



UTAH SCHOOLS SAVING ENERGY

PROJECT CASE STUDY: PARK CITY SCHOOL DISTRICT



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While these contributions were central to the successes of this project, the findings and perspectives outlined in this report are solely those of the author and Utah Clean Energy.

PROJECT HIGHLIGHTS SUMMARY

Utah Clean Energy worked with Park City School District (PCSD) is from August 2007 to July 2009 with the goal of reducing energy consumption by at least 10 percent. This energy-savings project received positive press coverage after a joint press release was issued on January 29, 2008. This story was covered by KPCW, The Park Record, and The Salt Lake Tribune.



As a result of this project, PCSD is estimated to save over 3.16 MBtu and \$55,000 per year in electricity and natural gas costs through lighting retrofits and boiler tune-ups that were implemented in seven schools and one non-academic building during 2008. This level of energy and financial savings only begins to scratch the surface of what is possible at the District. This project also results in avoiding the emission of over 910,000 lbs of CO₂ every year¹. The project falls short of meeting the 10 percent savings goal, with the actual energy savings representing approximately a 6.4 percent improvement (or about 52 percent of the original goal).

Primary challenges to this project included limited staff time focused on energy efficiency and utility data tracking and utilization of the ENERGY STAR Portfolio Manager tool. During the course of the project, much of the staff time was committed to the expansion and remodel of the district's high school. Furthermore, the district's buildings have deficiencies in their building control² systems that result in excess energy consumption and costs. Because of the decision to address this issue in-house and the limited staffing to remedy this issue it was not resolved during this project period thereby leaving significant energy savings opportunities on the table. It was also found that utility data entry errors occurred (which were subsequently corrected) delaying accurate

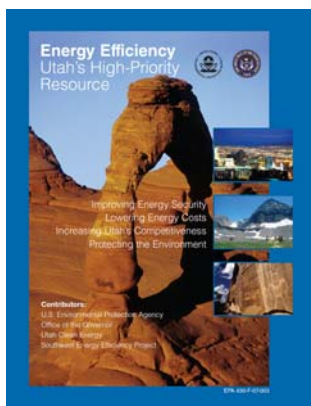
¹ Carbon dioxide emission equivalents calculated by using the U.S. EPA Greenhouse Gas Equivalencies Calculator. Url: <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>

² "Building controls" are building operation systems which monitor and control the mechanical, electrical and lighting components of a building.

benchmarking. It should also be noted that a sizable amount of the energy savings realized in this project resulted from work undertaken in two buildings that were not included in the original baseline assessment; one building was undergoing major construction at the time, and a maintenance building. Since these buildings are not included in the baseline, the Portfolio Manager assessment under-reports all of the energy savings achieved in this project.

INTRODUCTION

Utah's electricity demand is projected to continue to grow at a rate of over two percent per year, with summer peak demand growing at more than double that rate. This translates into higher energy prices for schools, and consumers, diminished air and water quality, and increased greenhouse gas emissions. Energy efficiency measures offer a rapidly-deployable, inexpensive, clean, and reliable solution to reduce energy consumption and mitigate our over-reliance on fossil fuel resources.



The State of Utah and many of the State's public sector entities are emerging leaders in far-sighted energy policies, including establishing energy efficiency as a priority resource. For example, Utah was invited to be one of 14 states participating in the EPA's Clean Energy-Environment State Partnership Program; in 2006 Utah's Governor Huntsman issued a comprehensive Energy Efficiency Policy for Utah calling for a 20 percent increase in energy efficiency by 2015³; and during the 2009 Utah Legislative Session the Utah Legislature adopted a joint resolution in support of cost-effective demand side management and energy efficiency⁴. One of the strategies to meet these goals includes targeting government buildings for energy efficiency audits and retrofits. Utah Clean Energy recognizes the tremendous opportunity for school

districts to play a role in meeting statewide energy efficiency goals. Faced with limited staffing and financial resources and often operating older facilities and equipment, school districts can often significantly reduce their energy usage if provided with the proper tools and support.

