UNIVERSITY OF MASSACHUSETTS - DARTMOUTH

Dartmouth, MA

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.

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 NORESCO 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, NSTAR, with the remainder paid from savings generated by the project over a twenty-year period. In addition, yearly financial incentives through the Commonwealth's Alternative Energy Portfolio Standard help support the costs for the new CHP. 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: $33.9 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 & controls
- Re-commissioning & expand existing BMS control
- Electric & 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 CO2 emissions
  31% in SOx emissions
  55% in NOx 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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