



# UNIVERSITY OF MASSACHUSETTS, DARTMOUTH

Dartmouth, MA

*The University of Massachusetts, Dartmouth's guaranteed energy savings contract allows savings from basic infrastructure improvements to help fund major systemic and engineering-intensive improvements on campus.*

The University of Massachusetts, Dartmouth (UMD) faced significant operational challenges due to rapidly aging infrastructure and energy intensive operations, compounded by years of deferred maintenance.

Considered the largest initiative of its kind executed by the Commonwealth's Division of Capital Asset Management & Maintenance (DCAMM), UMD's guaranteed energy savings contract with NORESO included two phases of work. Phase 1 contained 19 energy conservation measures that address energy and water savings opportunities and critical HVAC infrastructure improvements. Phase 2 contained the largest measure, a new gas turbine combined heat and power (CHP) system that produces much of the electricity and steam needed by the campus.

The project received \$2.7 million in financial incentives from the local public utility with the remainder paid from savings generated by the project over a 20-year period. In addition, yearly financial incentives through the Commonwealth's Alternative Energy Portfolio Standard help support the costs for the new CHP plant. The carbon reduction attributable to the total project is estimated at more than 20% of the utility-related footprint.

NORESCO's unique Energy Conservation Through Behavior Change® program enhances the project by providing resource conservation education and awareness training, with measurable results, that is helping significantly toward building a culture of sustainability on campus.

**Project Cost:** \$34.6 Million

**Annual Cost Savings:** \$2.9 Million

**Contract Term:** 20 Years

**Contract Type:** ESPC

## Technical Highlights:

- New gas turbines with heat recovery steam generator
- HVAC modifications
- Central building management control
- Water conservation retrofits
- Base mechanical system upgrade
- Lighting upgrade and controls
- Re-commissioning and expand existing BMS control
- Electric and steam sub-metering
- Weatherization
- Kitchen hood controls
- Energy Conservation Through Behavior Change®

## Environmental Impact:

- 18,359,224 kWh reduction in electricity usage from the grid
- Equivalent to 2,700 cars removed from the road annually
- Utility-related footprint reductions:
  - 27% in CO<sub>2</sub> emissions
  - 31% in SO<sub>x</sub> emissions
  - 55% in NO<sub>x</sub> emissions

**"Students, faculty and staff will benefit from more efficient buildings and systems, with no outlays required from taxpayers. Plus, we lower the carbon footprint of the campus"**

Salvatore Filardi

Former Associate Vice Chancellor for  
Administrative Services, UMD

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