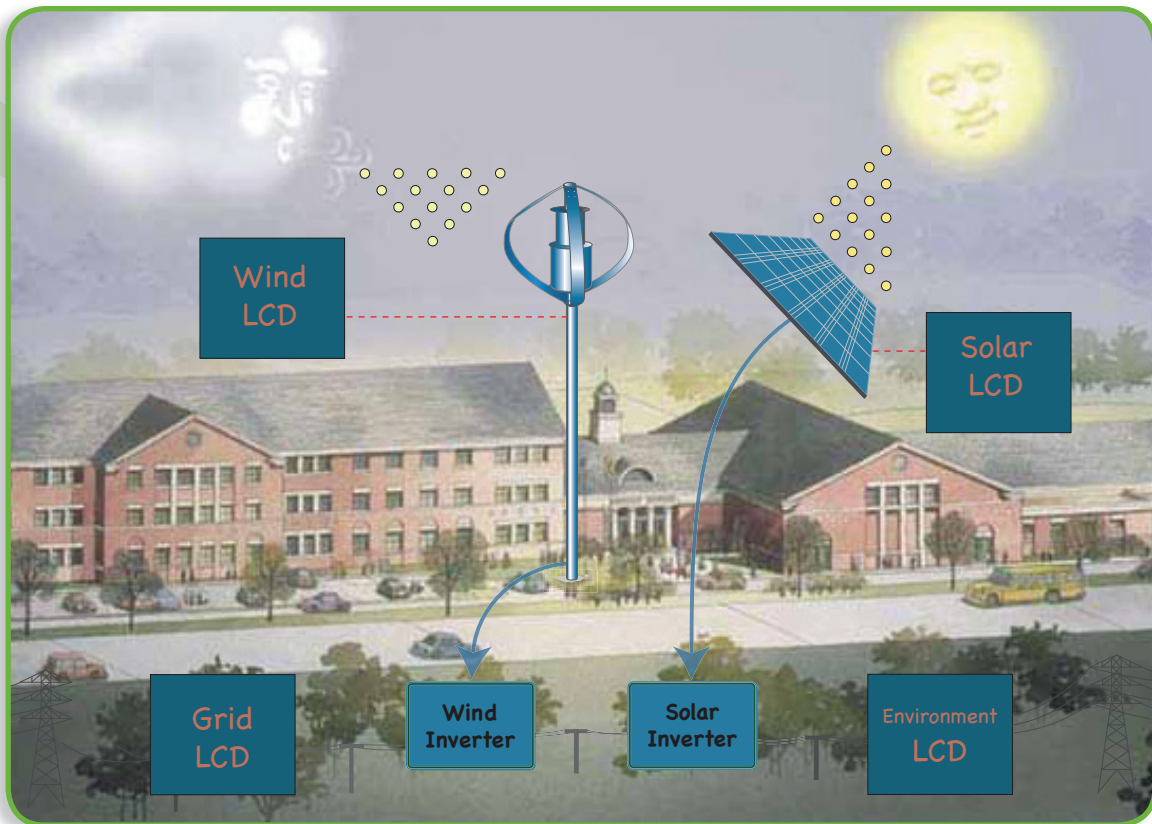


Wind and Solar Monitor Education Display

Classrooms can watch energy generation in real time!