Utah Clean Energy's "Utah Schools Saving Energy" project brings together relevant resources and partners to support Utah's School Districts in reaching energy efficiency goals. These resources include technical/analytical partners and electric and natural gas utility and state incentive programs. By implementing energy audits, energy efficiency retrofits and re-commissioning, school districts across the state have the opportunity to save energy and redirect much-needed funds to students, classrooms, and teacher salaries.



This case study summarizes the highlights of the PCSD *Utah Schools Saving Energy* project. The goal of this report is to share the results, challenges, barriers, and lessons learned with other Utah school districts'

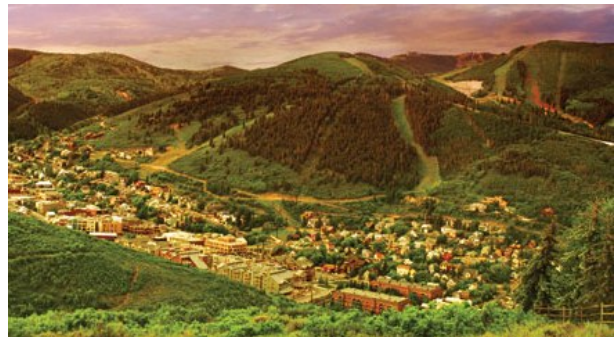
³ Governor's Energy Policy: *Utah Policy to Advance Energy Efficiency in the State (2006)*

⁴ Utah state legislature: HJR 9 S01 *Joint Resolution on Cost-effective Energy Efficiency and Utility Demand-side Management (2009)*. Sponsored by Rep. Roger Barrus. Url: <http://le.utah.gov/~2009/bills/hbillenr/hjr009.htm>

energy, facilities, and financial managers, staff, faculty, and school boards, in order to provide an opportunity to improve energy efficiency and reduce energy costs across the state.

PROJECT DESCRIPTION

Through a grant from the United States Environmental Protection Agency’s Region 8 Source Reduction Assistance (Pollution Prevention) Program, Utah Clean Energy worked with PCSD, one of Utah’s major school districts, from August 2007 to July 2009, to identify opportunities for improving the District’s energy efficiency by at least 10 percent compared to a 2006 energy performance baseline. PCSD is located roughly 30 miles outside of Salt Lake City. The community of Park City is known not only for its ski industry, but for its environmental consciousness and commitment to energy-related issues. In 2007, Park City Municipal was designated as an EPA Green Power Community⁵ and has developed city-level resolutions to support energy efficiency and high performance building such as ENERGY STAR and LEED.



Although Park City is serving as an energy-conscious example for cities across the nation, the District had not yet taken advantage of the financial and environmental benefits of energy efficiency measures. The district is comprised of seven schools: one high school⁶, two middle/junior high schools, and four elementary schools, serving approximately 4,300 students. The energy savings illustrated in this case study are based on energy efficiency projects that took place in seven school buildings and one non-academic building in PCSD during the timeframe of August 2007 to July 2009.

At the beginning of this project (August 2007), Utah Clean Energy conducted an analysis of the District’s energy consumption, using the ENERGY STAR® Portfolio Manager tool. On a scale from 1 to 100, (1 being the least efficient and 100 being the most), the combined average of the District scored a baseline of 19. According to the results of the baseline analysis, the least efficient school scored 4 on the scale, the most efficient school based on the initial baseline scored a 42. (See Table 1)

| 12 Months Ending | Current Rating (1-100) | Current Site Energy Intensity (kBtu/Sq. Ft.) | Current Source Energy Intensity (kBtu/Sq. Ft.) | Change from Baseline: Energy Use Intensity (kBtu/Sq. Ft.) | Change from Baseline: Adjusted Energy Use Intensity (kBtu/Sq. Ft.) | Energy Use Score |
|-------------------------|------------------------|--|--|---|--|---------------------|
| February 2009 (Current) | 5 | 143.7 | 236.1 | -27.8 | -30.2 | Data > 120 days old |
| August 2006 (Baseline) | 10 | 116.0 | 207.9 | 0.0 | 0.0 | Data > 120 days old |
| Change | 5 | -27.7 | -30.2 | 100 | 100 | |

| Space Name | Space Type | Floor Area (Sq. Ft.) | % Floor Area | Alerts | General Facility Administration |
|-------------------|-------------|----------------------|--------------|--------|---------------------------------|
| Elementary School | K-12 School | 170,000 | 100 | | Details Search |

⁵ Park City Municipal Corporation Url: <http://www.parkcity.org/citydepartments/publicaffairs/pressreleases/index.html>

⁶ Note: this baseline analysis did not include the Park City High School as it was under construction at the time of the assessment. The construction project approximately doubled the school’s size.

