

## Connected Heating and Cooling Category Scope

The connected HVAC category is open to products with primary applicability in the residential sector. Products must be available for sale through distribution channels serving the residential new construction and major renovation markets in the United States or Canada. If an entry is comprised of components from more than one manufacturer, the Competition encourages collaboration in the submission of the entry.

Category scope includes energy efficient and connected heating and cooling products, such as:

- Air Source Heat Pumps (ASHPs)
- Central Air Conditioners (CACs)
- Variable Speed Mini- and Multi-Splits
- Gas Heat Pumps (GHPs)
- Natural Gas Furnaces
- Natural Gas Boilers

The Competition is intended to highlight connected residential HVAC equipment available for purchase in 2021. As such, products available or planned for introduction to the market between January 1, 2019 and December 31, 2021 are eligible to enter the 2021 Competition.

If a manufacturer is interested in submitting a product family, the Competition recommends that you select a single product that is representative of the product family and note in the submission form that the single entry is part of a larger family. Manufacturers are also invited to submit images of other products within the family as well as marketing materials that show the product family.

If you are unsure whether your product falls within the category scope or have additional questions, please reach out to Kim Katz at [competition@cee1.org](mailto:competition@cee1.org).

## Desired Qualities and Capabilities

The Integrated Home Competition is seeking connected gas and electric HVAC products that demonstrate energy savings. While it is not expected that entries will include all of the following, desired qualities and capabilities include:

- Meet CEE Tier 1/ENERGY STAR® Program Requirements, if applicable. Products that meet CEE Tier 2 or 3 requirements would be awarded additional points.<sup>1</sup>
  - [CEE Residential Central Air Conditioners and Air Source Heat Pumps Specification](#)
  - [CEE Residential Natural Gas Forced Hot Air and Boiler \(Hydronic\) Specification](#)

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<sup>1</sup> See the *CEE Residential Heating and Cooling Systems Initiative Description* for more information <https://library.cee1.org/content/cee-residential-heating-and-cooling-systems-initiative-description/>.

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- Energy management, which encompasses features that reduce the product's overall energy consumption levels either through core product functionality or influencing customer behavior.
  - Energy consumption information for users, including remote access via an app, website, or home energy management system.
  - Programmable settings, such as vacation, away, or nighttime modes that reduce energy use.
- Ability to receive and respond to a utility or third-party signal (i.e. pricing signal or curtailment signal).
  - Demand response (DR) capabilities, defined as the ability to delay, curtail, or increase operation to enable load shifting from peak use or low supply periods to low use or high supply periods.
  - Data sharing with consumer-authorized third parties, including operational status and energy consumption reporting.
- Sensing capabilities to optimize HVAC operation based on occupancy detection through geofencing, motion sensing, or infrared signal sensing, or other capabilities.
- Consumer customization, such as:
  - The ability to input preferences and parameters related to product operation.
  - The ability to tailor notifications for events like system failures, power surges, planned device shutdowns, servicing requirements, or upcoming DR events.
- Continued functionality when cloud connection is lost.
- Ability to remotely verify quality installation (QI) or quality maintenance (QM) and share results with consumers and consumer-authorized third parties like installers and utilities.
- Ongoing, active management of settings through features like automatic scheduling or learning-based schedule creation based on customer preferences and habits.
- Ability to collect and analyze HVAC performance data that enables ongoing energy savings measurement and verification (such as through Automated Fault Detection and Diagnostics (AFDD)), while being mindful of consumer personal privacy concerns.
- Ability to operate seamlessly with other connected devices, systems, and platforms within the home.
- Simplified device set up and use, including installation and account set up.
- Intuitive consumer operation through multiple interfaces.
- Product resiliency, which encompasses features that enable the product to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events (such as battery backup operation or durable components).

Again, it is not expected that entries will include all of the above capabilities; rather, products should include measures that save energy and provide a positive consumer experience. Additional

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capabilities beyond this list will also be considered in the judging process. Products with greater functionality generally receive more points (see the [Judging Criteria](#) for more information).

## Entry Requirements

- Complete submission form
- Entries selected for live judging (Finalists):
  - Must create a short video for the judges to review demonstrating product set-up and consumer functionality. Additional information will be provided to Finalists.
  - Remote verification may be requested; further details will be provided to Finalists.
- If selected as a winner, entrants must complete a cybersecurity questionnaire and interview.

## Awards for Connected HVAC

Product awards will be announced at the HARDI Annual Conference, December 4-7, 2021. Winners will also be promoted through press releases to both consumer and trade publications and among CEE members, the Integrated Home Competition website, CEE Meetings, and materials at key industry events throughout 2022. In addition, CEE member efficiency program administrators may choose to recommend winning entries to their customers.

## Additional Questions?

Check out the FAQ at <http://www.integratedhome.net/competition/> or contact Kim Katz at [competition@ceel.org](mailto:competition@ceel.org) with any questions.