

Submitted Via Email

December 28, 2023

Quindi Otero-Robertson
Permitting Desk
Construction Industries Division, Regulation and Licensing Department
5500 San Antonio Drive NE, Suite F
Albuquerque, NM 87109

RE: RECA Comments Supporting the Adoption of the Unamended 2021 *International Energy Conservation Code* as the New Mexico Energy Conservation Code

Dear Ms. Otero-Robertson,

The Responsible Energy Codes Alliance submits these comments in response to the proposed adoption of the 2021 *International Energy Conservation Code (IECC)* as the New Mexico Energy Conservation Code, as noticed in the November 21, 2023 New Mexico Register.¹ We generally support the Proposed Rule, but we encourage the Division to adopt the *IECC* without substantive weakening amendments. A clean adoption of the 2021 *IECC* will provide a range of energy efficiency, resiliency, and environmental benefits for the owners and occupants of buildings in New Mexico, including making a significant step toward achieving the greenhouse gas reduction goals outlined in Executive Order 2019-003² and achieving the goals set by the Energy Transition Act.³ **As a result, we recommend that the Division adopt the 2021 *IECC* with no substantive weakening amendments as the New Mexico Energy Conservation Code for residential and commercial construction.**

1. The 2021 *IECC* Will Provide Consistent Energy and Cost Savings

The *IECC* is the most widely adopted model energy code for residential construction, and earlier versions have been adopted in New Mexico and nearly every state that has a statewide energy code. For the last fifteen years, the *IECC* has improved in efficiency with every new edition, providing straightforward energy and cost savings for homeowners and providing an important policy tool for federal, state and local governments to achieve energy efficiency and carbon reduction goals.

¹ See N.M. Reg. Vol. XXXIV, Issue 22, at 1120 (Nov. 21, 2023).

² See *Executive Order on Addressing Climate Change and Energy Waste Prevention*, Exec. Order 2019-003 (Jan. 29, 2019), https://www.governor.state.nm.us/wp-content/uploads/2019/01/EO_2019-003.pdf.

³ See N.M. Stat. Ann. §§ 62-18-1 – 62-18-23 (2019).

The current New Mexico Residential and Commercial Energy Conservation Codes are based on the 2018 *IECC*, but the codes include weakening amendments that leave cost-effective energy savings on the table. Eliminating these weakening amendments and adopting the new 2021 *IECC* presents an important opportunity for the state to upgrade to the current version of the model energy code while capturing significant additional reductions in energy use and emissions and providing long-term benefits for building owners.

In accordance with federal law, the U.S. Department of Energy (DOE) analyzes the model energy codes and publishes state-specific energy cost savings expected to be generated by each new edition of the *IECC* for residential construction and *ASHRAE* Standard 90.1 for commercial construction (which is a referenced compliance option in the *IECC* commercial provisions)⁴. As indicated in the summary tables of DOE findings below, the owners and occupants of both residential and commercial buildings in New Mexico stand to benefit from substantial energy cost savings with the adoption of the most recent editions of the model energy codes.

Summary of U.S. DOE Analyses of Energy Savings Comparing Latest Model Energy Codes to Current NM Codes (Statewide Avg. Impacts)				
Model Energy Code	Energy Cost Savings	30-year Life Cycle Cost Savings	Statewide Savings – 1 Year	Statewide Savings – 30 Years
2021 <i>IECC</i>⁵	12%	\$4,191	\$1,891,000	\$645,200,000
<i>ASHRAE</i> Std 90.1-2019⁶	\$0.064/sq.ft.	\$4.13-4.68/sq.ft.	\$596,000	\$257,300,000

⁴ Although U.S. DOE is required to issue Determinations on each new edition of *ASHRAE* Standard 90.1 under 42 USC § 6833, DOE also recently found that the 2021 *IECC* commercial provisions exceed the efficiency of *ASHRAE* Standard 90.1-2019 by 6.5%. U.S. Dep’t of Energy, *Energy and Energy Cost Savings Analysis of the 2021 IECC for Commercial Buildings*, at ii (Sep. 2022), https://www.energycodes.gov/sites/default/files/2022-09/2021_IECC_Commercial_Analysis_Final_2022_09_02.pdf. Regardless of the compliance path selected, commercial buildings constructed to the 2021 *IECC* will save a substantial amount of energy over New Mexico’s current commercial energy code.

