

Labs

Solar Lab

Passive solar space with several ventilation strategies and control equipment to better understand the heating potential of passive solar architecture

- Equipment List
- 600+ sq. ft. of passive solar surface area
- Campbell Scientific data acquisition system with spatial temperature measurements
- Assorted 802.15.4 wireless sensor technologies
- Air handlers with connection to outside air source and air conditioning system
- List fans for moving heat through plenums and free space

Storage/Smart Grid Lab

Instrument facility for better understanding electrical energy storage, load shaping, and smart grid control strategies

- Equipment List
- Test enclosure for bi-modal inverters
- Battery storage
- Smart load controller
- Battery monitoring system
- Revenue grade bi-directional power/energy meter

PV Lab

Laboratory setup for testing components of utility-intertied photovoltaic power systems

- Equipment List
- 4.2 kW PV array installed in 2005
- Rack for mounting multiple inverters
- Campbell Scientific environmental data acquisition system
- Revenue grade power/energy meters for PV production

Energy Management System Lab

Instrumented mechanical facility to understand heat energy supplied and consumed by HVAC systems.

- Equipment List
- eGauge power meter for different circulating pump consumption
- can2go controller for monitoring system temperatures and flow rates

- Badger BTU Meters for quantifying heat delivery, system temperatures, and flow rates
- Assorted BTU meters