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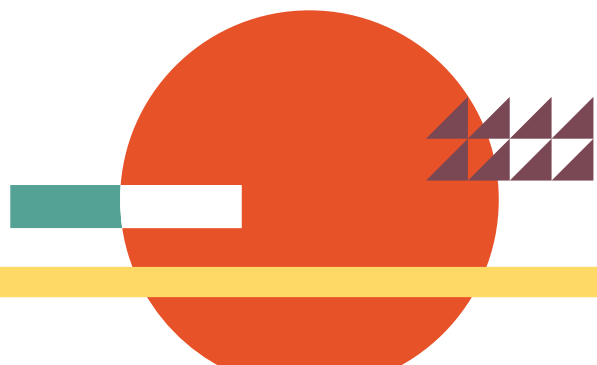
Increasing  
Energy Efficiency,  
Lowering Costs, and  
Resolving Housing  
Challenges for  
Lower-Income People  
in Michigan

## Michigan is one of several states considering updates to its residential building energy codes, which would increase the energy efficiency of new residential construction while supporting the goals of Governor Gretchen Whitmer’s MI Healthy Climate Plan.

Michigan is one of several states considering updates to its residential building energy codes, which would increase the energy efficiency of new residential construction while supporting the goals of Governor Gretchen Whitmer’s MI Healthy Climate Plan. With this proposed update, Michigan has the opportunity to increase energy efficiency and reduce greenhouse gas emissions while lowering household energy costs, with particular benefits for lower-income people. Alternatively, recommended action by the Federal Housing Finance Agency (FHFA) would have similar results, as described below. The opportunity presented is even greater as Michigan is, at the same time, embarking upon efforts to ramp up residential construction to address significant housing shortages. In the absence of state or federal action, Michigan residents purchasing newly constructed homes will be left with less efficient homes and higher energy bills for decades to come.

This brief takes a state-specific approach, examining the proposal to transition Michigan’s residential building energy codes from the 2015 International Energy Conservation Code (IECC) standards to the updated energy efficiency standards contained in the 2021 IECC standards as the state simultaneously embarks upon a campaign to build or rehabilitate 115,000 housing units. It considers the costs and benefits of adopting the updated energy codes, particularly for lower-income households, and refutes arguments from opponents that such action – either by the state or by the FHFA – would negatively affect prospective homeowners. It makes the case that, given the urgent need to increase housing supply in Michigan, now is the time to ensure that newly-built homes maximize the health, comfort, and safety of residents while minimizing home energy costs.

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## Key findings include:

- > Adopting the updated codes is estimated to increase energy efficiency by 9.4% and reduce greenhouse gas emissions by 8.7% as compared to the current codes.
- > As a result, the proposed change could be expected to reduce household energy costs by 10.7%, or \$396 annually. Over the term of a 30-year mortgage, first-time homeowners would realize an estimated \$7,300 in savings, and homeowners generally could be expected to see a positive cash flow from these investments within two to six years.
- > Estimates of home price increases cited by opponents of the proposed change are overstated.

## Proposed State and Federal Action



The IECC defines minimum standards for commercial and residential building design and construction in order to limit greenhouse gas emissions, increase energy efficiency, lower residential energy costs, reduce the strain on the grid, and improve home health and comfort. Michigan is considering transitioning from the 2015 version of the standards to the updated 2021 IECC standards, which include stronger energy-efficiency requirements for the building envelope. If adopted, Michigan would join seven other states that have implemented the 2021 standards.<sup>1</sup> Adopting these codes provides an important opportunity for advancing environmental justice and energy equity by reducing energy burden and improving health outcomes.