⁵ U.S. Dep’t of Energy, *Cost Effectiveness of the 2021 IECC for Residential Buildings in New Mexico* at ii–iii (July 2021), https://www.energycodes.gov/sites/default/files/2021-07/NewMexicoResidentialCostEffectiveness_2021_0.pdf.

⁶ U.S. Dep’t of Energy, *Cost Effectiveness of ANSI/ASHRAE/IES Standard 90.1-2019 for New Mexico* at 1, 7 (July 2021), available at https://www.energycodes.gov/sites/default/files/2021-07/Cost-effectiveness_of_ASHRAE_Standard_90-1-2019-NewMexico.pdf.

In addition to savings for individual homeowners and the owners of commercial buildings, **the adoption of the 2021 IECC and ASHRAE Standard 90.1-2019 is projected to produce over \$900 million in energy cost savings for New Mexico over the next 30 years.** And these savings can be accomplished cost-effectively using materials and methods available today, while creating hundreds of new jobs.

Building efficiency improvements not only benefit the owners and occupants of buildings, but will also spur additional economic activity and create jobs within the state. U.S. DOE analyzed the broader economic impacts of code updates in New Mexico and found that the state would experience a net increase of thousands of jobs created as a result of adopting the latest residential and commercial model energy codes. Improved building efficiency brings about a net increase in jobs in two ways: (1) through an increase in construction-related activities associated with the improvements contained in the latest codes; and (2) through a reduction in utility bills, which will result in an increase in disposable household income, which can be spent on other goods and services within the local economy. Summaries of U.S. DOE’s findings are below:

Residential: Summary of U.S. DOE Analysis of Job Creation as Result of Adopting 2021 IECC⁷		
Statewide Impact	First Year	30 Years
Jobs Created as a Result of Reduction in Utility Bills and Increased Construction-Related Activities	231	6,564

Commercial: Summary of U.S. DOE Analysis of Job Creation as Result of Adopting ASHRAE Std. 90.1-2019⁸		
Statewide Impact	First Year	30 Years
Jobs Created as a Result of Reduction in Utility Bills and Increased Construction-Related Activities	41	1,288

Adopting the 2021 *IECC* for residential and commercial construction would clearly support New Mexico’s energy savings goals without negatively impacting the state’s economy. Complete copies of both analyses are attached to these comments.

⁷ See U.S. Dep’t of Energy, *Cost Effectiveness of the 2021 IECC for Residential Buildings in New Mexico* at iii (July 2021), https://www.energycodes.gov/sites/default/files/2021-07/NewMexicoResidentialCostEffectiveness_2021_0.pdf.

⁸ See U.S. Dep’t of Energy, *Cost Effectiveness of ANSI/ASHRAE/IES Standard 90.1-2019 for New Mexico* at 1 (July 2021), https://www.energycodes.gov/sites/default/files/2021-07/Cost-effectiveness_of_ASHRAE_Standard_90-1-2019-NewMexico.pdf.

2. The 2021 IECC Will Help Reduce Greenhouse Gas Emissions

In Executive Order 2019-003, Governor Grisham established a statewide goal to reduce greenhouse gas emissions by at least 45% by 2030 as compared to 2005 levels, and specifically called out building code updates as one of the strategies for achieving carbon reduction.⁹ Improved building efficiency will slow the demand for energy, and thus reduce carbon emissions and other pollutants. Not only will this help achieve the greenhouse gas reduction goals of Executive Order 2019-003, but it will also help New Mexico achieve the broader goals in the Energy Transition Act of shifting to clean energy over the long-term by reducing the need to build additional generation to serve increasing energy demands.

In addition to its state-level energy and cost savings analysis, U.S. DOE studied the impact of the new model energy codes on greenhouse gas reduction and the related impacts on the economy. The reductions in carbon emissions for the two most recent model energy codes are significant and should factor into the Division’s consideration of the full range of benefits of adopting the latest codes as shown in the table below.

Summary of U.S. DOE Analysis ¹⁰ of GHG Comparing 2021 IECC and Current NM Codes (Statewide Avg Impacts)		
Model Code	CO2 Reduction – 1 Year	CO2 Reduction – 30 Years
2021 IECC	14,280 Metric Tons	6,795,000 Metric Tons
ASHRAE Std. 90.1-2019	6,242 Metric Tons	4,394,000 Metric Tons

For New Mexico specifically, DOE found that if the state adopts the 2021 IECC (as published) for residential construction and ASHRAE Standard 90.1-2019 for commercial construction, CO2 emissions will be reduced by over 10 million metric tons over the first 30 years. This is equivalent to eliminating the annual CO2 emissions of 2,433,600 cars.¹¹

⁹ See Executive Order on Addressing Climate Change and Energy Waste Prevention, Exec. Order 2019-003 (Jan. 29, 2019), https://www.governor.state.nm.us/wp-content/uploads/2019/01/EO_2019-003.pdf.