Completing an energy baseline using the ENERGY STAR Portfolio Manager tool was an important first step in this process, and provided a solid foundation upon which to construct a plan.

Table 1 - School District Baseline

| Facility Name | Baseline Energy Period | Baseline Site Energy Intensity (kBtu/Sq. Ft.) | Baseline Source Energy Intensity (kBtu/Sq. Ft.) | Baseline Rating (1-100) | Total Site Energy Use (kBtu) |
|-----------------------------------|------------------------|---|---|-------------------------|------------------------------|
| Ecker Hill International School | 9/05 - 8/06 | 114.9 | 204.2 | 11 | 19,526,417 |
| Jeremy Ranch Elementary | 9/05 - 8/06 | 89.4 | 186.1 | 15 | 6,543,653 |
| McPolin Elementary | 9/05 - 8/06 | 109.4 | 197.5 | 11 | 6,339,977 |
| Parley's Park Elementary | 9/05 - 8/06 | 143.4 | 242.0 | 3 | 10,243,712 |
| Trailside Elementary | 9/05 - 8/06 | 71.2 | 132.5 | 70 | 5,390,668 |
| Treasure Mt. International School | 9/05 - 8/06 | 95.6 | 166.6 | 9 | 12,415,699 |
| Group Total | | 622.0 | 1,128.9 | 19.8 | 60,460,125 |

Note: figures have been updated since original baseline due to updated utility data.

As the data in Table 2 illustrates, at the beginning of the project, Utah Clean Energy identified a great potential for energy efficiency improvements at PCSD. A minimum energy efficiency improvement of 10 percent would potentially save over 6,046,012 kBtu's of energy and over \$72,186 in energy costs per year. As a result, more than 897,900 lbs of CO² emissions per year could be prevented.

Table 2 – District CO2 Emissions and Energy Costs

| | CO² Emissions (1,000 lbs/year) | Total Energy Cost per Sq. Ft. (US Dollars) | Annual Energy Cost (US Dollars) |
|-----------------------------------|--|---|--|
| Ecker Hill International School | 3,215 | \$1.36 | \$ 250,730 |
| Jeremy Ranch Elementary | 1,206 | \$1.26 | \$ 86,637 |
| McPolin Elementary | 1 055 | \$1.35 | \$ 64,809 |
| Parley's Park Elementary | 1,626 | \$1.61 | \$ 113,764 |
| Trailside Elementary | 916 | \$1.32 | \$ 76,826 |
| Treasure Mt. International School | 2,016 | \$1.13 | \$ 129,103 |
| Group Total | 8,979 | \$1.34 | \$ 721,869 |

Note: figures have been updated since original baseline due to updated utility data.

Partnerships

In addition to working with PCSD staff, Utah Clean Energy brought in technical assistance from the following partners to support the project goals: Rocky Mountain Power, Questar, ETC Group, lighting consultants, National Energy Foundation, Davis School District, State of Utah (State Energy Program, Division of Facilities and Construction Management). These partners provided technical support and additional resources, including best practices, as described further below. Utah Clean Energy committed to work with Park City School District and technical partners to identify various ways to improve the District’s energy efficiency. These included:

- Training PCSD staff to accurately track and analyze energy and financial expenditures,
- Developing recommendations for equipment upgrades or replacements, e.g. HVAC systems, lighting fixtures and lamps, appliances, equipment,
- Providing information on financial incentives and equipment audits that are available through local gas and electrical utilities’ demand-side management programs,
- Developing recommendations for behavioral changes, such as utilizing sleep or off modes on computers, correctly utilizing current energy management software systems, turning off non-essential lighting in off-hours, etc.

