



SOLVING THE PROBLEM

Transformative Wave's technology and solutions become an all-seeing-eye for fault detection, diagnostics and asset management. The company is developing a turnkey retrofit kit for commercial buildings featuring advanced HVAC and lighting control, battery storage and micro-grid capabilities. Transformative Wave will optimize on-going revenue from 15-30 percent energy savings, 20-40 percent peak demand reduction, energy arbitrage, auto-DR and grid services.



THE IMPACT:

Transformative Wave focuses on grocery, convenience stores and retail space, a target market composed of 46 percent of the nation's commercial floorspace. Battery round-trip efficiency translates to a market average savings of 18 percent kWh. Transformative Wave will initially focus on regions with healthy incentives including California, Texas, Hawaii and the Northeast. Assuming 40 percent penetration in these regions, annual savings will be 17 billion kWh.

HOW IN² IS HELPING:

Transformative Wave is in need of support to develop a model predictive controller, and conduct third-party laboratory testing and field demonstrations. Testing will focus on how to optimize passive thermal storage with active battery storage to maximize parallel revenue streams. The IN² program will provide necessary domain knowledge, EnergyPlus building simulation and hardware-in-the-loop testing expertise to validate their technology solution.

TIER 1: Bench Scale

- Concept development stage
- Develop plans for prototyping & testing
- 3 – 5 years to market

TIER 2: Prototype

- Available for testing & validation
- Plans for development of final product
- Less than 2 years to market

TIER 3: Commercially Ready

- Models available in limited quantity
- Integrated demonstration
- Less than 18 months to market testing

ABOUT THE IN² PROGRAM

IN² is a technology incubator that fosters and accelerates early stage technology companies that provide scalable solutions to reduce the energy impact of buildings. Through a \$30 million program funded by the Wells Fargo Foundation and co-administered by the U.S. Department of Energy's National Renewable Energy Laboratory (NREL), sustainable building technologies are able to evolve and develop, contributing to the overall goal of a Smart and Connected Community that uses energy, water and other resources efficiently, reducing the negative impact on the environment.

