



## Industrial Demonstrations Program – Steam-Generating Heat Pumps for Cross-Sector Deep Decarbonization

The Industrial Demonstrations Program, managed by the U.S. Department of Energy's (DOE) Office of Clean Energy Demonstrations (OCED), aims to accelerate decarbonization projects in energy-intensive industries and provide American manufacturers a competitive advantage in the race to lead the world in low- and net-zero carbon emissions manufacturing. To advance industrial decarbonization, OCED sought applications for up to \$6 billion in funding to support the demonstration of transformational technologies necessary to reduce emissions in the U.S. industrial sector. Following negotiations, in January 2025, OCED awarded the Steam-Generating Heat Pumps for Cross-Sector Deep Decarbonization project with more than \$700,000 to begin Phase 1 of the project, located in Medina, NY.



### Awardee Fact Sheet Industrial Demonstrations Program: Steam-Generating Heat Pumps for Cross-Sector Deep Decarbonization

#### Project at a Glance — Phase 1

- » **Total OCED Cost Share:** Up to \$145 million
- » **Phase 1 Total Project Amount:** \$1,468,384\*
- » **Phase 1 OCED Award Amount:** \$734,192\*\*
- » **Phase 1 Scope of Work:** Planning, permitting, design, community engagement, and other development activities
- » **Phase 1 Timeline:** 6-8 months
- » **Recipient:** Skyven Technologies is an Energy-as-a-Service (EaaS) provider providing clean process heat for industrial applications
- » **Project Locations:** Medina, NY
- » **Start Date:** January 2025

\*Represents the total project cost for Phase 1.

\*\*Represents OCED's cost share for Phase 1. Additional funding for this project is subject to future award negotiations at the end of each project phase.

### About This Project

In the Steam-Generating Heat Pumps for Cross-Sector Deep Decarbonization project, Skyven Technologies (Skyven) plans to partner with manufacturing facilities across multiple manufacturing sectors in the United States, starting with the Western New York Energy (WNYE) facility in Medina, NY, to pioneer a process-heat-as-a-service model. This approach would electrify steam production to replace natural gas boilers to meet the needs of an energy-intensive facility that currently relies on fossil-fired heat. By developing this technology, Skyven would demonstrate expertise and economic viability of this technology solution that can be replicated among diverse heat-using manufacturers.

During Phase 1 of the project, Skyven will complete initial conceptual and engineering studies for the project, provide documentation and reports necessary to complete the National Environmental Policy Act (NEPA) review, and engage community and labor stakeholders. OCED will provide oversight of the Steam-Generating Heat Pumps for Cross-Sector Deep Decarbonization project by evaluating the status and quality of implementation at each phase of the project. Through its phased approach to project management oversight, OCED will review and evaluate the project's progress, including community benefits, which impact OCED's decision to continue to provide federal funding and allow a project to progress to the following phase.

# Steam-Generating Heat Pumps for Cross-Sector Deep Decarbonization Project Fact Sheet

## Project Site

The initial Steam-Generating Heat Pumps for Cross-Sector Deep Decarbonization project site would be located in Medina, NY.

## Community Benefits Commitments

Community benefits commitments are a key component of the Steam-Generating Heat Pumps for Cross-Sector Deep Decarbonization project. The commitments are informed and developed—in consultation with local communities—to maximize local community benefits and mitigate potential negative impacts. Skyven plans to implement these commitments through:

- Improving air quality at each facility by **replacing natural gas boilers**, which would eliminate their associated criteria air pollutant emissions including nitrogen oxides, sulfur oxides, and particulate matter.
- **Engaging with labor unions**, providing union neutrality, and negotiating a Community Workforce Agreement.
- Communicating and engaging with communities, including underrepresented groups, to **promote diversity, equity, inclusion, and accessibility**.
- **Collecting community feedback** through in-person meeting and workshops alongside online public surveys in multiple languages.
- Co-creating a Community Advisory Board to **engage local organizations** and collect and document community input.
- Ensuring opportunities to **contract with local businesses** with priority given to small, disadvantaged, or underrepresented businesses.
- **Creating good-paying jobs** and ensuring strong safety standards at each facility.
- Supporting the Justice40 initiative by **completing a Justice40 assessment and implementation strategy** during each phase.
- **Quantifying air quality impacts** for any relevant air pollutants emitted, or expected to be emitted, from the project.
- Sharing project information publicly to **support engagement, accountability, and transparency**.

More details on the Steam-Generating Heat Pumps for Cross-Sector Deep Decarbonization project's community benefits commitments can be found in the [Community Benefits Commitments Summary](#).



