

North Sanpete School District

Creating the perfect place to learn so all students can succeed

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The North Sanpete School District in central Utah operates under a singular philosophy: all students can learn. Thus, the district works hard to provide the education and resources appropriate to meet the needs and contribute to the success of each student, the community, and society as a whole.

But according to Superintendent of Schools Dr. Samuel Ray, who joined North Sanpete in 2014, the district facilities were having a negative impact on the educators' ability to follow through on that philosophy. "After my first year, our head of maintenance had a heart to heart with me. Our buildings were built in the 1980s, and the heating systems were failing. We could no longer get replacement parts, and we were unable to keep the systems running appropriately," he explains.

Three of the district's buildings still relied on original boilers, which had been converted in the 1990s from coal-fired to natural gas. But because of the age of these systems, they were not only energy intensive, they were also well past their end-of-life. Catastrophic system failure was a very real threat to North Sanpete, which endures particularly harsh winters. Considering the lack of funds to make these significant upgrades, the district needed an inspired solution to solving these problems.

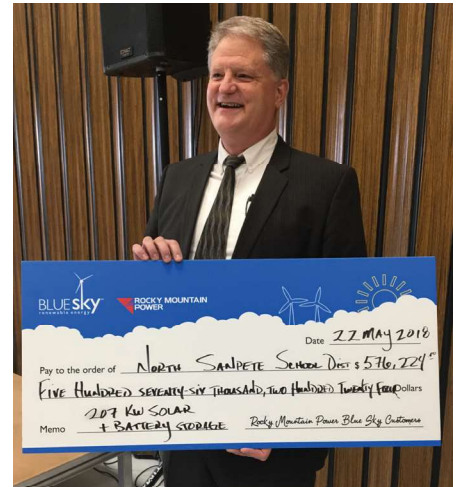
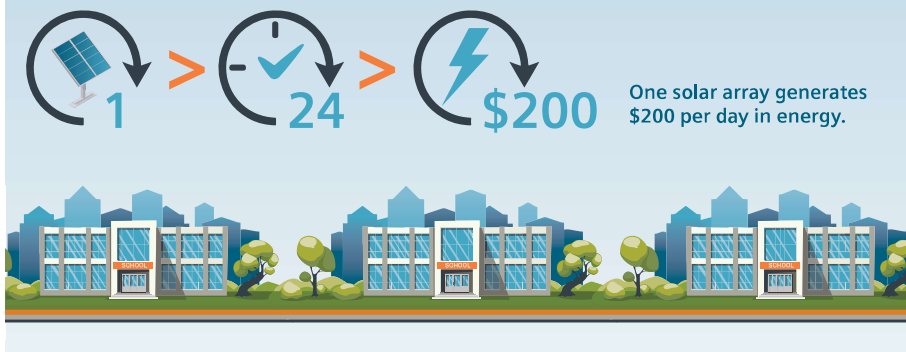
Soon after these discussions, Dr. Ray met a Siemens Building Technologies representative at an annual school board conference, and explained the concerns he had. "He offered to come to the district and look at our systems with an engineer," says Dr. Ray. The Siemens team visited the district and, according to Dr. Ray, did a comprehensive walkthrough of the facilities. "They crawled through basements and attics," he says, and also introduced the concept of contacting the Utah Governor's Office of Energy Development (OED), which was supporting energy development projects in the state and could help the district craft an RFP to ultimately select an energy services company.

Selecting a partner to overcome energy and infrastructure challenges

OED's guidance through the competitive RFP process included helping district officials review a range of proposals, interview two energy services companies (ESCO), and select a partner. Once North Sanpete School District selected Siemens, the investment

Energy Conservation Measures	Number of Buildings
Lighting Retrofits	11
Boiler Replacements	3
Air Handling Unit Replacements	3
Building Automation System Upgrades	4
Building Weatherization	11
Mechanical Equipment Insulation	8
Solar PV	3

North Sanpete Solar Arrays



grade audit began, which enabled the district to review all of the costs and options to replace the failing heating system, and uncovering the most financially advantageous ways to put the project together for the district. This process was particularly challenging as heating systems often have longer payback periods than the typical terms for a performance contract.

In search of ways to not only address the aging infrastructure and energy efficiency improvement needs for North Sanpete, the district and Siemens arrived at a comprehensive package that could be executed under a performance contract. The work would include:

- District-wide lighting retrofits to LED fixtures
- District-wide mechanical insulation and building weatherization
- HVAC system improvements in the high school, middle school, and an elementary building
- Building automation system upgrades for a range of buildings

"The new lighting is helping a lot. Before, we were at 50-60% of recommended lumens for classroom environments, but now we are at 100%. We can see, the kids can see. It's truly helpful."

Dr. Samuel Ray,
Superintendent of Schools

The district and Siemens also agreed to add a solar energy component to the program, which offered a range of benefits to North Sanpete: Not only did the shorter payback period help to offset the heating system project in terms of the performance contract, but the district would also take advantage of a renewable, onsite source of energy. "Through these discussions, Siemens explained how a grant from Rocky Mountain Power could help us pay for this solar project. Although we at the district could not dedicate the resources to write the grant application, Siemens helped us through this process as well," says Dr. Ray.

\$576,000 grant awarded for solar project

Rocky Mountain Power awarded North Sanpete a \$576,000 grant, which Dr. Ray says could pay for about half of the solar project, including the panels, battery backup, and car charging system. More, the outside source of these grant funds enabled the district to obtain the appropriate financing for their performance contract.

"We needed an outside source to match funds so we could obtain the type of financing that would be best for our district; as a result, Siemens helped us obtain 100% financing for our project at 0% interest for 20 years. This allows us to amortize the cost of the project over a longer period of time, and because we'll be paying with the savings generated by the improvements, it becomes much easier for us," he explains.

Creating a pathway for long-term student success

Today, North Sanpete is home to solar arrays at three of its schools, and they're designed to generate 80-100% of the energy needs for those buildings. Siemens has helped the district connect these panels to an internet portal so students, faculty, and residents alike can see how much energy has been generated onsite, and understand the local impact of the renewable energy source.

In fact, at one of the schools, Dr. Ray says the solar array is already generating \$200 per day in energy, and he notes that the arrays at the other two buildings are paying for themselves as well.

But even more importantly, according to Dr. Ray, "this project is about much more than just fixing the boilers. It's a springboard for our kids. We live in an area where few career paths are generally available to our residents. But in combination with the solar arrays, Siemens has helped us create a pathway where our students can take a series of courses beginning in junior high and leave high school with a certification to become a solar installer. By working with a local community college and the solar manufacturer, we've opened another option for students, and they're prepared for college engineering programs as well."

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