of buildings.³ An updated IECC energy code protects resident health, especially for renters, who make up nearly half of the City’s

¹ <https://metroenergy.org/wp-content/uploads/2023/11/Energy-Codes-Standards-and-Human-Impacts.pdf>, pg. 28

² <https://news.childrensmercy.org/study-links-home-weatherization-to-improvements-in-health-for-children-with-asthma/>

³ <https://www.ase.org/blog/low-income-households-pay-lot-energy-efficiency-can-help-cut-costs>

residents and have little to no control over the efficiency of their homes. It also encourages consistent and stable living environments, leading to less frequent moves due to inadequate housing quality or eviction.

- **Boost Economic Development:** As the IECC energy code and standards are updated and adopted, new employment opportunities become available. In 2022 in Missouri, clean energy jobs grew almost twice as fast as the overall economy and employed nearly 14,000 people in Kansas City, MO. The biggest sector in Missouri’s clean energy industry is energy efficiency, comprising of 70% of the state’s clean energy workforce.⁴ In addition to creating jobs, the energy code also boosts the local economy by letting people and businesses reinvest the money they are saving on utility costs.

Cost-Analysis

For every iteration of the IECC energy code, the U.S. Dept. of Energy publishes a cost-analysis report for each state. The table below outlines the consumer cash flow from building a residential home⁵ in Missouri that complies with the 2021 IECC compared to the 2009 IECC.⁶

Cost/Benefit	Kansas City Climate Zone 4A	State Average
A Incremental down payment and other first costs	\$703	\$700
B Annual energy savings (year one)	\$675	\$677
C Annual mortgage increase	\$243	\$242
D Net annual cost of mortgage interest deductions, mortgage insurance, and property taxes (year one)	\$54	\$54
E = [B- (C+D)] Net annual cash flow savings (year one)	\$377	\$381
F = [A/E] Years to positive savings, including up-front cost impacts	2	2

Recommendations

MEC recommends the City take the below actions to improve the current permit application process:

- At the top of the City’s Planning & Development Department Code and Ordinances web page, publish a direct link to IB171.⁷
- Host office hours for builders to have their plans reviewed and ask questions. MEC currently provides this service with our 2021 IECC training we have been providing since 2022 at no cost and for CEU’s. The training is funded through a U.S. Dept of Energy grant administered by the City.
- Create a “hotline” for easy Q&A via phone calls; this is crucial due to the post-pandemic shift preferring and standardizing virtual/phone communication.

Conclusion

Like any new technology and innovation, adoption of the 2021 IECC may necessitate upfront adjustments; however, the IECC energy code’s positive impact is substantial. MEC will continue to be a resource for the region so all people operating and occupying buildings can be part of a healthier, brighter, and safer future for all.

Mary English, Mary@Metroenergy.org | (913) 579-8484

Emily Wolfe, Emily@MetroEnergy.org | (913) 548-8692

⁴ <https://www.cleanjobsmidwest.com/state/missouri>

⁵ Two-story home with a roughly 30-ft by 40-ft rectangular shape, 2,376 sq. ft. of conditioned floor area excluding the conditioned basement (if any), and window area equal to 15% of the conditioned floor area equally distributed toward the four cardinal directions.

⁶ https://www.energycodes.gov/sites/default/files/2021-07/MissouriResidentialCostEffectiveness_2021.pdf

⁷ <https://www.kcmo.gov/home/showpublisheddocument/11128/638254358351200000>