PROJECT RESULTS

Following the baseline analysis numerous meetings with District staff and technical partners were held and recommendations to reach the 10 percent savings goal were made to PCSD, including: completing lighting retrofits, boiler tune-ups, building controls systems, implementing an energy management system, and initiating a behavioral energy savings program with interested teachers and administrators. Two of these recommendations, a lighting retrofit and a series of boiler tune-ups were successfully implemented. Technical support for these projects was provided by Rocky Mountain Power, Questar Gas, a local energy consulting firm, and a lighting contracting company. The remaining recommendations were not implemented as of July 2009 since these projects were determined to require additional time and administrative attention. For example, the District's building control systems have remained a high priority and a significant challenge. In addition, while the implementation of energy management software was discussed, it was not seen as a high priority compared to the need for recommissioning of building controls systems.

Success for this project was measured using the following three primary metrics:

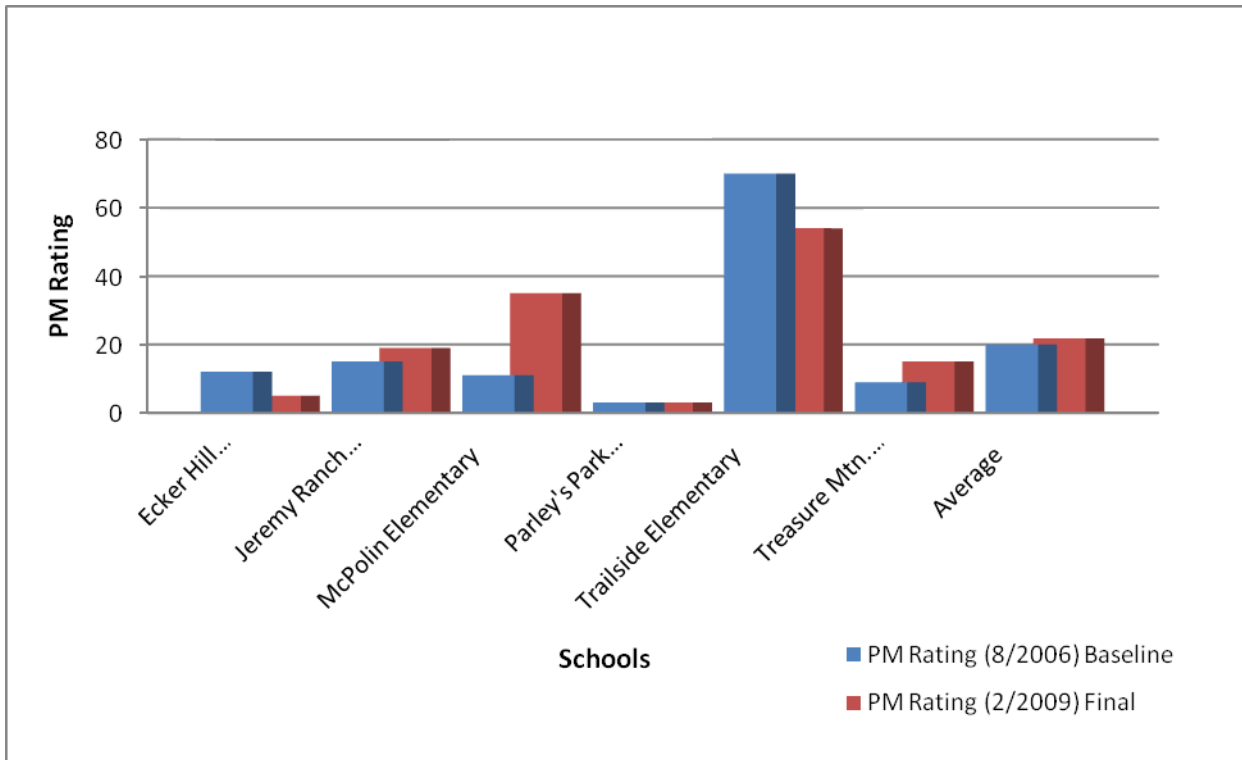
- Changes to the ENERGY STAR Portfolio Manager Energy Performance Rating (rating) for the district and each school;
- Energy savings on an MBtu basis;
- Major energy savings projects completed.

