Earthplace

Recent clean energy improvements at Earthplace will reduce long-term operating expenses while creating a healthier and more comfortable environment for building occupants. To advance their long-term commitment to sustainability (moving towards Net Zero energy), Earthplace completed an ambitious energy retrofit to address: deferred maintenance, creation of new laboratory space, along with various mechanical, LED lighting, and building envelope improvements. The project also included a second roof-top solar system. Collectively, these energy infrastructure upgrades will reduce the facility's consumption of grid-supplied electricity by over 50%.

MHR Development provided programmatic and technical support to manage this multi-measure energy upgrade that has received awards from the Connecticut Green Bank and 2030 Districts.

The project leveraged several funding sources, including: Property Assessed Clean Energy (C-PACE) financing from the Connecticut Green Bank, incentives from Eversource Energy and renewable energy credits (Z-RECs), and a solar power purchase agreement (PPA).

<u>This is one of the first C-PACE financed projects in the town of Westport</u>: a multi-measure retrofit utilizing "technology agnostic" financing.

"We are enthusiastic about this upgrade to our facility as we create an energy conservation showcase - there is more to come!"

Tony McDowell
Executive Director, EarthPlace

INSTITUTIONAL / LABORATORY

Mission: "To build a passion in our community for nature and the environment through education, experience, and action."

Project: Multi-Measure Deep Energy Retrofit
Size: 23,000 sq. ft.; 50 acres
Type: Educational/Laboratory/Institutional

Address: 10 Woodside Lane, Westport, CT
Website: www.earthplace.org

SUSTAINABILITY UPGRADES

- Two Solar Photovoltaic Installations
- Repair of Fresh Air Intake Economizers
- LED Lighting (Interior & Exterior)
- Heat Destratification Fan
- Thermal Envelope Improvements
- Variable Frequency Drives (VFDs)
- Efficient Boiler Replacement
- Rain Water Harvesting
- High Efficiency Air-Source Heat Pumps

BENEFITS

Utility & Operational Savings:
$19,000 / year

Grid-Supplied Electricity Reduction:
103,223 kWh / year

Heating Oil Reduction:
1,742 gallons / year

Water Conservation / Reduction:
1,000 gallons / year

CO_2 Emissions Reduction:
2.3 tons / year

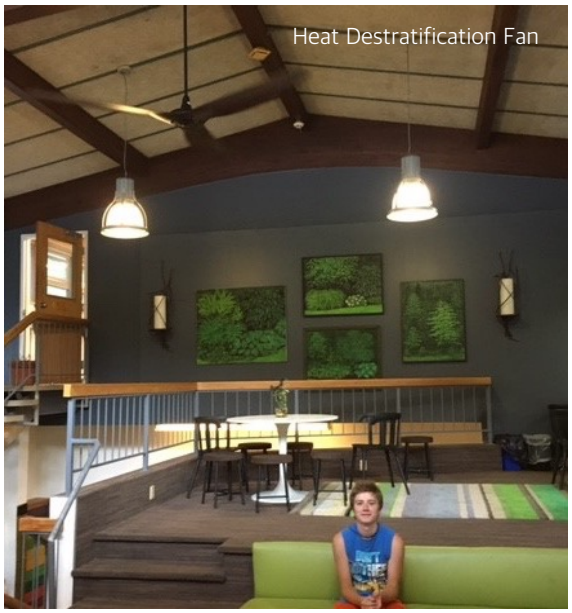
Heat Destratification:
Improved Occupant Comfort

Note: these numbers are approximations and based on baseline results.


Source: Google Earth

38 KW Solar Photovoltaic

LED Lighting in Water Testing Laboratory



Heat Destratification Fan

High Efficiency Roof Top Units with Economizer

FUNDING

TOTAL PROJECT VALUE: $295,000

FUNDING SOURCES:

Energize CT Rebate:	$25,000
C-PACE Loan:	$175,000
Renewable Energy Credits (ZRECs):	$83 / MW
Power Purchase Agreement (PPA):	$95,000

DEBT SERVICE (C-PACE BENEFIT ASSESSMENT): $16,000 / year

The annual loan payment for the project.

PROJECTED ENERGY & OPERATIONAL SAVINGS: $19,000 / year

Note: the above numbers are approximations.

AWARDS

CONNECTICUT GREEN BANK℠

PACEsetter Award
Outstanding Project
2015

2030 DISTRICT™

2030 District
Gold Award
2016

MHR DEVELOPMENT
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