¹⁰ U.S. Dep’t of Energy, *Cost-Effectiveness of the 2021 IECC for Residential Buildings in New Mexico*, at ii–iii (July 2021), https://www.energycodes.gov/sites/default/files/2021-07/NewMexicoResidentialCostEffectiveness_2021_0.pdf and U.S. Dep’t of Energy, *Cost Effectiveness of ANSI/ASHRAE/IES Standard 90.1-2019 for New Mexico* at 1, 7 (July 2021), https://www.energycodes.gov/sites/default/files/2021-07/Cost-effectiveness_of_ASHRAE_Standard_90-1-2019-NewMexico.pdf.

¹¹ See *id.*

3. Updated Building Energy Codes Will Bring Health, Safety, Welfare, Resiliency, and Equity Benefits.

Efficient buildings with lower operating costs will also contribute to the health, safety, and welfare of building occupants in several ways. The U.S. Energy Information Administration recently reported that nearly one in three households struggle to pay energy bills or to maintain adequate temperatures in their homes every year. One in five households reported reducing or foregoing basic necessities like food or medicine to pay energy bills.¹² More efficient buildings provide a range of additional benefits, including better indoor environmental quality and increased occupant comfort.¹³ More efficient buildings are also associated with lower foreclosure rates.¹⁴ Efficient buildings also play critical roles in community and household resilience.¹⁵ Buildings constructed to the latest efficiency standards can improve passive survivability during extreme heat or cold weather events.

Efficient buildings can also play a substantial role in reducing inequity in energy and housing. According to a recent report by the American Council on an Energy Efficient Economy, the negative impacts of high energy bills are felt more acutely in lower-income households, which spend three times more of their income (on a percentage basis) on energy costs as compared to the median spending of non-low-income households. Black, Hispanic, and Native American households, as well as households with older adults, all have disproportionately higher energy burdens as compared to the national median households.¹⁶ It is vitally important that every new building be constructed in a way that minimizes operation and maintenance costs for owners and occupants, since these buildings will be part of New Mexico's building stock for 70 years or more.

¹² See U.S. Energy Info. Admin., *2020 Residential Energy Consumption Survey (RECS): Table HC11.1 Household Energy Insecurity*, <https://www.eia.gov/consumption/residential/data/2020/hc/pdf/HC%2011.1.pdf>.

¹³ See U.S. Env't Prot. Agency, *Air Sealing: Building Envelope Improvements (2005)*, https://www.energystar.gov/ia/home_improvement/home_sealing/AirSealingFS_2005.pdf.

¹⁴ See UNC Center for Community Capital and Institute for Market Transformation, *Home Energy Efficiency and Mortgage Risks* (Mar. 2013),

http://www.imt.org/uploads/resources/files/IMT_UNC_HomeEEMortgageRisksfinal.pdf.

¹⁵ Int'l Code Council, *The Important Role of Energy Codes in Achieving Resilience*, at 13,

[https://www.iccsafe.org/wp-content/uploads/19-](https://www.iccsafe.org/wp-content/uploads/19-18078_GR_ANCR_IECC_Resilience_White_Paper_BRO_Final_midres.pdf)

[18078_GR_ANCR_IECC_Resilience_White_Paper_BRO_Final_midres.pdf](https://www.iccsafe.org/wp-content/uploads/19-18078_GR_ANCR_IECC_Resilience_White_Paper_BRO_Final_midres.pdf). "Using energy codes to provide enhanced passive survivability provides significant co-benefits. Community and individual resilience is enhanced while building owners and tenants reap energy efficiency related rewards everyday in the form of lower energy bills and greater cost certainty."

¹⁶ Am. Council for an Energy Efficient Econ., *How High Are Household Energy Burdens?* at iii (Sept. 2020), <https://www.aceee.org/sites/default/files/pdfs/u2006.pdf>.

