

Human Ecology Building ENERGY CONSERVATION

Human Ecology Building LEED™ platinum certified

The Human Ecology Building (HEB) was designed and constructed with many energy conservation features that are leading edge. Together these features result in a building that uses 30 to 40% less energy. HEB provides office, studio, gallery and wet and dry lab facilities tailored to the needs of the Department of Fiber Science and Apparel Design and the Division of Nutritional Sciences.

Features in the building are focused on the highest energy use areas including ventilation, building conditioning equipment and systems, and lighting.

Energy conservation efforts for this building also feature **behavior change elements**, such as: real time building metering, building dashboards and real time electric sub metering. These elements provide people real time data on energy use, and ideas on ways they can change their behavior to reduce **their** energy use.



Energy Conservation Features

Demand controlled ventilation

- variable airflow fume hoods
- occupancy sensor based airflow reduction
- parking garage airflow based on carbon monoxide level

Temperature reset strategies

- reduces heating and cooling by relaxing temperature setpoints at different levels when rooms are occupied or unoccupied

Heat recovery

- energy from ventilation air exchanges with new outside air reducing new air heating and cooling by up to 40%
- all ventilation air from non-laboratory spaces returns to building air handling systems

Lighting efficiency and controls

Electrical vehicle charging station

High performance glass

- Reduces heating and cooling energy use

Conservation Behavior Change

Real time building metering

- Building energy and water metering are connected for “real time” display and trending

Real time electric sub metering

- extensive sub metering of electricity allows tracking, trending, display and analysis of lighting, plug load, allowing continuous improvements and competitions to reduce energy usage

Building dashboard

- students, faculty, staff and the public will be able to access all metering from the web

Building energy systems teaching and research

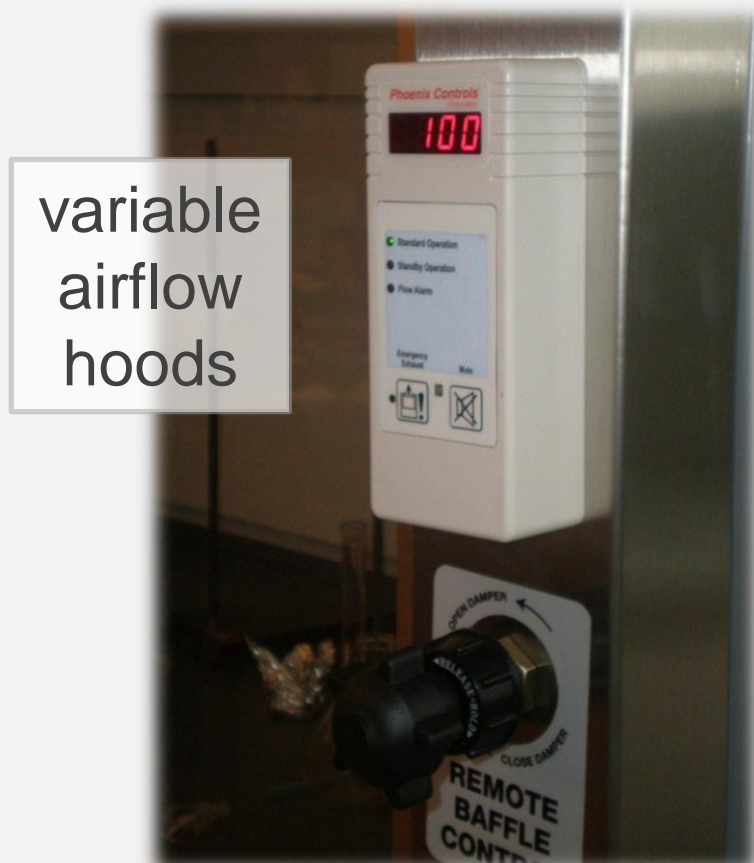
- faculty, and students can track performance, suggest changes, and optimize the building over time using the dashboard building energy system controls