At the same time, energy efficiency experts are separately recommending that the Federal Housing Finance Agency require that all new residential construction with mortgages backed by Fannie Mae and Freddie Mac conform to the 2021 energy codes, as well as the ASHRAE 90.1-2019 standard for medium- to high-rise multifamily housing units. The reach of Fannie Mae and Freddie Mac would mean that such action by the FHFA would bring about 70% of mortgages for new homes in the U.S. into line with these higher energy efficiency standards, preventing nearly 200 million metric tons in CO<sub>2</sub> emissions and creating an estimated 590,000 jobs.<sup>2</sup>

Adoption of one or both of these measures – action by Michigan to adopt the updated 2021 standards or a requirement by FHFA related to Fannie Mae and Freddie Mac-backed mortgages – presents an opportunity for Michigan to green its housing stock as the state simultaneously works to resolve long-standing housing supply and housing equity challenges. To date, however, both proposals

have faced stiff opposition from the home building industry. FHFA adoption of the 2021 IECC standards likely hinges on lame duck action by the Biden Administration, which could be reversed by the next administration. Action to update residential codes by the State of Michigan is not expected this year.<sup>3</sup>

## The Costs and Benefits of Updating Residential Building Energy Codes in Michigan



The 2021 IECC codes are estimated to increase energy efficiency by 9.4 percent and reduce greenhouse gas emissions by 8.7 percent, as compared to the 2018 codes. While the standards directly apply to new construction, they also have an effect on remodels, as building materials must conform to the updated codes.<sup>4</sup> The shift towards greater energy efficiency in residential construction is critical for reducing greenhouse gas emissions and advancing climate justice – and of growing interest across the country. As of April 2024, more than 20 states were considering adoption of the 2021 IECC standards.<sup>5</sup>

Michigan has some of the highest electricity rates in the country, which translates into some of the highest energy burden rates. Increasing the energy efficiency of newly-constructed homes would be expected to have a sizable impact on home energy costs. In some census tracts, the average energy burden exceeds 10%.<sup>6</sup> In the Detroit metro area, households with incomes at or below 200% of the Federal Poverty Level reportedly have median energy burdens of 10.2%. As a point of comparison, energy cost burdens are considered to be high at the rate of 6%. In addition, only 11 states have higher residential electricity rates than Michigan, and rates have increased rapidly at an

average of over 4% annually since 2018.<sup>7</sup>

The health of residents in overburdened environmental justice communities also promises to improve with increased energy efficiency in new home construction. Greater energy efficiency has been shown to improve air quality, reduce asthma rates and impacts, prevent mold through the management of humidity levels, and improve mental health by improving comfort and reducing the strain of energy costs on household budgets.<sup>8</sup>

Although few would argue about the energy cost savings and health benefits associated with energy efficiency measures, the effects of energy efficiency standards on home affordability are hotly debated. The Michigan Home Builders Association has opposed plans to adopt the 2021 IECC standards, claiming that doing so would increase the cost of newly constructed homes by \$20,000.<sup>9</sup> This figure appears to derive from an estimate developed by the North Carolina Home Builders Association rather than any specific cost estimates for Michigan. Moreover, critics of the North Carolina Home Builders Association's opposition to that state's code updates (House Bill 488) have claimed that "They just pulled a number out of a hat, which is the same number they pulled out of their hat five



years ago, 10 years, 15 years ago.... Yeah, it's always \$20,000."<sup>10</sup>

Data suggest that housing cost estimates cited by the Michigan Home Builders Association are overstated. The U.S. Department of Housing and Urban Development estimates that adoption of the 2021 IECC standards for single-family home buyers would average \$7,200 to update from the 2009 IECC standards. As Michigan already complies with the 2015 IECC standards, the cost of upgrading to the 2021 IECC standards would be considerably less expensive. A study conducted by the Pacific Northwest National Laboratory found that, with the reduction in home operating costs that come with improved energy efficiency, homeowners with a 30-year mortgage could be expected to see a positive cash flow from these investments within two to six years. Adoption of the residential 2021 IECC in Michigan would result in energy cost savings of 10.7%, or \$396 annually. Over the term of the mortgage, first-time homeowners would realize an estimated \$7,300 in savings. During the first year of adoption, Michiganders would save over \$7 million in energy costs while avoiding nearly 45,000 metric tons in CO2 emissions. Statewide, homeowners would realize about \$1.3 billion in energy cost savings over 30 years.<sup>11</sup>