4. Necessary Amendments to Achieve the Full Benefits of the 2021 *IECC* Residential Provisions.

While RECA generally supports the proposed updates to the residential and commercial energy codes, several weakening amendments reduce the overall efficiency of the codes and leave substantial cost-effective energy savings on the table. Although a full adoption of the 2021 *IECC* is the most straightforward approach, at a minimum, we strongly encourage the Division to adopt the following key changes to the proposed residential energy conservation code:

- **Restore the Additional Efficiency Options requirement, which represents a roughly 5% improvement over the 2018 *IECC*.** Section R401.2.5 (which is proposed to be removed from the draft code) applies a roughly 5% efficiency improvement across all three compliance options – prescriptive, performance, and Energy Rating Index. **The proposed elimination of this important section cuts the expected savings from this code update by almost half.** The Additional Efficiency Options provide code users with considerable flexibility to select the most sensible, cost-effective means of achieving the final 5% efficiency improvement. Builders or design professionals may simply select one of 5 straightforward options or may choose to achieve a 5% improvement in either the performance path or the Energy Rating Index. New Mexico already has some experience with similar options, since the 2018 New Mexico Commercial Energy Conservation Code requires the selection of Additional Efficiency Package Options in Section C406. Without adopting this important improvement in the residential provisions of the 2021 *IECC*, New Mexico’s Residential Energy Conservation Code will fall short of the national model code.
- **Adopt the full ceiling insulation requirements of the 2021 *IECC*.** The most cost-effective time to properly insulate the ceiling or attic of a home is at construction, when crews and equipment are already in place. The ceiling insulation requirements were improved across nearly every climate zone in the 2021 *IECC*, and for good reason – thermal envelope improvements are some of the longest-lasting efficiency features of the building. Not only will the insulation reduce energy costs, but will provide occupant comfort and improved passive survivability over the useful lifetime of the building. The incremental increase in ceiling insulation in the 2021 *IECC* is a common-sense investment in New Mexico’s homeowners for generations ahead.
- **Require each new home to be tested for envelope air leakage.** RECA supports the proposed improvement in envelope air tightness requirements, but we believe the “visual inspection” option should be eliminated. The *IECC* has required all new

homes to be air leakage tested to 3 ACH50 or less since the 2012 edition (when the visual inspection option was removed from the model code). A visual inspection is no substitute for an objective test, which can provide critical information on the home's expected performance and the amount of fresh air needed to maintain occupant health and building longevity. As blower door testing has become more commonplace for above-code programs and utility programs around the country (in addition to being required in most states), a mandatory air leakage test is a sensible improvement that will protect consumers and reduce the likelihood of builder callbacks.

- **Require each new home to be tested for duct leakage.** For many of the same reasons outlined above for envelope leakage testing, testing for duct leakage will improve the quality of new homes and provide some measure of protection for homebuilders. The 2021 *IECC* requires new homes to undergo duct testing, whether or not the ducts are located inside conditioned space. It is critical that conditioned air be efficiently delivered to all living spaces within the home, and the only way to ensure this is through duct testing. A tighter duct system will not only reduce utility bills, but will also maintain occupant comfort and improve system performance. A visual inspection simply cannot substitute for an objective test.

Conclusion

RECA's members and supporters have been involved in energy code development and adoption for decades, and we offer our assistance and experience as you work to maximize energy efficiency in residential and commercial buildings. Please contact us if you have any questions or would like to discuss how RECA can be of assistance.

Sincerely,

Eric Lacey
RECA Chairman

RECA is a broad coalition of energy efficiency professionals, regional efficiency organizations, product and equipment manufacturers, trade associations, and environmental organizations with expertise in the development, adoption, and implementation of building energy codes nationwide. RECA is dedicated to improving the energy efficiency of homes throughout the U.S. through greater use of energy efficient practices and building products. It is administered by the Alliance to Save Energy, a non-profit coalition of business, government, environmental and consumer leaders that supports energy efficiency as a cost-effective energy resource under existing market conditions and advocates energy-efficiency policies that minimize costs to society and individual consumers. Below is a list of RECA Members that endorse these comments.

Air Barrier Association of America

Alliance to Save Energy

American Chemistry Council

American Council for an Energy-Efficient Economy

CertainTeed LLC

EPS Industry Alliance

Extruded Polystyrene Foam Association

Institute for Market Transformation

Johns Manville Corporation

Knauf Insulation

National Fenestration Rating Council

Natural Resources Defense Council

North American Insulation Manufacturers Association

Owens Corning

Polyisocyanurate Insulation Manufacturers Association