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2023-2024 ASHRAE President

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February 20, 2024

The Honorable David Steffen
The Honorable Rob Summerfield
Assembly Committee on Energy and Utilities
P.O. Box 8952
Madison, WI 53707

Re: Assembly Bill 827 "an energy efficiency grant program for school districts, granting rule-making authority, and making an appropriation."

Dear Chair Steffen and Vice Chair Summerfield:

I am writing on behalf of ASHRAE, the American Society of Heating Refrigerating, and Air Conditioning Engineers, to support the goals of **Wisconsin Assembly Bill 827**, "an energy efficiency grant program for school districts, granting rule-making authority, and making an appropriation," that sits before you in the Assembly Committee on Energy and Utilities. ASHRAE, founded in 1894, is a global professional society of more than 53,000 members, including more than 800 in Wisconsin, that focuses on building systems, energy efficiency, indoor air quality, resiliency, and sustainability. Through our research, standards writing, publishing, certification, and continuing education, ASHRAE shapes tomorrow's built environment today.

Assembly Bill 827 would, if enacted, create a $10 million annual grant program that would fund energy efficiency projects in school buildings and for the first two years of the program be specifically targeted at HVAC system improvements.

There are substantial academic and health benefits to be gained from updating school HVAC systems. A growing body of evidence suggests that student health and student learning outcomes are directly linked to indoor air quality, temperature, and humidity.[1] Poor indoor air quality both causes and aggravates asthma and other respiratory conditions and leads to greater absenteeism. This in turn leads to worse academic performance and lost learning time. Schools that are too hot and/or too humid for comfort consistently have lower test scores than schools that are comfortable for their occupants.[2,3]

The use of modern, energy efficient HVAC systems will also reduce energy bills: HVAC systems consume the most power out of any system in a building, so replacing old, inefficient systems with new ones will lower utility bills for the taxpayers who are responsible for keeping the lights on in Wisconsin's schools. We believe this will be accomplished while also making Wisconsin's schools healthier, more comfortable, and more successful.

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[1] *Indoor air quality in high performance schools* | US EPA. (2023, March 14). US EPA. https://www.epa.gov/iaq-schools/indoor-air-quality-high-performance-schools

[2] *Haverinen-Shaughnessy, U., & Shaughnessy, R.* (2015). Effects of classroom ventilation rate and temperature on students' test scores. PLOS ONE, 10(8), e0136165. https://doi.org/10.1371/journal.pone.0136165

[3] *Frequently Asked Questions about Improved Academic Performance* | US EPA. (2023, April 26). US EPA. https://www.epa.gov/iaq-schools/frequently-asked-questions-about-improved-academic-performance

We also want you to be aware of two important ASHRAE standards that could guide this effort. The use of these standards in implementing this program would guide the HVAC systems updates to be in-line with the industry's latest technology and science to deliver on the intent of this legislation: providing safer, healthier, more energy efficient schools for Wisconsin's children. The standards we ask that schools comply with are:

- ANSI/ASHRAE Standard 62.1-2022, *Ventilation and Acceptable Indoor Air Quality*, specifies minimum ventilation rates and measures intended to provide indoor air quality that is acceptable to occupants and minimizes adverse health effects, such as breathing difficulties.
- ANSI/ASHRAE Standard 55-2023, *Thermal Environmental Conditions for Human Occupancy*, which specifies the comprehensive analytical methods to determine thermal environmental conditions, such as temperature, humidity, and air speed in buildings that will be acceptable to signification portion of the occupants. The latest edition of this standard includes new addenda with a focus on the application of the standard in clear, enforceable language.

On behalf of our more than 800 members in Wisconsin, thank you for your consideration of ASHRAE's comments in support of the goals of Assembly Bill 827.

Sincerely,

Ginger Scoggins
ASHRAE President