RECA
Responsible Energy Codes Alliance

VIA EMAIL

July 23, 2020

Construction Industries Commission
New Mexico Construction Industries Division
P.O. Box 25101
Santa Fe, New Mexico 87504

RE: RECA Comments Supporting Adoption of 14.7.6 NMAC 2018 New Mexico Residential Energy Conservation Code and 14.7.9 NMAC 2018 New Mexico Commercial Energy Conservation Code

Dear Members of the Construction Industries Commission,

The Responsible Energy Codes Alliance (RECA)[1] submits the following comments in support of New Mexico's proposed adoption of the 2018 *International Energy Conservation Code* (*IECC*) for residential and commercial construction. **Updating the state's energy code from the 2009 *IECC* to the 2018 *IECC* will provide economic and efficiency benefits, technically sound updates to the state's building standards, and a range of other health and safety benefits for New Mexico citizens and businesses.** Although we would like to see the Division eventually adopt the complete version of the 2018 *IECC* with no weakening amendments across all counties, we view the proposed update as a positive step in the right direction.

Benefits of the 2018 *IECC* for Residential Construction

The 2018 *IECC* is the result of a consensus-based code development process that involves the nation's architects, product manufacturers, building code officials, builders and other energy efficiency experts in the homebuilding industry. As a national minimum standard for energy efficient residential buildings, the provisions of the *IECC* reflect the efficient products and practices employed by builders and design professionals today. By adopting the 2018 *IECC*, New Mexico will benefit from the improvements incorporated into the *IECC* over three code update cycles (2012, 2015, and 2018), which will improve

[1] RECA is a national coalition of building product and equipment manufacturers, building industry trade groups, and energy and environmental advocates. More information about RECA and its mission can be found on www.reca-codes.com.

residential buildings in several ways, including better insulation in the building thermal envelope, more efficient windows and doors, improved envelope air leakage testing, and more efficient lighting. The 2018 *IECC* also incorporates a new compliance option based on home energy ratings (the Energy Rating Index) that will provide substantial flexibility to achieve reasonable energy efficiency targets for builders that choose this method.

Adopting and implementing the 2018 *IECC* will result in more efficient homes and cost savings for homeowners. The U.S. DOE analyzed the potential impact of upgrading the energy code from the 2009 *IECC* to the 2015 *IECC* in New Mexico, and found not only significant energy and cost savings, but also a very rapid payback period. **Homes built to the 2015 *IECC* will be 21.9% more efficient, on average, than homes built to the 2009 *IECC* and will save homeowners an average of $5,365.62 over the first 30 years of the home's useful life.**[2] The energy efficiency improvements will completely pay for themselves within the first 4.4 years and will provide a positive cash flow (when utility bill savings are higher than the cost of improvements) within the first year. The following is a summary from the U.S. DOE analysis:

Metric	Compared to the 2009 IECC
Life-cycle cost savings of the 2015 IECC	$5365.62
Simple payback period of the 2015 IECC	4.4 years
Net annual consumer cash flow in year 1 of the 2015 IECC[2]	$294.02
Annual (first year) energy cost savings of the 2015 IECC ($)	$383.48
Annual (first year) energy cost savings of the 2015 IECC (%)	21.9%

By any reasonable measure, these improvements are cost-effective to the homeowner. The U.S. DOE also recently issued a Final Determination on the 2018 *IECC*, finding that it will save an additional 2% in energy costs nationwide. DOE also concluded that an upgrade from the 2015 to the 2018 *IECC* would save homeowners an additional $431-633 over the first 30 years nationwide, with a simple payback period of less than 2 years.[3] By adopting the 2018

[2] *See* U.S. Dep't of Energy, *Cost-Effectiveness Analysis of the Residential Provisions of the 2015 IECC for New Mexico*, at 2 (Feb. 2016), *available at* https://www.energycodes.gov/sites/default/files/documents/NewMexicoResidentialCostEffectiveness_2015.pdf.

[3] *See* U.S. Dep't of Energy, *Final Determination Regarding Energy Efficiency Improvements in the 2018 International Energy Conservation Code*, 84 Fed Reg. 67435 (Dec. 10, 2019), *and* U.S. Dep't of Energy, *Preliminary Energy Costs and Savings Estimates: 2018 IECC Residential Requirements*, at iii (Apr. 2019).

IECC, New Mexico would incorporate the energy-saving and cost-effective improvements of the 2012, 2015, and 2018 editions of the *IECC*.

Benefits of the 2018 *IECC*/*ASHRAE* 90.1-2016 for Commercial Construction

Adopting the 2018 IECC, which incorporates *ASHRAE* Standard 90.1-2016 as a compliance option, will also cost-effectively improve the energy efficiency of New Mexico's commercial buildings. *ASHRAE* Standard 90.1-2016 is the latest model energy code for commercial buildings that has been reviewed by the U.S. Department of Energy and verified to be an improvement in efficiency over previous editions. The 2016 edition of Standard 90.1 also incorporates the improvements of three update cycles—2010, 2013, and 2016—which include improved envelope efficiency and more efficient heating, cooling, water heating, and lighting equipment. Adopting the 2018 *IECC*/*ASHRAE* 90.1-2016 will provide a clear path toward a more efficient, more resilient future for New Mexico's citizens.

