QUARTERLY REPORT

We are nearing the end our first year of active market deployment for our Efficient Technology Accelerator (ETA) program. Our team has continued to make inroads as we work to accelerate adoption of residential air source heat pumps (ASHPs), High-Performance Windows, commercial Luminaire Level Lighting Controls (LLLCs), and Next Gen Rooftop Units.

Wise Window Hub in Action

Sustainable9 High-Performance Window Demonstration

CEE's Wise Window Hub partnered with Sustainable9 on a Parade of Homes Fall Artisan Home Tour site. This home features 10-foot-tall banks of high-performance, triple-pane windows that allow for an excellent view from the home, twice the insulating power, and half as much outdoor sound compared to a standard new window.

Sustainble9 prioritizes occupant comfort and understands that you can't have high-performance walls without high-performance windows. As a result, they include high-performance, triple-pane windows in all their home builds. In a nationwide average, ENERGY STAR has found the typical extra cost to upgrade from a standard double-pane to a high-performance, triple-pane window is typically $50–100 more per window.

EEBA Event

The Wise Window Hub participated in a performance builder event through the Partnership for Advanced Window Solutions (PAWS) where 60 attendees discussed how to bring more energy efficient windows to the market. Attendees included more than 40 builders and six window and window attachment manufacturers.

Builders identified some key needs including the importance of triple-pane windows to meet advancing code and above code programs, a desire for triple-pane glazing in builder grade products (not just in premium products), and price and lead time transparency to allow for accurate value engineering.

For more info on Wise Window Hub visit etamn.org/high-performance-windows

RTU Model Support

The Next Gen RTU team has completed a model of bill and energy savings for heat pump RTUs and RTUs with energy recovery ventilators (ERVs). Focusing on Minnesota's cold climate and building stock, the model took into account eight different building types that represent around 72% of the commercial buildings in Minnesota. The modeling effort found that heat pump RTUs and ERVs both significantly reduce the energy consumption of HVAC systems without increasing customer bills.

The model found that heat pump RTUs deliver 20% energy savings compared to standard units, and ERVs deliver 20% energy savings. Together, heat pump RTUS and ERVs can achieve a total of 40% energy savings. For these cases, dual fuel heat pumps do not increase energy bills when set to a 30°F switchover temperature. RTUs with ERVs offer a 10% reduction in bills. When outdoor air ventilation is at or below 30%, ERVS remained effective, providing significant energy and bill savings.

Read more about the model and the results of the study.

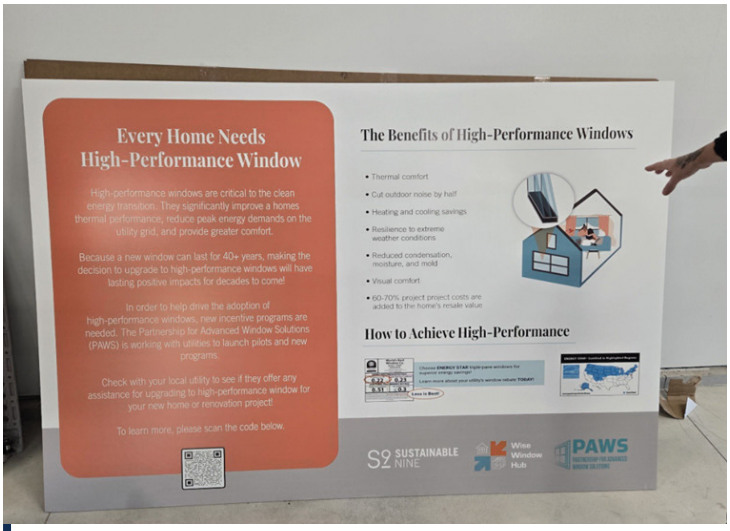
The Next Gen RTU team is using this model to create a bill and energy savings calculator, which will be used to help end-use customers and contractors estimate their energy, bill, and carbon savings using heat pump RTUs and ERVs.

Market Research for ASHP

The MN ASHP Collaborative worked with Behavioral Insights Team to conduct a mixed-methods research project to identify barriers and motivations around heat pump adoption and messaging strategies for homeowners. The research included a literature review, focus groups with Minnesota homeowners, and an online survey and randomized control trial (RCT) with over 4,000 participants from homeowners in the Midwest (including over 1,750 participants from MN).

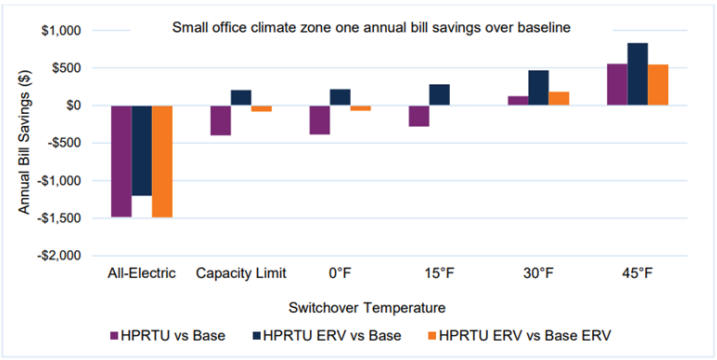
The research will provide heat pump market actors with valuable insights into consumer behavior, helping them tailor outreach, product offerings, and services to address key barriers and motivators. This aligns with the broader mission of the Collaborative and ETA to accelerate the adoption of energy efficient technologies, driving market transformation and reaching our goal of equitable decarbonization across Minnesota.

Read the results of the research project.



Wise Window Hub and Sustainable9 High-Performance Window Demonstration

EBBA event where attendees discussed bringing more efficient windows to market



Sample chart from our RTU modeling report