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Sandoval brings renewable energy to curriculum with web monitoring

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by **Neshama Abraham** |

Academia Ana Marie Sandoval School in Denver recently became the first school in the Denver Public School system to teach kids about solar energy production using live data monitoring of the school's own solar photovoltaic (PV) panels. This first was facilitated by Jeff Scott, president and founder of SolSource Inc. (www.solsourceinc.com) whose Denver-based solar engineering company designed and installed the 9.82 kw solar array on the school's pitched roof at 3655 Wyandot Street.



On Tuesday, Dec. 15, 2009, Scott visited teacher Lindsey Rosendahl's elementary class where he guest taught her 3rd, 4th and 5th graders about solar energy production and how to navigate the Fat Spaniel kid-friendly software that monitors the school's production of solar energy. Scott guided 30 children who each sat at their own computer in the school's computer lab through different fields on a live data feed. The children followed the electricity generated by the school's solar panels that morning at hourly intervals starting at 7 am through 11 am, for the week, and during the month of December 2009.

"We are excited to help Colorado schools take the next leap to incorporate renewable energy into the school curriculum," said Jeff Scott, a popular solar educator who serves on the board for Colorado MESA, an organization bringing math, engineering, and science material to under-represented kids in these areas. "The Academia Sandoval kids asked excellent questions about renewable and non-renewable energy. It was great to be able to show the children how energy production varies on a sunny day like the day I visited Academia Sandoval, as compared to earlier in the month when there was snow on the solar panels — yet the modules still produced electricity." According to Scott, the solar panels even produce electricity at night with light from the street lights.

The historic solar education event at Academia Sandoval Elementary School was covered by KUNC-TV Channel 4, the CBS-TV affiliate in Denver on their 6 pm News on December 15. Channel 4 Reporter/Environmental Specialist Paul Day got footage of the class and interviewed Rosendahl along with three children in her class: Pedro Navarette, Marcus Owen-Schwarz, and Ava Beckman. The TV report can be viewed at the SolSource website on their "What's New" page: <http://www.solsourceinc.com/whatsnew.htm>.

The Academia Sandoval PV system consists of 58 Sharp 170 watt solar panels. SolSource Energy Solutions, Inc. installed the solar array in January 2009. In May 2009, the company set up a computer monitor in the Sandavol lobby connected to a live web based data monitoring system. The placement of the computer in the lobby was intentional so kids, parents, teachers and staff can easily see the power produced by the renewable energy system.

As of January 2010, the solar panels have generated over or 16,735 kw hours, or 16 megawatts of electricity, and has prevented over 20,000 pounds of carbon dioxide emissions per year from entering the earth's atmosphere.

“Academia Sandoval is a Montessori School where we emphasize hands on learning,” said teacher Lindsey Rosendahl. “Having Jeff Scott teach about our school’s PV system using live data added greatly to the children’s understanding and excitement about solar energy.”

“Jeff brought the knowledge of a solar expert who could also teach on the children’s level. Plus, the students followed along with the solar lesson on their own monitor, both learning computer skills and seeing for themselves the environmental benefits of solar energy.”

Web based computer monitoring is a new teaching tool and growing trend for schools to help children and learn how the solar energy system works using a computer in the classroom, computer lab, and even from a home-based computer. Data is available 24 hours a day allowing teachers and kids to view real time and historic energy production, carbon offset, environmental and weather information.

SolSource Energy Solutions, Inc. has designed and installed more than 500 solar electric and solar thermal systems in Colorado for residential and commercial customers. Scott says his company has a commitment to help schools utilize renewable energy. The solar engineering, procurement, and construction company has installed 18 solar systems for Colorado elementary schools, middle schools, high schools, and university institutions. These systems include solar PV arrays and solar thermal solutions, such as a SolarWall transpired solar-thermal collector recently installed at Summit Middle School in Boulder.

To view details about the Academia Sandoval School solar system, you can visit the project summary on the SolSource website in their commercial portfolio section at www.soulsourceinc.com or Academia Ana Marie Sandoval School (http://www.solsourceinc.com/portfolio_sub.php?id=55) with live link to the Fat Spaniel solar electric data feed.

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