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To: [Fire Prevention and Building and Safety Commission](#)
Subject: Code Comments, Proposals and Advice
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Formstack Submission For: **4202**

Submitted at 05/19/21 1:43 PM

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Indiana Code You Are Commenting On:	Commercial Building Energy Code (ASHRAE 90.1)
Comment or Proposal:	See attached document.
File:	View File

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Formstack, 11671 Lantern Road, Suite 300, Fishers, IN 46038

May 19, 2021

Fire Prevention and Building Safety Commission
Indiana Department of Homeland Security
Indiana Government Center-South
302 W. Washington Street, Room E208
Indianapolis, IN 46204
buildingcommission@dhs.in.gov

Re: Indiana's Commercial Building Energy Code

Dear Commission/Exploratory Committee:

Thank you for this opportunity to provide information supporting Indiana's adoption of an improved and modernized energy code for commercial buildings. The State's current code, which is based on the ASHRAE Standard 90.1-2007, is outdated, and creates an additional cost burden for Indiana businesses compared with the energy and cost-savings of the codes adopted by neighboring states. **PIMA strongly encourages Indiana to adopt the ASHRAE Standard 90.1-2019 in order to advance the State's policy priorities in a cost-effective manner.**¹ This recommendation supports Governor Holcomb's efforts to create a pro-growth business environment while also saving energy, improving the competitiveness of Indiana businesses, spurring further job growth, and improving the resiliency of Indiana buildings.

Indiana is among the few remaining states that still enforce outdated and weak commercial energy codes, placing their economies and local businesses at a disadvantage. Within this group of states, Arkansas and Maine have decided to move forward with adopting one of the most recent versions of the International Energy Conservation Code (which includes modern versions of the ASHRAE Standard 90.1). Indiana's neighbors have utilized the benefit of continuously updating their state codes as well. This includes Illinois that has adopted the 2018 IECC (ASHRAE 90.1-2016) and Ohio and Michigan that have adopted the 2015 IECC (ASHRAE 90.1-2013). Kentucky still uses the 2012 IECC (ASHRAE 90.1-2010) and like Indiana would benefit from a code update. Of note, Illinois, Michigan, and Ohio are expected to adopt stronger codes later this year.

The ASHRAE Standard 90.1 has proven to be cost effective with every update and the current editions better recognize advances in modern construction practices. Based on information maintained by the U.S. Department of Energy's Building Technology Office, Indiana could reduce site energy intensity of new buildings by 29% by adopting the ASHRAE Standard 90.1-2016 as compared with buildings constructed to Indiana's current commercial building energy code.² If Indiana were to

¹ PIMA also supports the adoption of the 2021 IECC, which has separate commercial and residential chapters and permits the use of ASHRAE Standard 90.1-2019 as an alternative compliance path. In past cycles, the ASHRAE Standard and the IECC commercial chapter have resulted in comparable energy savings (i.e., 90.1-2016 is equal to the 2018 IECC). The 2021 IECC commercial chapter is expected to save more energy than 90.1-2019, but that has not been confirmed by DOE yet.

² Ibid.

pursue PIMA’s recommendation to adopt the 2019 version, DOE has preliminarily determined that the ASHRAE Standard 90.1-2019, as compared to 90.1-2016, would save an additional 4.7% in site energy.³

The Pacific Northwest National Laboratory (PNNL) reviews each new version of the ASHRAE Standard 90.1, which is revised every three years, for cost-effectiveness. PNNL provides information on the life-cycle cost savings and simple payback periods generated by regularly updating codes to the latest version. The table below presents a selection of available information from PNNL that further supports PIMA’s recommendation that by adopting the latest ASHRAE Standard 90.1 Indiana would deliver a cost-effective and energy-savings policy that benefits commercial building owners within the state. DOE’s Building Energy Codes Program provides technical assistance to help states and local jurisdictions adopt, upgrade, implement, and enforce their residential and commercial building energy codes. As part of this assistance, the Commission or Department can [request](#) an analysis of the of energy savings and cost impacts associated with code adoption that is more tailored to your particular information needs as compared to the general information presented below.

Cost-Effectiveness of ASHRAE Standard 90.1

Comparisons	Net Life-Cycle Cost Savings (\$/ft²)	Simple Payback Period
90.1-2016 vs. 90.1-2013 ⁴ National*	\$6.68	0.03 years
90.1-2013 vs. 90.1-2010 ⁵ Indiana-specific	\$1.70	6.7 years
90.1-2010 vs. 90.1-2007 ⁶ Kentucky-specific*	\$2.70	7.3 years

*Indiana-specific analysis is not available for this cycle.

Building energy codes are the most cost-effective policy available to states for improving the energy-efficiency of new and existing buildings. In addition to the energy and environmental benefits, strong building energy codes have a positive impact on the economy and jobs. The money saved by businesses and homeowners from lower utility bills puts more money into the local economy. A portion of this increased economic activity is directly related to energy-efficient construction products manufactured and used in Indiana, such as the polyiso insulation produced in Bremen, Indiana. In total, Indiana has 55,663 jobs related to energy efficiency⁷ and 13,125 jobs related to manufacturing, distribution, and installation of insulation.⁸

³ DOE Preliminary Determination for ASHRAE Standard 90.1-2019: <https://www.energycodes.gov/development/determinations>

⁴ Hart, et al., National Cost-Effectiveness of ANSI/ASHRAE/IES Standard 90.1-2016, Pacific Northwest National Laboratory (PNNL), April 2020, https://www.energycodes.gov/sites/default/files/documents/90.1-2016_National_Cost_Effectiveness.pdf

⁵ Hart, et al., Cost-Effectiveness of ASHRAE Standard 90.1-2013 for the State of Indiana, Pacific Northwest National Laboratory (PNNL), December 2015. https://www.energycodes.gov/sites/default/files/documents/Cost-effectiveness_of_ASHRAE_Standard_90-1-2013-Indiana.pdf

⁶ Hart et al., Cost-Effectiveness of ASHRAE Standard 90.1-2010 for the State of Kentucky, Pacific Northwest National Laboratory (PNNL), November 2013. https://www.pnnl.gov/main/publications/external/technical_reports/PNNL-23014.pdf

⁷ 2020 US Energy & Employment Report, NASEO/Energy Futures Initiative, <https://www.usenergyjobs.org/>

⁸ American Chemistry Council, October 2020, https://polyurethane.americanchemistry.com/Products-Resources-and-Document-Library/Contributions-of-Insulation-to-US_2019.pdf

Information about the Polyisocyanurate Insulation Manufacturers Association

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 North America.

Thank you for the opportunity to submit these comments.

Sincerely,



Justin Koscher
President

cc: Joel Thacker, State Fire Marshall and Fire and Building Safety Division Director, Department of Homeland Security, jthacker@dhs.in.gov