



Background:

Dexter School is a non-profit independent day school for boys. It offers pre-school through grade nine, preparing students for admission to leading secondary schools. Dexter School has a strong commitment to science and technology education. In 2002, the school opened the Clay Center for Science and Technology with a solar photovoltaic and wind installation.



The PV and wind systems are mounted on the 5th floor roof deck of the Clay Center. This location provides good solar and wind exposure, accessibility to Dexter students, faculty, and guests for educational and demonstration purposes, and does not impinge on the architectural integrity of the Dexter campus.

Dexter School

Brookline, Massachusetts



Benefits:

The Dexter School's renewable energy system consists of an integrated solar and wind generating system that is designed foremost as an educational resource and secondarily as a source of non-polluting, renewable energy for the Dexter campus. Heliotronics' data monitoring system provides an interface for students to interact with the systems. Data is accessible from the school's computer network and thereby available in all classrooms to support student projects in science, math, environmental studies, and social studies.

"We had originally installed inverter based data acquisition systems from two different manufacturers. These were helpful for operations and maintenance but turned out to have limitations from an educational standpoint. We later learned of the Heliotronics system and, after a demo, the decision to upgrade was a no-brainer. It is a great educational tool."

-Bob Phinney
Dexter School Science and Technology Coordinator

All of the system components at the Dexter School are accessible to students so that they can see the actual hardware at work. Even the inverters and controllers are visible behind glass panels so that students and visitors can better understand the technology. In this way, Dexter School is able to maximize the educational benefits of their system.



Project Snapshot

Data Monitoring System: Heliotronics Custom Package

System Specs: monitors real-time PV and wind power output, energy, avoided emissions, irradiance, PV module temperature, and wind dump load

User Interface: Heliotronics' *SunViewer* educational display software accessible through the school's local area network

PV Installation: 18 ASE Photovoltaic modules

PV System Capacity: 5.4 kW AC (grid-connected)

Wind Installation: 1 kW Bergey Windpower Turbine (stand alone system with battery bank)

Installation team: Solar Works, Inc.



The solar and wind power system costs were included in the building budget for the new Science Center. By incorporating the renewable energy systems in the early design phase of the building, Dexter School was able to minimize the installation costs of the system.

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