This project saw mixed success based on comparing the school's rating between the initial baseline period (August 2006) and the closing of the project timeline when data was last updated (February 2009). While some schools' ratings actually dropped over the course of this project (i.e. showed increased consumption) and some schools showed an improvement in energy performance, the overall trend was an average improvement of 18% in the ENERGY STAR Portfolio Manager Energy Performance Rating (the ratings range from a decrease of 50% to an improvement of 192%; see Table 3 and Figure 1 below). No single PCSD school improved enough to receive a rating of 75 or above (therefore not meeting minimum eligibility for an ENERGY STAR label), however, due to nominal energy savings achieved, PCSD is on its way to reaching eligibility for recognition as an ENERGY STAR Leaders Award. As previously noted, had two additional district buildings (the high school and a maintenance building) been included in the original and ongoing benchmarking process, it is likely that additional energy savings would be reported by the Portfolio Manager tool.

Table 3 – Comparison of Energy Performance Ratings Aug. 2008 to Feb. 2009

| School Name | P.M. Energy Performance Rating (8/06, Baseline) | P.M. Energy Performance Rating (2/09, Final) | Change from Baseline ('06 - '09) |
|---------------------------------|---|--|----------------------------------|
| Ecker Hill International School | 12 | 5 | -58% |
| Jeremy Ranch Elementary | 15 | 19 | +27% |
| McPolin Elementary | 11 | 35 | +218% |
| Parley's Park Elementary | 3 | 3 | 0% |
| Trailside Elementary | 70 | 54 | -23% |
| Treasure Mtn. International | 9 | 15 | +67% |
| Average | 19.8 | 21.8 | 38% |

Figure 1 - Changes to School's ENERGY STAR Portfolio Manager Rating



Energy and Emissions Savings

While not all recommendations were able to be implemented, this project resulted in measureable energy savings. As of February 2009, PCSD saved over 355,000 kWh from lighting upgrades and 31,634 therms from boiler tune-ups (see Table 4)⁷. On an MBtu basis, the total energy savings from these two projects is 3.16 MBtu, representing over 50% of the energy savings goal set for the project. This energy savings total includes fourteen boiler tune ups and four lighting retrofits. Three of the boiler tune-ups took place at Park City High School, a school which was not included in the original baseline due to major construction taking place at the school over the course of this project timeline. Also one of the lighting retrofits was undertaken at a bus and maintenance building, which was not included in the original baseline analysis.

Table 4 – Energy Savings from Completed Projects

| | Natural Gas (Dcthm) | Electricity (kWh) | Total Energy (kBtu) |
|--------------------|---------------------|-------------------|---------------------|
| Boiler Tune-ups | 3,163 | | |
| Lighting Retrofits | | 355,748 | |
| Total | | | 3,163,504 |

Saving energy results in avoided carbon dioxide and other pollutant emissions which contribute to climate change and air pollution. The abovementioned energy savings results in avoiding the emission of over 910,000 lbs of CO₂ per year, equivalent to *not* driving 29 passenger cars for one year⁸.

Cost Savings

These relatively simple and quick-to-implement projects are saving PCSD over \$45,000 every year in energy costs. The lighting upgrade is estimated to reduce electricity costs by over \$20,000 per year while projected natural gas cost savings is over \$25,000 per year.

Cost of Delay

An estimate of additional energy efficiency opportunities at one district school (Ecker Hill International Middle School) found a significant opportunity for energy savings in the areas of daylighting and recommissioning of building control systems. These potential energy savings are identified in Table 5, as presented in an Initial Site Visit Report (ISVR)⁹. These projects have not yet been implemented, representing a lost opportunity of reduced energy consumption and costs. Based on the estimates from the ISVR the PCSD can save an estimated \$26,300 per year through daylighting and recommissioning projects, with these savings paying for the cost of the project in less than 2 years. Each year PCSD delays implementation of these projects the cost savings of \$26,300 becomes a “lost opportunity cost”. If these projects were delayed for two years the lost opportunity cost is over \$52,000 – greater than the estimated project cost itself!

⁷ Savings are based on modeled or deemed savings by Rocky Mountain Power/PacifiCorp and Questar Gas (2008).

