



**ARIS**

## **Modular multi-function air-to-water heat pump systems for expedited and affordable home electrification**

*Aris Hydronics Phase II Submission to the EAS-E Home Electrification Prize*

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### **Solution description**

To cultivate equity and affordability while accelerating decarbonization, it is imperative to advance hard-tech innovations and business solutions that strategically address costs, complexities, and limitations related to retrofit of the largest residential energy end uses – heating, cooling, and domestic hot water. Aris Hydronics is a vertically-integrated direct-to-consumer solution provider offering a turn-key multi-function air-to-water heat pump system that incorporates all subsystems and controls in a single end-to-end platform.

Aris's solution is modular, flexible, and configurable, making it suitable for heating, cooling, and hot water in a wide range of applications in both single-family and multifamily residences. Compared to current practice heat pump technologies, Aris's solution offers numerous benefits:

- Reduces the number and footprint of heat pumps
- Minimizes the need for new electric circuits
- Lowers building service ampacity requirements
- Eliminates apartment subpanel upgrades
- Reduces peak electricity demand
- Minimizes refrigerant use and risk of leakage
- Reduces total energy consumption
- Reduces piping and insulation
- Simplifies construction complexity
- Avoid displacement of residents
- Consolidates design and install services
- Expands workforce for heat pump deployment
- Equitable workforce engagement
- Mitigate adverse impacts of rapid electrification

### **Team**

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