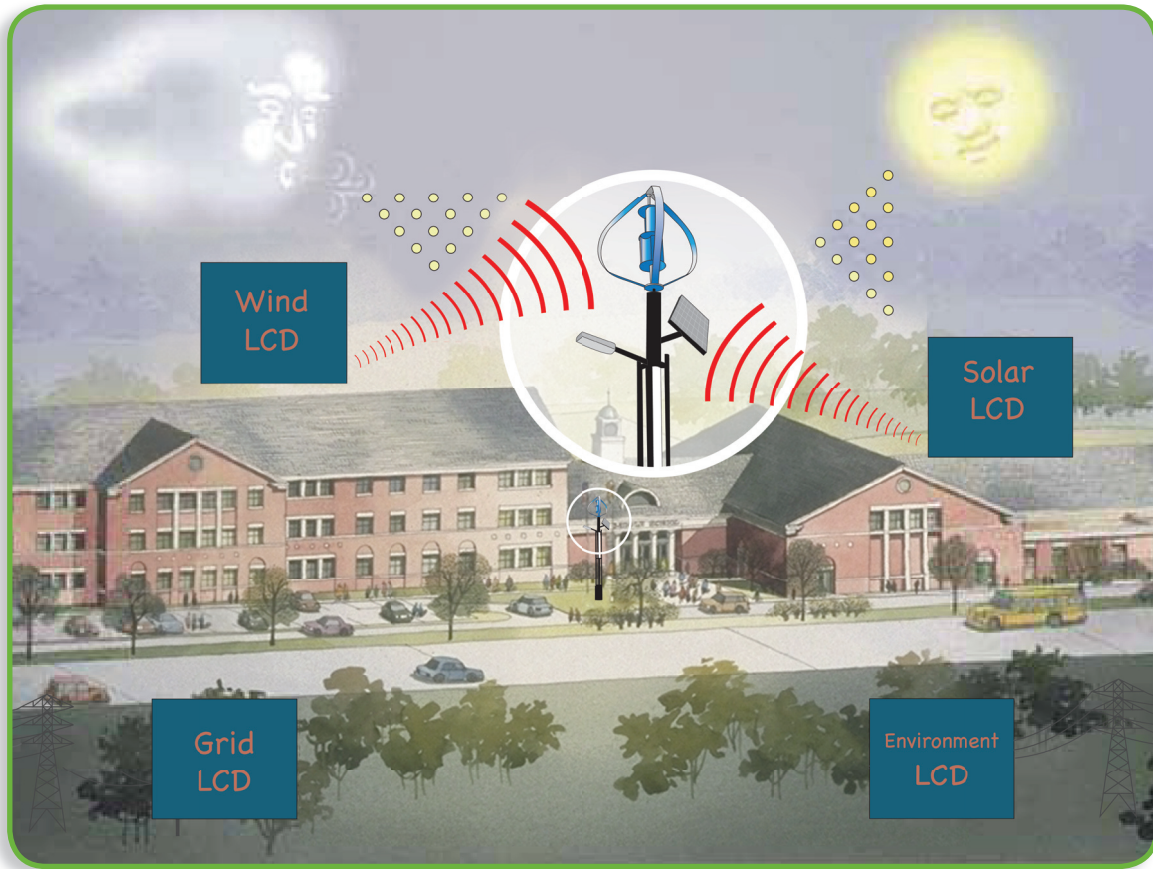


This graphic is designed for K-12 students. Graphics can be customized for any type of application or environment. The display board is linked to the electronics of the solar panel and wind turbine located right outside the school. Wireless connectivity allows multiple displays to be placed in each class room and throughout the building.

Master Board

- Wireless technology
 - 100 meters distance through concrete and steel walls
- Can be used with any wind or solar system
- Customizable graphics
- Master board can drive an unlimited number of slave boards
- 5 transceivers and micro-controllers
 - Two each on master board
 - One on wind sensor board
 - One on solar sensor board
 - One on weather sensor board

Entry Level Renewable Energy Education System



Board Function

Wind and Solar LED Lights

- Wind speed based on power
- Irradiance based on power
- Updated every 18 seconds

Wind and Solar Inverter Sensors

- Voltage
- Current
- Grid voltage
- Grid frequency
- Power
- Energy

Weather Sensor

- Temperature
- Wind speed (anemometer)
- Irradiance (coming)
- Barometric pressure (coming)

LCD Screens

- Button freezes frame
 - Allows user to compare data between screens
- Each screen rotates 3 sets of measurements displaying various information:
 - **Wind Display:** voltage AC, power, current, energy, RPM and daily power peak
 - **Solar Display:** voltage DC, power, current, energy, irradiance and daily power peak
 - **Grid Display or Power Storage:** grid voltage, grid frequency, total power, total energy and peak total power (today and this month) and state of charge
 - **Environmental Display:** wind speed, temperature, CO₂'s removed, pollution from one car over x days, barrels of oil reduced and acres of trees planted

Entry Level Renewable Energy Education System Components

Off Grid Hybrid Light System

- 300 watt vertical axis wind turbine
- 85 watt solar panel
- One educational display board
- Grid tied wind turbine and solar upgrades available