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June 7, 2022

Neighborhood Planning and Development Committee
414 East 12th Street
Kansas City, Missouri 64106

Re: MEEA's comments on the proposed 2021 International Energy Conservation Code

Dear Councilmembers:

Thank you for the opportunity to testify on Kansas City, Missouri's code adoption process and the proposed update to the 2021 International Energy Conservation Code (IECC). The Midwest Energy Efficiency Alliance (MEEA) is a member-based, collaborative non-profit organization that promotes cost-effective energy efficiency policies in order to reduce energy waste in the Midwest. We have worked with states and localities across the region on energy code adoptions.

MEEA commends the city for taking steps to improve the efficiency of new and existing buildings in its jurisdiction. Updating the city's building energy codes will provide numerous economic, health, and resilience benefits to residents and businesses living and working in the Kansas City area. However, any inclusion of amendments to weaken the residential and commercial energy code will result in missed opportunities to capitalize on these benefits.

MEEA recommends the adoption of the unamended 2021 IECC as the citywide minimum energy code for residential and commercial buildings. There are multiple benefits to the unamended code which maximizes cost-effective improvements to the efficiency and resilience of buildings, reduces energy costs, and encourages innovation and economic development.

1. Energy efficiency is the most cost-effective way to ensure lower utility bills
Energy efficiency simply means using less energy to get the same job done. By lowering energy use, energy efficiency also reduces monthly energy bills and makes energy more affordable. The adoption of the unamended 2021 IECC presents a cost-effective way to reduce the energy consumption of homes in Kansas City, save residents money and improve indoor air quality. Updating to the unamended 2021 IECC would provide homeowners and renters significant savings on their utility bills for years to come. According to a determination by the U.S. Department of Energy (DOE), updating to the unamended 2021 IECC would result in a national average of 9.4% site energy savings and 8.7% energy cost savings compared to the 2018 IECC. [1] The easiest and most cost-effective time to make these long-lasting improvements is during initial construction, making the baseline energy code a significant driver of energy cost savings in the city.

2. Energy code adoption does not result in less construction
There is no evidence that stronger energy codes lead to less new construction. In fact, data collected from 2008 to 2018 shows that the amount of Midwest building permits stay relatively the same regardless of the IECC standard in place. The fact is simple – people and businesses will

[1] See U.S. DOE's Determination of Efficiency (https://www.energycodes.gov/determinations).

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continue to build where they want to live and not based on the adopted energy code; so, municipalities may as well require buildings in their jurisdiction to be built as efficiently and cost-effectively as possible.

3. Stronger codes provide opportunity for designers and builders to learn and utilize new construction techniques and technologies
Newer building energy codes leverage the latest building science and technology while providing various building professionals with valuable learning opportunities. This technical assistance may include analysis of energy savings and cost impacts associated with code adoption, comparative analysis of future code options, customized educational materials, web-based or in-person training programs, or compliance resources and software tools (like COMcheck and REScheck).

If Kansas City adopts the unamended 2021 IECC, there are more available resources to educate local designers, builders, building operators, and code officials (among others) about how to properly comply. MEEA itself offers training sessions and webinars to building professionals, municipalities, states, utility companies, and others. Once these entities learn how to properly use the newest building techniques and technologies, they start to realize significant cost savings as well. MEEA's energy code trainings have improved compliance in Kentucky, Missouri, and Nebraska. The Metropolitan Energy Center in Kansas City also provides energy code trainings.

Overall, updated energy codes provide localities with a great opportunity to build up their workforce. The building industry is constantly evolving, and industry professionals understandably want to remain ahead of the curve. Their businesses grow if they offer something their competitors do not. Updated energy codes provides that advantage.

By adopting and implementing the full 2021 IECC, Kansas City will see increased economic development and technical innovation within the construction industry. However, if the city fails to update its energy code, the result will be an undertrained workforce that falls behind neighboring jurisdictions and an out-of-date building stock that wastes energy and money.

4. Building energy codes effect the life of a building – not just its initial construction
Another key point for the Committee to consider is that the life of a building does not end as soon as it has been constructed. A builder touches a home one time – families live in the home for decades, and those families deserve a safe, efficient, cost-effective building in which to live. The city must give as much consideration to building *owners* and *occupants* as it gives to *builders*. After all, owners and occupants are the ones who suffer the consequences of inefficient homes through higher energy bills, increased maintenance costs and poorer indoor air quality. However, if buildings are constructed as efficiently as possible, owners and occupants will see the direct benefits for years to come.