Opponents of the higher energy-efficiency standards for new residential construction also argue that the higher standards will make mortgages more expensive. While increased interest rates have been a primary driver of mortgage affordability, racial inequities that exist in the Michigan mortgage market make the purchase of new homes more expensive for many homebuyers, exacerbating disparities in the racial wealth gap. For white homebuyers, the average mortgage rate in Michigan in 2022 was 5.0%, among the highest in the country. However, for Black and Latine homebuyers, mortgage rates

averaged 5.3% and 5.2% respectively. Over one-fifth of Black homebuyers in Michigan had mortgage rates higher than 6%.<sup>12</sup> A one percent increase in the mortgage rate on a loan of \$200,000 increases the annual payments by about \$1,500. All of the states that have updated their energy efficiency standards to the 2021 IECC – California, Connecticut, Florida, Illinois, Hawaii, New Jersey, and Vermont<sup>13</sup> – had lower mortgage rates across all racial groups compared to Michigan, suggesting a lack of correlation between higher energy-efficiency standards and mortgage rates.

As for any potential impacts on down payments, the U.S. Department of Energy estimates that down payment and other upfront costs in Michigan would average an additional \$499 statewide if Michigan were to transition from the 2015 IECC standards to the 2021 standards. The combined annual net cost of mortgage interest deductions, mortgage insurance, and property taxes in the first year would average \$68 statewide.<sup>14</sup> For a point of reference, the average down payment amount in the U.S. in the second quarter of 2023 was 14.4% or about \$34,200. The average down payment in Michigan was lower at 13.4%, or \$20,637.

In regard to construction costs for new homes, Michigan's costs are slightly lower than elsewhere in the U.S. The average cost in the U.S. for a newly constructed 2,100 square foot house is estimated to be \$332,376, or \$158 per square foot. In Michigan, the same home would cost \$325,347 or \$155 per square foot. Two of the seven states that have adopted the 2021 IECC standards have square footage construction costs lower than Michigan.<sup>15</sup> Trends in housing affordability vary by location and are complex, but it does not appear that energy efficiency standards are a key driver of housing costs or affordability.





# Why Now?



In addition to the urgency of reducing greenhouse gas emissions as climate experts warn that our climate goals may be out of reach,<sup>16</sup> Michigan is experiencing both a housing supply crisis and a housing equity crisis. Across the country, the housing market has faced significant challenges over the past 15 years that have resulted in housing supply shortages. The housing crisis of 2008-2009 led to a collapse in new construction activity and a dramatic decline in Black homeownership as a result of foreclosures. Just as the housing industry started to recover, the COVID-19 pandemic brought a halt to construction activity once again. Supply chains were interrupted, and worker shortages slowed production. The cost of building materials increased by 37% between 2019 and 2023.<sup>17</sup>

Few states have a more challenging residential construction market than Michigan. Michigan has the 6th lowest rate of new homes relative to existing homes in the country. In 2022, Michigan had only about 5 new housing units permitted per 1,000 existing homes, with a total of nearly 22,000 housing units authorized. In comparison, the national average was nearly 12 new housing units permitted per 1,000 existing homes in 2022.<sup>18</sup> Similarly, housing construction lags behind job creation, with nearly twice as many jobs created compared to new homes permitted. In seven counties located in Southeast Michigan, construction of new residential units dropped by 9% in 2023.<sup>19</sup>

At the same time, while Michigan has one of the highest rates of home ownership in the country, it has a considerable housing equity gap. While 79% of white residents own their homes, only 45% of Black homes are owner-occupied. Prior to the housing crisis of 2007-2008, Michigan's Black home ownership rate was among the highest in the country, but Black households have yet to fully recover. As a result, Black households are being shut out of the benefits of homeownership, which include pathways to wealth creation, while facing the prospect of being stranded in energy-inefficient homes that have higher operating costs and health and safety risks. Energy-efficient homes are in high demand, with approximately a 3% higher resale value compared to homes without energy efficiency improvements.<sup>20</sup> If housing equity issues are not addressed, BIPOC households will not share in the benefits of market demand for energy-efficient homes.

