



# DEVELOPING HVAC AND SMART BUILDING SOLUTIONS FOR NET ZERO ENERGY BUILDINGS

ENABLING ENERGY EFFICIENT, RESILIENT, AND LOAD FLEXIBLE ADVANCED BUILDINGS

## INVESTMENT THESIS

Not only do buildings account for 67% of energy use in New York State, but there is a significant difference between their peak (32 GW) and average (18 GW) demand that is driven in large part by heating, ventilation, and air conditioning (HVAC) requirements. To ensure a reliable grid in the face of fluctuating loads, NYSERDA is investing in demand-side building technologies, including efficiency, on-site generation, energy storage, and alternative heating/cooling.

## NYSERDA EXPERIENCE

The Advanced Buildings Program has enabled development of 98 products with \$53 million of NYSERDA investment, which has helped to generate \$154 million in follow-on investments. More than a quarter of NYSERDA's portfolio have reached commercialization thus far.

NYSERDA leverages a network of contacts including national labs, university researchers, centers of excellence, large property owners and management companies to provide product development and commercialization support to building control system and HVAC equipment manufacturers in New York State.

## AREAS OF INTEREST

**NextGen HVAC:** Improve the performance and value proposition of advanced HVAC systems. With a \$15 million budget through June 2020, the initiative aims to reduce demand by 500 – 800 MW by 2025, and 2,000 MW by 2030.

**Smart Buildings:** Develop products, services, and technical and informational resources to accelerate the implementation of smart building solutions. With a \$19 million budget, the initiative aims for 10 – 12 million tons of CO<sub>2</sub> emission reductions, and up to \$1 billion in energy savings by 2030.

## NYSERDA INNOVATION PERSPECTIVE

“Even though there’s a tendency to think that buildings are ‘finished’ when they are first built out, we’ve found that there is tremendous economic and environmental benefit to be gained from continuous optimization.”

—**Joseph Borowiec, Program Manager** (Contact: joseph.borowiec@nyserdera.ny.gov)

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