POLYISOCYANURATE INSULATION MANUFACTURERS ASSOCIATION

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Sent via Electronic Mail

October 23, 2018

Commissioner Ken Peterson
Department of Labor & Industry
Attention: Amanda Spuckler
443 Lafayette Road N.
St. Paul, MN 55155
dli.rules@state.mn.us

Re: Minnesota's Review of the 2018 IECC

Dear Commissioner Peterson,

The Polyisocyanurate Insulation Manufacturers Association (PIMA) thanks you for the opportunity to comment on Minnesota's review and adoption of the 2018 International Energy Conservation Code (IECC). Keeping Minnesota's building energy code updated to the most current version of the IECC for both commercial and residential buildings is an important and cost-effective state policy for addressing the negative environmental impacts caused by a sector that is responsible for 40% of U.S. energy use. Also, with adoption of the 2018 IECC, we urge you to include the improved language contained in the IECC related to roof replacements (2018 IECC Sections C202, C503.1, and C503.3.1).

I. Commercial Buildings: Savings and Cost-Effectiveness

Updating Minnesota's commercial building energy code to the 2018 IECC would improve overall building energy performance within the State by approximately 19.4%.[1] In addition to these significant energy savings, the new code is extremely cost effective, even when measured against strict simple payback standards. A cost-effectiveness analysis of the 2018 IECC is not yet available, but for the 2015 IECC, the average incremental cost of construction for commercial buildings is only a tenth of one percent nationally[2] and the average simple payback period for Minnesota would be immediate.[3]

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[1] DOE, Building Energy Code Program, State Level Commercial Codes Energy Use (December 2017). Available at: https://www.energycodes.gov/adoption/state-code-adoption-tracking-analysis.
"Energy Savings Analysis ANSI/ASHRAE/IES Standard 90.1-2016," Office of Energy Efficiency & Renewable Energy, U.S. Department of Energy (June 2017). Available at: https://www.energycodes.gov/development/determinations

[2] R. Hart et al., "National Cost-Effectiveness of ANSI/ASHRAE/IES Standard 90.1-2013," Pacific Northwest National Laboratory, January 2015, page 4.26 (Note: estimate is a weighted average).

II. Alterations to Existing Commercial Buildings and Roof Replacements

PIMA supports replacing the re-roofing language in the current Minnesota building energy code with the language used under the 2015 IECC and 2018 IECC (sections C202, C503.1, and C503.3.1). With each new version of the IECC, improvements are made to its effectiveness and usability. One example of this includes the requirements related to alterations in existing commercial buildings, which were moved into a separate chapter (Chapter 5) starting with the 2015 IECC and continued under the 2018 IECC. Included in this new chapter is clarifying language related to roof replacements. Language used in prior versions of the IECC created significant confusion over when to apply the building energy code requirements to alterations of low-slope roofs. This confusion resulted in noncompliance and made it more difficult for code officials to enforce the code. In response to this confusion, the language was clarified under the 2015 IECC (and continued in the 2018 IECC) by drawing a clear distinction between roof replacements (i.e., existing membrane is removed and replaced) and roof re-covers (i.e., a new roof membrane is installed on top of an existing roof membrane). With this change in 2015, which was supported by a broad coalition and received no written opposition during the ICC code development process, the language in the IECC is now crystal clear, resulting in better compliance and fewer headaches for local code officials.

In addition to the reasons stated above, adopting the 2018 IECC language related to re-roofing will help Minnesota architects, designers, and contractors who also work in neighboring states. Most of Minnesota's neighbors have already adopted or are about to adopt this same language: **Illinois** adopted the 2015 IECC three years ago and will soon adopt the 2018 IECC; **Wisconsin** adopted the 2015 IECC, effective May 1, 2018; and **Iowa** is actively reviewing and expected soon to adopt the 2018 IECC for commercial buildings. **North and South Dakota** do not have statewide energy codes, but some of the larger municipalities have adopted the 2015 IECC.

III. Residential Buildings: Savings and Cost-Effectiveness

Analyses from both the U.S. DOE and the Midwest Energy Efficiency Alliance (MEEA) conclude that updating to the 2018 IECC for residential buildings is a clear winner for Minnesota. The DOE analysis, which is somewhat limited in scope *(i.e.,* the DOE analysis does not consider that Minnesota's current residential energy code is weaker than the 2012 IECC and the analysis only looks at the 2015 IECC and not the 2018 IECC), compares model homes built in Minnesota to the 2012 IECC and to the 2015 IECC and concludes that although the energy saving may be relatively small, the costs are very low and the payback is almost immediate. The more thorough analysis presented by MEEA determined that Minnesota residents would use 6% less energy in homes built to the 2018 IECC, which would reduce their annual utility bills by about $140. These are savings that will be enjoyed for the life of the home. Using the same transparent methodology used by DOE for all of its federal and state energy code cost-effectiveness studies, MEEA determined that a homeowner with a 30-year mortgage would realize a positive cash flow within 4 years and a 30-year life-cycle cost savings of between $800 and $1000.[4]

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[3] R. Hart et al., "Cost-Effectiveness of ASHRAE Standard 90.1-2013 for the State of Minnesota," Pacific Northwest National Laboratory, December 2015. Available at: https://www.energycodes.gov/development/commercial/cost_effectiveness.