5. Habitat for Humanity, a nonprofit organization, builds energy-efficient/net-zero homes
Habitat for Humanity (Habitat) has been building highly energy-efficient homes for years, above and beyond locally adopted codes. These homes, built for low- and moderate-income families, are durable, healthy, sustainable and, most importantly, affordable. Since 1995, Habitat has been building Energy Star homes, and the organization continues to build more LEED certified homes across the United States.

<u>Missouri</u>

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In 2013, Columbia, Missouri partnered with Habitat to build the city's first net-zero house. Habitat was awarded seed money and built the two-story home incorporating solar panels, triple-paned windows, LED lighting, a split heating system, an energy recovery ventilator, and "insulation on steroids." The result is a home so energy efficient that it creates more energy than it uses, based on a family of four.[2]

Minnesota

Habitat volunteers in Minneapolis also built their first net-zero energy home in 2013, and they have since remained an energy-efficiency powerhouse in the area. The first home incorporates both energy efficiency and production, with solar panels on the roof for heating, cooling, and hot water. It is insulated at least three times as much as a regular house, sealed extremely well to keep out drafts, and the windows are positioned strategically to bring in the most natural heat from the sun. The home also has an energy recovery ventilator. The Habitat house was part of Minneapolis' Green Homes North project, which included a goal to build 100 energy-efficient, eco-friendly homes within five years. By early 2014, Habitat had already built six homes in the area to LEED Silver standards.[3]

Michigan

Homes recently built by Habitat in Michigan rate a 46 on a 0-to-100 scale known as the Home Energy Rating System, where the lower the number, the more efficient the home. A 2020 survey of more than 4,000 new homes in Michigan built by private contractors found an average HERS rating of 57.[4] Additionally, ten Habitat homes built in Traverse City back in 2014 were rated as net zero structures through a combination of energy-efficient construction and dozens of solar panels mounted on the roof. These homes produce about as much energy as they use, and families in these homes have reported monthly utility bills of about ten dollars, including heat.[5]

6. Adopting the full, unamended 2021 IECC will bring Kansas City closer to its savings and climate goals

To conclude, it is important for the Committee to recognize the importance of staying up to date on the energy codes published by the International Codes Council (ICC). The ICC updates the code every three years, so the 2024 version is set to be released next Fall. This cycle is purposeful as it provides municipalities with consistent, incremental steps to adopt and implement with ease – each new code standard is a steppingstone towards the next.

Building energy codes become more efficient and cost-effective with each new version that is developed. Indeed, the DOE is required by law (the Energy Conservation and Production Act, as amended) to issue a determination as to whether the latest version of the IECC will improve energy efficiency compared to the previous edition of the corresponding standard or code. As mentioned above, the DOE found that the 2021 IECC improved efficiency by 9.4% and reduced

[2] "Columbia's first net-zero house generates energy and interest" (https://www.columbiamissourian.com/news/local/columbias-first-net-zero-house-generates-energy-and-interest/article_63401ca3-76bc-5d99-afd6-b21198fbc591.html)
[3] "Super energy-efficient house a first for Twin Cities Habitat" (https://www.mprnews.org/story/2014/02/21/super-energy-efficient-house-a-first-for-twin-cities-habitat); "High-performance buildings are a big opportunity for Minnesota" (https://www.minnpost.com/community-voices/2017/03/high-performance-buildings-are-big-opportunity-minnesota/)
[4] 2020 HERS Activity by State (https://drive.google.com/file/d/1Zw2mGGhmdqx1ReKZ5V5itxfzX4XmuWE0/view)
[5] Habitat for Humanity, Grand Traverse Region (https://www1.eere.energy.gov/buildings/residential/pdfs/doe_ch_case_studies/2016hiawinner_habitatgtr_013017.pdf)