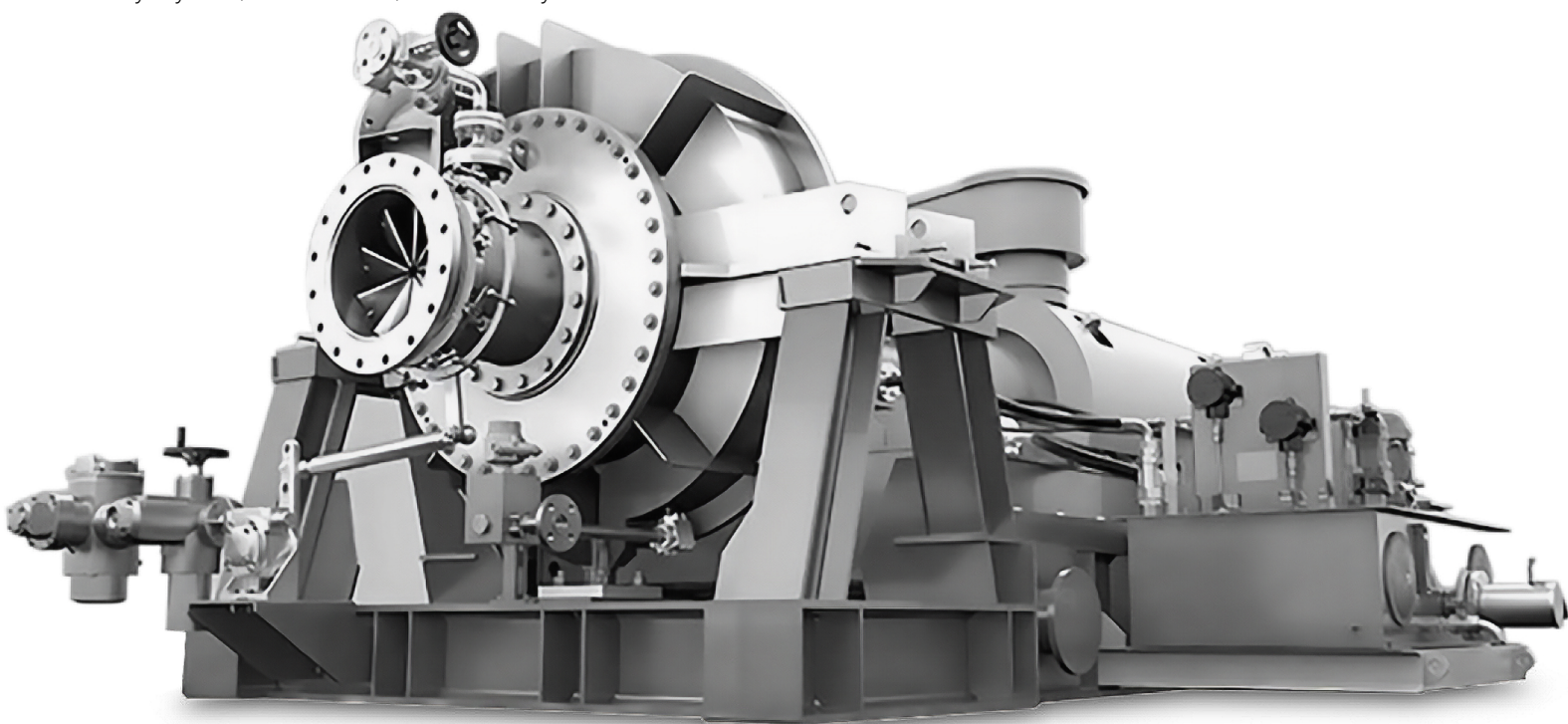
WNYE's Medina, NY facility, the future home of the Skyven Arcturus steam-generating heat pump



# Steam-Generating Heat Pumps for Cross-Sector Deep Decarbonization Project Fact Sheet

## Industrial Demonstrations Program Goals

U.S. industry is a backbone of the nation's economy, producing the goods critical to everyday life, employing millions of Americans in high-quality jobs, and providing an economic anchor for thousands of communities. Yet the sector's energy- and carbon-intensity contributes to nearly one third of the nation's carbon dioxide emissions, representing a unique and complex challenge to achieving a carbon-free economy. Decarbonizing the U.S. industrial sector will require equally unique and innovative technological solutions that leverage multiple pathways, including energy efficiency, electrification, and alternative fuels and feedstocks such as clean hydrogen. The Industrial Demonstrations Program includes new, emerging technologies that aim to help produce clean steel, cement, chemicals, and other materials used in our nation's roads, bridges, transmission lines, electric vehicles, solar panels, wind turbines, and everyday lives, which in turn, benefit every American.



A Skyven Arcturus steam-generating heat pump

## Contact

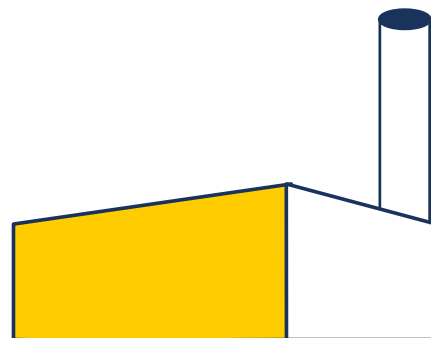
**Program Email:** [engage\\_industrialdemos@hq.doe.gov](mailto:engage_industrialdemos@hq.doe.gov)

**OCED Media Email:** [OCEDNewsroom@hq.doe.gov](mailto:OCEDNewsroom@hq.doe.gov)

## More Resources

**Website:** [energy.gov/oced/IDP](https://energy.gov/oced/IDP)

**Office of Clean Energy Demonstrations:** [energy.gov/oced](https://energy.gov/oced)



The U.S. Department of Energy established OCED to help scale the emerging technologies needed to tackle our most pressing climate challenges and achieve net-zero emissions by 2050. OCED's mission is to deliver clean energy demonstration projects at scale in partnership with the private sector to accelerate deployment, market adoption, and the equitable transition to a decarbonized energy system.