[4] http://www.mwalliance.org/sites/default/files/meea-research/minnestoa_residential_energy_savings_2012_to_2018_iecc_final_2.pdf

IV. Additional Benefits of a Strong Energy Code for Minnesota

- **Improved Competitiveness:** Building energy codes enable Minnesota businesses that lease real property to be more competitive and to invest more money back into their businesses and local communities. Sometimes referred to as an issue of "split incentives," this is particularly prevalent with commercial buildings, were businesses that rent retail, office or commercial space are responsible for paying the energy costs associated with operating the building.[5] They pay these energy costs with little to no influence over improvements that could increase energy efficiency. Minnesota's energy code can help ensure that these businesses are afforded access to energy efficient buildings.

- **Spending Redirected to Benefit Minnesota:** It is also important to remember that most of Minnesota's electricity is produced by burning out-of-state coal and natural gas. In 2016, coal and natural gas provided 51% of the state's net electricity generation and all of this coal and natural gas came from out-of-state. [6] Imported natural gas is also the primary fuel used onsite for both commercial and residential buildings in Minnesota. Because of this relationship, weak building energy codes effectively sends money out of Minnesota to pay for the coal and natural gas produced in other states, whereas investments in energy efficiency directly benefit the State's citizens and local economy.

- **Avoid Lost Opportunities with Regular Code Improvements:** If Minnesota continues its practice of going six years between energy code updates, then skipping the current opportunity to update its residential energy code will mean that Minnesota will find itself in 2024 building homes to a code that is 12 years old! Currently there are no other states with a statewide residential energy code that far out-of-date. Also, the rapid development in energy efficient technologies used in commercial buildings has allowed for large, cost-effective improvements in building energy performance under recent versions of the IECC. By not keeping up with these improvements, Minnesota loses out on the opportunity to lower energy costs and become more competitive. Therefore, we urge the State to start following a three-year adoption cycle for the energy code for both residential and commercial buildings.

- **Help Achieve Environmental Goals:** Adopting the 2018 IECC for residential and commercial buildings will help Minnesota meet its obligations under the Next Generation Energy Act. Enacted by the Minnesota in 2007, this law set goals for reducing greenhouse gas emissions by 15% in 2015, 30% in 2025, and 80% in 2050. However, the Minnesota Pollution Control Agency reports that only a 4% reduction has been achieved so far, and greenhouse gas emissions from the residential and commercial sectors have actually increased 19% and 20%, respectively. [7] In the absence of federal leadership, climate and energy policy is now the responsibility of state and

[5] 39% of non-government commercial building space is leased and another 13% have a mix of owner-occupied and leased tenants (2012 CBECS data, Table B1).

[6] U.S. Energy Information Administration, https://www.eia.gov/state/?sid=MN#tabs-4

[7] Minnesota Pollution Control Agency, Greenhouse Gas Emissions 1990-2014; Progress Towards Next Generation Energy Act Goals, January 2017. https://www.pca.state.mn.us/sites/default/files/lraq-2sy17.pdf

municipal governments, who will be expected to step up and follow through on their commitments.

- **Improve Affordability and Resiliency:** The 2018 IECC will help ensure that Minnesota residents and businesses have homes and buildings that promote general welfare and safety. For example, in a recent Department of Energy survey, one in five respondents reported reducing or forgoing basic necessities like food and medicine to pay an energy bill and 14% reported receiving a disconnection notice for energy service.[8] Moreover, 2017 and 2018 has served as a reminder that severe weather can leave communities stranded without power for days or even weeks. Buildings constructed with energy efficiency envelopes can help protect occupants during the most vulnerable times.[9] The benefits of modern building energy codes are clear and the risks of failing to protect Minnesota's health and safety can be easily avoided.

V. Information about the Polyisocyanurate Insulation Manufacturers Association (PIMA)

PIMA is the trade association for North American manufacturers of rigid polyiso foam insulation – a product that is used in most low-slope commercial roofs as well as in commercial and residential walls. Polyiso insulation products and the raw materials used to manufacture polyiso are produced in over 50 manufacturing facilities across the United States and Canada.

Thank you for the opportunity to submit these comments.

Sincerely,

Justin Koscher
President

[8] "One in three U.S. households faced challenges in paying energy bills in 2015," U.S. Energy Information Administration. Available at: https://www.eia.gov/consumption/residential/reports/2015/energybills/?src=%E2%80%B9%20Consumption%20%20%20%20%20%20Residential%20Energy%20Consumption%20Survey%20(RECS)-f1.

[9] "Leaks and Lives: How Better Building Envelopes Make Blackouts Less Dangerous," ACEEE (2014). Available at: http://aceee.org/files/proceedings/2014/data/papers/1-439.pdf.