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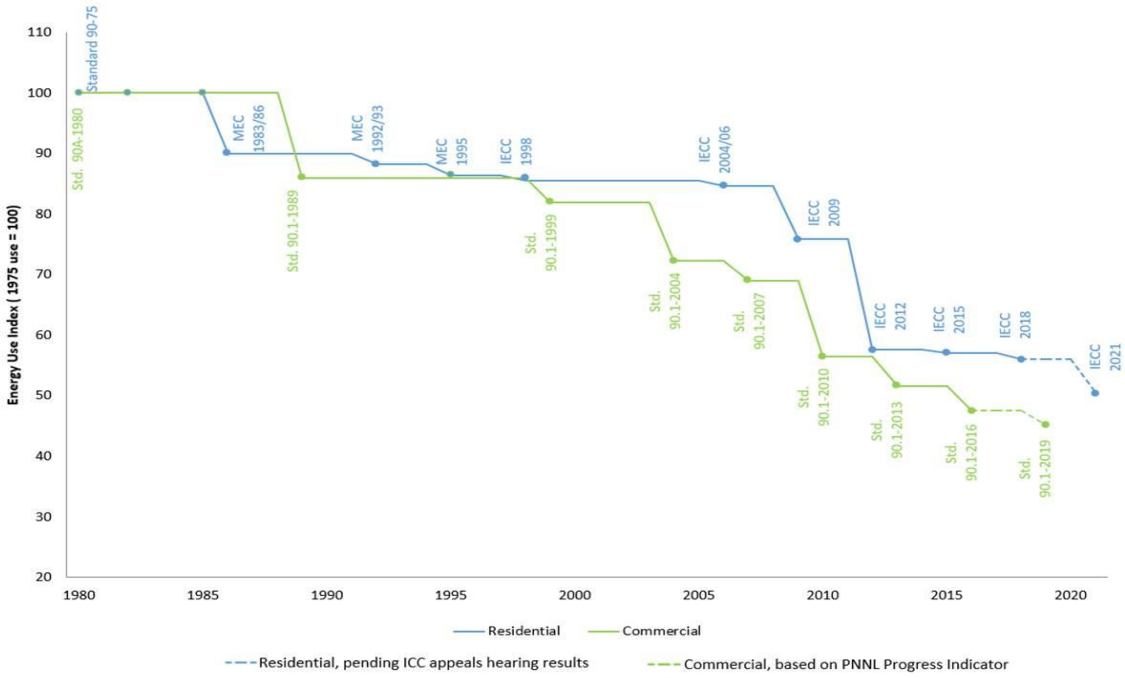
greenhouse gases (GHG) by 8.7% over the 2018 IECC. [6] These improvements save homeowners an average of $2,320 over the life of a typical mortgage.[7]



Model Energy Codes Efficiency Updates. Source: ACEEE, Data from Pacific Northwest National Laboratory & U.S. DOE Building Codes Program

All that being said, it is crucial for Kansas City to update to the 2021 IECC if it wants to get the most "bang for its buck." Amending the code down only diminishes all the economic and health benefits previously described, ultimately making the code weaker and less effective. Moreover, if the city hopes to eventually adopt and implement the 2024 IECC, it would be beneficial to start moving towards that goal now, rather than try to make a big, burdensome leap later.

Lastly, the updated Kansas City Climate Protection and Resiliency Plan lays out strategies to achieve "a carbon-neutral…Kansas City by 2040."[8] Interim targets include reducing GHG emissions from city municipal operations 70% by 2025 (with the goal of being climate neutral by 2030) and reducing citywide GHG emissions 30% by 2025 and 50% by 2030 (with the goal of being climate neutral by 2040).[9]

If Kansas City wishes to effectively contribute toward the goals of the Climate Protection and Resiliency Plan, the unamended 2021 IECC would undoubtedly be a step in the right direction.

[6] See U.S. DOE's Determination of Efficiency (https://www.energycodes.gov/determinations)
[7] See ICC's Reasons for Adopting the 2021 IECC (https://www.iccsafe.org/products-and-services/iecc-on-a-mission-toolkit/)
[8] Kansas City, Missouri Climate Protection and Resiliency Plan (https://indd.adobe.com/view/04e8f07a-1fdb-4c92-91b8-8f4ec1a83f4c)
[9] Using 2005 baseline

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If you have any questions about this testimony, noted reports and references, attached fact sheets, or the general impact and analysis of building energy codes, please don't hesitate to contact Alison Lindburg, Senior Building Policy Manager, at alindburg@mwalliance.org or 312.784.7257.

Sincerely,

Stacey Paradis

Stacey Paradis
Executive Director