BetterBuiltNW

ADVANCED HEAT PUMPS: HELPING NORTHWEST HEAT PUMPS ACHIEVE THEIR FULL POTENTIAL

An effective approach to delivering greater residential heat pump performance—without raising equipment costs.

Heat pump technology has advanced significantly over the past decade, with new systems able to pull heat from even sub-zero-temperature air. Improved controls and variable speed motors allow these systems to operate quieter and with much greater efficiency than traditional systems. Selecting the right heat pump can yield comfort, savings, and satisfaction for homeowners and reduce grid demand.

Compared to electric resistance and electric forced-air-furnace technology, these improvements to comfort and efficiency have led to heat pumps now representing the majority of HVAC equipment sales in the Northwest.[1]

When heat pump technology is combined with cutting-edge advancements and installed, operated, and maintained using best practices, they can also increase energy savings to improve affordability for homeowners.

Strategies for increased performance:

Low-load efficiency: Low-load efficient heat pumps deliver overall efficiency by modulating compressor and fan speeds when outdoor temperatures are mild. To identify these heat pumps, use extended performance data, available on the Northeast Energy Efficiency Partnership Cold Climate Air Source Heat Pump List.

Minimize supplemental heat with cold-climate capability: Properly sized heat pumps do not need supplemental heat sources, except in very cold climates. When selecting a heat pump, make sure its performance is not undermined by controller settings that unnecessarily activate electric resistance heat during start-up and defrost. Proper control settings can help increase savings.

Connected commissioning: Some systems can provide installers with feedback on inefficient refrigerant charge, airflow, or control settings. Connected commissioning certifications are currently being developed to make it easier to identify these systems.

Automatic load flexibility: Heat pumps with built-in load flexibility can help reduce strain on the grid. Products that are AHRI 1380-ready exist in the market today, but tools for automating participation in utility programs are under development.

[1]Bonneville Power Administration report based on sales data gathered by Northwest Energy Efficiency Alliance. January 2024.

Learn more about advanced heat pumps at **BetterBuiltNW.com/ahp**

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