A Building Clouds Solution

Controlling CO_2 Levels in Classrooms an Affordable, Wireless Solution to a Difficult Problem

Researchers at Lawrence Berkeley National Laboratory have determined that moderate to high levels of indoor Carbon Dioxide can impair people's abilities to make decisions. Levels as low as 1,000 to 2,500 ppm can impede the decision making process. Levels in a typical classroom frequently exceed 3,000 ppm of CO_2.

You can read the LBNL study here: http://newscenter.lbl.gov/2012/10/17/elevated-indoor-carbon-dioxide-impairs-decision-making-performance/).

Building Clouds has successfully designed a system for the Belmont Redwood Shores School District in Northern California which monitors both wired and wireless CO_2 sensors in classrooms and public meeting areas. Data from the sensors are integrated into the District's Opendiem energy management system and CO_2 levels are kept below 800 ppm by opening fresh air intake dampers that supply the room being monitored. If levels continue to escalate an alarm is enunciated to alert building maintenance personnel that the system needs to be inspected.

By simultaneously monitoring CO_2 levels, indoor and outdoor temperatures, and economizer damper position the EMS is able to minimize energy usage while providing for maximum indoor air quality and a safe learning environment for students.

System Components

- Opendiem EMS Software by **Building Clouds**
- Control Systems Integration by **Energy ETC**
- System Hosting & Help Desk by **Energy ETC**
- Wireless Enabled Hardware, Sensors by **Powercast**
- LonWorks Controllers by **Building Clouds**