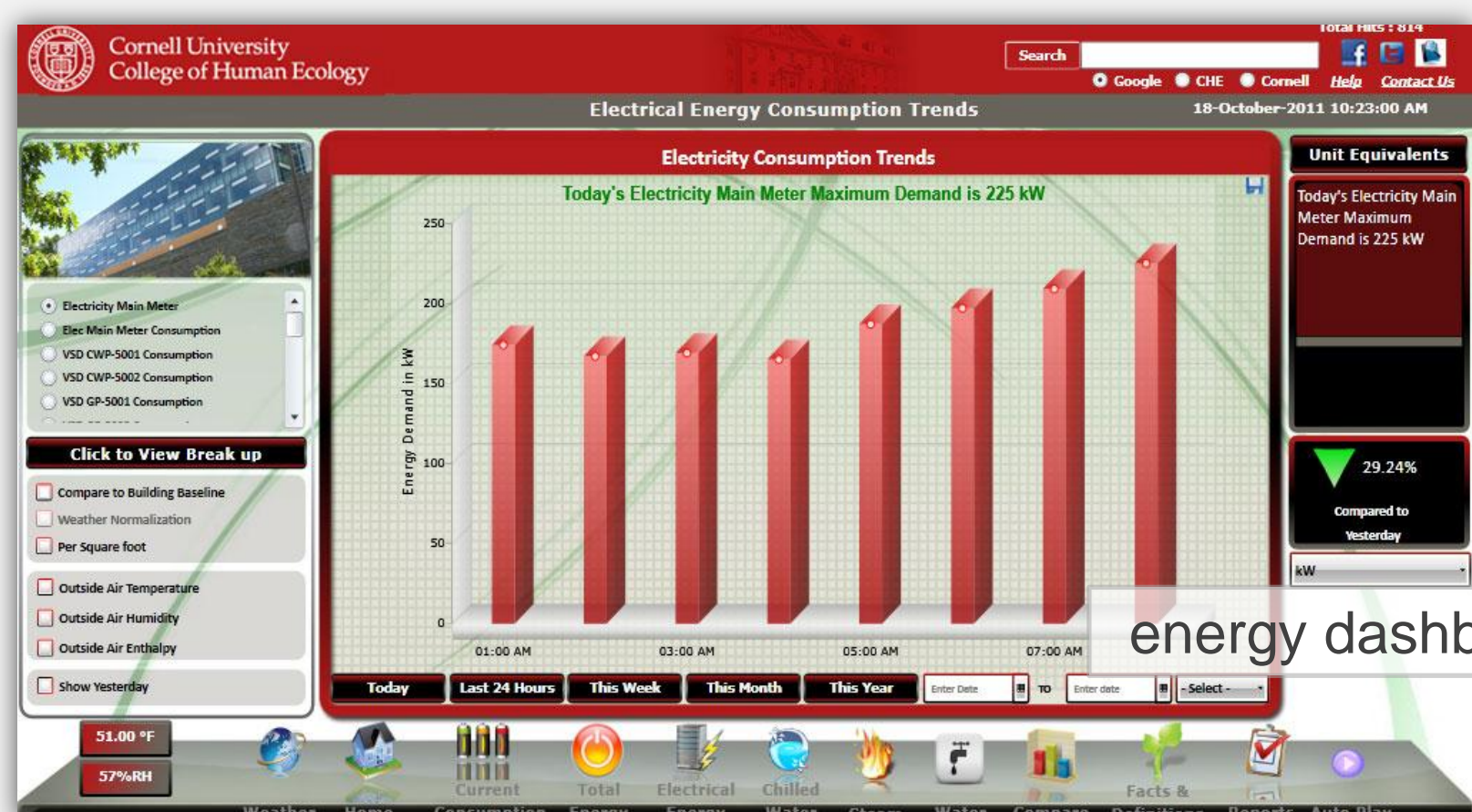
heat recovery



occupancy control



variable airflow hoods



energy dashboard