Michigan is facing housing supply, housing equity, and climate crises all at once. In response, Governor Gretchen Whitmer is prioritizing new home construction and has also launched the MI Healthy Climate Plan to reduce greenhouse gas emissions and increase climate resilience. The Whitmer administration's housing goal is to build or rehabilitate 115,000 housing units by September 2026.<sup>21</sup>

As the state commits to expanding housing supply through new construction, it would be counterproductive and inequitable to rely upon energy efficiency standards that are outdated and fail to economically reduce greenhouse gas emission reductions while lowering energy bills. At the same time that the state works to address its housing supply issues, it can close racial disparity gaps in home ownership. Prospective homeowners in need of assistance can take advantage of available federal resources and down payment

assistance programs. For example, the Michigan State Housing Development Authority, the City of Lansing, and the City of Detroit have offered down payment assistance programs ranging from \$10,000 to \$14,999.<sup>22</sup> By tackling the climate and housing crises in tandem, Michigan can ensure that BIPOC households have access to energy-efficient homes so they can reduce their energy cost burdens, share in wealth creation opportunities, and avoid the costs and health harms associated with being stuck with abandoned technologies.

## END NOTES

<sup>1</sup> U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Energy Codes Program, “Michigan,” accessed November 21, 2024.

<sup>2</sup> American Council for an Energy Efficient Economy, “FHFA Should Adopt Home Energy Codes to Cut Utility Bills, Emissions, and Foreclosure Risk,” May 2024; ASHRAE, “2019 Update Focuses on Energy-Saving Measures, Addresses Fan Efficiency, Pump Requirements,” from *HVAC&R Industry Newsletter*, October 31, 2019.

<sup>3</sup> Michigan’s Joint Committee on Administrative Rules began consideration of the 2021 IECC codes for new residential and commercial construction in the summer of 2024. Under “Rules before JCAR,” the development of Construction Code, Part 10 and Part 10a can be tracked. Little action has been taken in regard to these proposed rules since they were introduced. There are currently no JCAR meetings scheduled, according to the JCAR website, and the current session ends on December 19. Consideration would need to be taken up anew in the next legislative session.

<sup>4</sup> International Code Council, “What’s New in the 2021 International Energy Conservation Code (IECC),” accessed November 21, 2024; Brian Allnutt, “Experts say updating Michigan’s building code may be key for meeting climate goals. Here’s why,” *Planet Detroit*, January 19, 2023.

<sup>5</sup> Federal Register, “Final Determination: Adoption of Energy Efficiency Standards for New Construction of HUD- and USDA-Financed Housing,” April 26, 2024.

<sup>6</sup> U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, “LEAD Tool,” accessed November 22, 2024.

<sup>7</sup> U.S. Energy Information Administration, “Electric Power Monthly,” accessed November 21, 2024; Ariel Drehobl, Lauren Ross, and Roxana Ayala, “How High Are Household Energy Burdens?,” American Council for an Energy-Efficient Economy, 2006. Rate of increase in electricity rates calculated by Just Solutions using the Michigan State Electricity Profile, Energy Information Administration, Table 8.

<sup>8</sup> Rachel Gold, “Increasing Home Value Through Home Energy Upgrades,” RMI, March 22, 2016; U.S. Department of Housing and Urban Development, “Minimum Energy Standards FAQs,” accessed November 21, 2024.

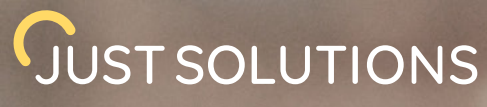
<sup>9</sup> Rich Kligman, “Opinion: Proposed code changes will increase housing costs,” *Crain’s Forum*, December 7, 2023; Anna Phillips, “Why industry is blocking the push for more energy efficient homes,” *Washington Post*, February 21, 2024.