⁸ Carbon dioxide emission equivalents calculated by using the U.S. EPA Greenhouse Gas Equivalencies Calculator. Url: <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>

⁹ Energy efficiency estimate and Initial Site Visit Report prepares by ETC Group, June 2008

Table 5 – Potential Energy Savings at Ecker Hill International Middle School

| | Electricity Savings (kWh/yr) | Natural gas Savings (Dth/yr) | Installed cost (\$) | Net cost to School District (after incentives) (\$) | Net Simple Payback (after incentives) (yr) |
|----------------|------------------------------|------------------------------|---------------------|---|--|
| Daylighting | 84,300 | | \$ 17,045 | \$ 8,522 | 4 |
| Recomissioning | 182,442 | 2,000 | \$ 73,708 | \$ 41,890 | 1.7 |
| Total | 266,742 | 2,000 | \$ 90,752 | \$ 50,412 | 1.9 |

PROJECT FINANCING AND MANAGEMENT

Several options were considered when deciding how to manage and finance the recommended PCSD energy efficiency projects. Factors that were discussed include utility support (technical and financial), ease of implementation, payback terms, and District infrastructure (e.g. energy management software, staff availability, staff expertise). Utah Clean Energy and project partners used several approaches to achieve the energy saving goal based on the District’s unique needs and capacity, including: working closely with electric and natural gas utility representatives and consultants to perform building audits and pilot analyses; presenting estimated cost



and energy savings to PCSD staff; and supporting the implementation of energy efficiency projects (e.g. lighting retrofits). Partial financing for these projects was supported by utility demand side management (DSM) programs through free technical support and financial incentives for undertaking energy efficiency audits and implementing the retrofits. These programs were offered through Rocky Mountain Power’s Energy FinAnswer® and Questar Gas’s ThermWise® business programs, which provided the lighting audit and retrofits and boiler tune-ups. Though this option was utilized for the District’s lighting retrofit and boiler tune-ups, it could not provide the needed technical support for the outstanding issue of building control systems.

To help the District manage the more administratively-detailed, time-consuming, and complex problem of building control system recomissioning and associated administrative requirements (i.e. request for proposals (RFPs) and contracts), the project team considered three financing and project management options:

1. Contracting with an energy service company (ESCO) to conduct analyses of potential energy savings opportunities, carry out system improvements and retrofits, and pay for the projects through ongoing energy savings. This would be accomplished through filing a (RFP) for a performance contract that is modeled on the needs and issues specific to the District, while also participating in utility DSM programs to improve payback. The benefits of this option include more rapid project implementation, and energy savings would be guaranteed by the ESCO.
2. A second option was to hire an ESCO to complete the retrofits and recomissioning as noted above, and also issue an RFP for “expert assistance” by retaining a third party energy consultant familiar with the scope of the

project. This provides “in-house” expertise and support to School Districts who lack a full-time energy manager with sufficient time or experience managing complex energy projects. The ESCO would also integrate improvements with utility rebate programs. This approach offers more rapid implementation of energy savings projects and an “in-house” energy expert who can advocate for the District.

3. A third option was to work only with an energy consulting/engineering firm to conduct analyses, carry out and oversee improvements, upgrades, re-commissioning, etc., while also integrating improvements with utility rebate programs to improve the payback. This approach generally doesn’t provide a guarantee of energy savings that accompanies an ESCO contract, but through working with an energy engineering firm, a school district benefits from being able to keep the cost savings that result from lower energy bills.



The approach that PCSD opted to utilize was the third approach, and worked with Rocky Mountain Power for a District lighting analysis, Questar Gas for a boiler tune-up analysis, and a local energy engineering firm for additional energy efficiency opportunities at Ecker Hill International Middle School.

Another funding option that was explored is Utah’s Zero Interest Loan Fund¹⁰ administered by the Utah State Energy Program. This Program provides zero interest loans to schools and school districts for new construction and major energy efficiency retrofit projects that demonstrate energy savings. This option was not seen as viable to the District, as the application and loan award process was somewhat burdensome and capital investment was not seen as a major limitation for the energy efficiency projects identified.

CHALLENGES AND BARRIERS

Several barriers were encountered that posed challenges to the implementation of these recommendations and to the accuracy of the data.