According to the U.S. DOE, the 2016 update to *ASHRAE* 90.1 provides an 8.3% energy cost savings over the previous edition;[4] the 2013 update provides an 8.7% energy cost savings over the 2010 edition;[5] and the 2010 update provides a 23.4% energy cost savings over the 2007 edition (upon which New Mexico's commercial energy code is based).[6] **The combined incremental updates in *ASHRAE* Standard 90.1-2016 will result in a roughly 35% energy cost savings as compared to *ASHRAE* Standard 90.1-2007 (which is essentially New Mexico's current commercial energy code).**

Code Edition	*ASHRAE* Standard 90.1-2010	*ASHRAE* Standard 90.1-2013	*ASHRAE* Standard 90.1-2016
Energy Cost Savings over Previous Edition	23.4%	8.7%	8.3%

As with the residential analysis, U.S. DOE found the improvements in each edition to be cost-effective over the useful life of the building. These energy and cost savings will allow the owners of commercial buildings to spend far less to heat and cool buildings, and to invest more productively in New Mexico's economy.

[4] U.S. Dep't of Energy, *Energy Savings Analysis: ANSI/ASHRAE/IES Standard 90.1-2016*, at iv (Oct. 2017), *available at* https://www.energycodes.gov/sites/default/files/documents/02202018_Standard_90.1-2016_Determination_TSD.pdf.

[5] U.S. Dep't of Energy, *ANSI/ASHRAE/IES Standard 90.1-2013 Determination of Energy Savings: Quantitative Analysis*, at iv (Aug. 2014), *available at* https://www.energycodes.gov/sites/default/files/documents/901-2013_finalCommercialDeterminationQuantitativeAnalysis_TSD.pdf.

[6] U.S. Dep't of Energy, *National Cost-Effectiveness of ASHRAE Standard 90.1-2010 Compared to ASHRAE Standard 90.1-2007*, at iii (Nov. 2013), *available at* https://www.energycodes.gov/sites/default/files/documents/PNNL-22972.pdf.

Additional Health and Safety Benefits of Adopting the Latest Model Energy Codes

In addition to cost savings, adopting the latest model energy codes will also provide many health and safety benefits to New Mexico citizens and will improve the resiliency of residential and commercial buildings. High energy bills can have dramatic effects on quality of life. 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.[7] More efficient buildings provide a range of additional health, safety, and welfare benefits, including better indoor environmental quality and improved and enhanced occupant comfort.[8] More efficient buildings are also associated with lower foreclosure rates.[9] And finally, more efficient buildings will help reduce peak electric demand, which will not only contribute to lower electric costs for consumers, but will improve electric grid reliability, reduce the need for more power plants, and also help New Mexico achieve emissions reductions.

Energy codes are also increasingly being recognized as playing a role in maintaining resilience and passive survivability, particularly during extended power outages. A recent white paper released by the International Code Council (ICC) and the Alliance for National and Community Resilience (ANCR) recommended that **"[a]ny policies, guidance or criteria that includes building codes as a strategy should explicitly incorporate energy codes as a fundamental resilience strategy. . . ."**[10] Among these resiliency benefits are improved habitability, grid stability, moisture management, improved durability of buildings, and others. Adopting the latest model energy codes will clearly go beyond the energy and cost savings and will improve the lives of New Mexico citizens in many ways.

Phasing Out State-Level Amendments

We encourage the Division to set a timeline for the eventual implementation of the 2018 *IECC* requirements across all counties and the eventual phasing-out of state-level weakening amendments. As builders and code officials become more familiar with the code

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[7] *See* U.S. Energy Information Administration, *Residential Energy Consumption Survey (RECS)*, at https://www.eia.gov/consumption/residential/reports/2015.

[8] *See* U.S. Environmental Protection Agency, *Improving Indoor Air Quality*, at http://www.imt.org/uploads/resources/files/IMT_UNC_HomeEEMortgageRisksfinal.pdf., and Efficient Windows Collaborative, at http://www.efficientwindows.org/comfort.php.

[9] *See* UNC Center for Community Capital and Institute for Market Transformation, *Home Energy Efficiency and Mortgage Risks* (Mar. 2013), *available at* http://www.imt.org/uploads/resources/files/IMT_UNC_HomeEEMortgageRisksfinal.pdf.

[10] *See* International Code Council, *The Important Role of Energy Codes in Achieving Resilience*, at 15 (Dec. 2019), *available at* https://www.iccsafe.org/wp-content/uploads/19-18078_GR_ANCR_*IECC*_Resilience_White_Paper_BRO_Final_midres.pdf.

requirements, and as the market for energy-efficient products matures across the state, we believe all New Mexico homeowners and owners of commercial buildings should benefit from the latest model codes. While we strongly support the adoption of the proposed rules, we urge the Division to continue to seek improvements in efficiency and resiliency by bringing the state into full compliance with the 2018 *IECC*.

Conclusion

Overall, we firmly support the proposed adoption of the 2018 *IECC*, and we believe that the positive impacts of the model codes will benefit owners and occupants of residential and commercial buildings for generations. It is important that an updated code be adopted and implemented as soon as a possible, since each building built without these improvements will forgo these benefits for many years. We offer our assistance and experience in energy code adoption and implementation as you work to maximize building energy efficiency. Please contact me at (202) 339-6366 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 organizations, product and equipment manufacturers, trade associations, and environmental organizations with expertise in the adoption, implementation and enforcement 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