<sup>10</sup> Catherine Kozak, “Anti-regulation sentiment may be fueling insurance crisis,” *CoastalReview.org*, April 4, 2024.

<sup>11</sup> Memorandum from Rob Salcido, Darren Port, and YuLong Xie, Pacific Northwest National Laboratory to Andrew Brisbo, Bureau of Construction Codes Licensing and Regulatory Affairs, State of Michigan, “Cost-Effectiveness Analysis of the 2021 IECC for the State of Michigan,” August 14, 2023; U.S. Department of Housing and Urban Development, “Minimum Energy Standards,” accessed November 26, 2024.

- <sup>12</sup> Lawrence Yung, Jessica Lautz, Brandi Snowden, and Meredith Dunn, "Snapshot of Race and Home Buying in America," National Association of Realtors, 2024. According to the National Association of Realtors, Black and Latino homebuyers typically pay 10 to 30 basis points higher interest rates than white homebuyers.
- <sup>13</sup> U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Energy Codes Program, "State Portal," accessed November 21, 2024.
- <sup>14</sup> Josh Patoka and Caroline Basile, "Average Down Payment on a House in 2024," *Forbes Advisor*, April 18, 2024.
- <sup>15</sup> Kristina Zagame and Stephanie Horan, "How Much Does It Cost to Build a Home in Each State?," *Today's Homeowner*, September 23, 2024.
- <sup>16</sup> Chico Harlan, "U.N. says only a 'quantum leap' can keep global climate goals within reach," *Washington Post*, October 24, 2024.
- <sup>17</sup> Southeast Michigan Council of Governments, "Residential Construction in Southeast Michigan, 2023," April 19, 2024. See also Ron Wirtz, "Construction impact: How COVID-19 is silencing the shovels," Federal Reserve Bank of Minneapolis, March 27, 2020; Quinn Klinefelter, "Study Finds Dramatic Drop in Percentage of Blacks Who Own Homes in Michigan," WDET, July 12, 2018.
- <sup>18</sup> "Michigan Is Building the 6th Fewest Homes in the U.S.," *Moody on the Market*, August 20, 2023.
- <sup>19</sup> State of Michigan, "Housing Data Portal," accessed November 21, 2024; University of Michigan School of Public Health, "Housing crisis in Michigan: Report explores who owns, rents, has no home; examines racial gaps," May 16, 2024; Southeast Michigan Council of Governments, "Residential Construction in Southeast Michigan, 2023," April 19, 2024.
- <sup>20</sup> Giulia Carbonaro, "Map Shows US States With Highest, Lowest Homeownership," *Newsweek*, April 11, 2024; U.S. Census Bureau, "Homeownership by Race and Ethnicity of Householder," September 28, 2023; Lawrence Yung, Jessica Lautz, Brandi Snowden, and Meredith Dunn, "Snapshot of Race and Home Buying in America," National Association of Realtors, 2024; My Home by Freddie Mac, "Do Energy-Efficient Improvements Increase Resale Value?," last reviewed March 14, 2024; Quinn Klinefelter, "Study Finds Dramatic Drop in Percentage of Blacks Who Own Homes in Michigan," WDET, July 12, 2018.
- <sup>21</sup> Anna Liz Nichols, "Whitmer announces housing and energy affordability plans to drive down cost of living in Michigan," *Michigan Advance*, May 29, 2024.
- <sup>22</sup> Michigan State Housing Development Authority, "MSHDA Expands Access to \$10,000 Down Payment Assistance Program," May 12, 2023; Capital Area Housing Partnership, "Down Payment Assistance," accessed December 2, 2024; The Local Element Mid-Michigan, "5 Down Payment Assistance Programs In Michigan You Should Know About," accessed December 2, 2024; City of Detroit, "Detroit Down Payment Assistance Program," accessed December 2, 2024.



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