Limited Staffing

The primary barrier to undertaking all energy efficiency recommendations in a timely manner was limited staffing and staff time at PCSD to dedicate solely to energy and utility tracking, monitoring, and efficiency improvements. Staff-members were supportive of moving forward on this project, but as PCSD lacks a dedicated energy manager responsible for overseeing energy and other utility related projects, the District did not have the means



¹⁰ For more information about the Utah School District Loan Fund, visit: http://geology.utah.gov/sep/energy_efficiency/efficient_schools.htm

to initiate and manage the projects immediately¹¹. Further compounding this challenge was the fact that throughout the early phase of this project, PCSD was in the midst of construction on its high school, limiting the amount of time that staff could dedicate to energy efficiency improvement projects.



Other PCSD priorities and staff limitations made it difficult to update and populate the ENERGY STAR Portfolio Manager tool. Limited staffing and staff turn-over also posed challenges for training staff on on-going utilization of the ENERGY STAR Portfolio Manager tool. Due to the aforementioned reasons and the need for the District to dedicate attention to other priority projects (i.e. contemporaneous construction of the Park City High School, building controls and the re-commissioning pilot project) the full value of the ENERGY STAR Portfolio Manager tool was not fully realized by PCSD¹².

Data Challenges

A small amount of duplicative utility data was submitted for input into the ENERGY STAR Portfolio Manager tool which was not corrected until late in the project. This posed a challenge since usage of incorrect utility data makes it hard to identify energy savings, and because correction of utility data can be time consuming, and better spent on project implementation. This challenge also highlights the value of dedicating staff to tracking and monitoring energy data carefully. Data errors, in addition to efficiency upgrades undertaken in buildings not included in the original baseline, and ongoing building controls problems appear to have obscured the 'before and after' energy tracking results, which do not show a noticeable improvement according to the ENERGY STAR Portfolio Manager tool. The dysfunctional building control systems are perhaps the most significant contributor to the mismatch between projected energy savings and savings that have been realized over the course of this project. As Table 5 identifies, in at least one school in the District, building control recommissioning are responsible for a significant amount of excess energy consumption.

Financing Barrier

Throughout the course of this project, the District focused on internally resolving the outstanding issues related to its building controls systems. This resulted in delaying additional energy savings, which may have been realized had another financing and implementation model been pursued, such as hiring an ESCO. While some staff members have had positive experiences with ESCOs and performance contracts as a means to finance large energy savings projects, other staff expressed uncertainty about working with an ESCO to achieve the energy saving goals. In Utah, ESCOs are gaining a stronger foothold in public sector energy projects, yet notable unawareness and uncertainty about ESCOs and performance contracting remains.

¹¹ While the School District has staff that oversees energy data and improvement projects, the existence of multiple other projects and tasks makes it difficult for energy efficiency to be prioritized.

¹² For case studies about schools that fully utilized Portfolio Manager, visit this link: http://www.energystar.gov/index.cfm?c=k12_schools.bus_schoolsk12

CONCLUSIONS & RECOMMENDED NEXT STEPS

As a result of this *Utah Schools Saving Energy* project, the Park City School District is estimated to save over \$45,000 per year in electricity and natural gas costs and approximately 3.16 MBtu in energy through the energy efficiency projects that were completed through this collaboration. This level of energy savings avoids the emissions of over 910,000 lbs of CO₂ per year – exceeding the project’s goal for CO₂ emission reductions. This level of energy and financial savings only scratches the surface of what is possible at the District. When measured on a pure energy savings basis (energy [MBtu], electricity [kWh], or natural gas [decatherms]), the project falls short of meeting the 10 percent savings goal, with the total equaling approximately 52 percent of the goal. These energy and cost savings place PCSD on its way to meeting eligibility for an ENERGY STAR Leaders Award.



This project revealed staff limitations which made the use of the ENERGY STAR Portfolio Manager tool a primary challenge. Energy data errors were discovered (and subsequently corrected), and energy savings projects were undertaken in buildings that were not included in the District’s benchmarking assessment. Use of another project management and financing model may have enabled PCSD to undertake additional significant energy savings projects during the timeline of this collaboration, therefore saving additional energy and energy costs. At the same time, this project resulted in measurable energy, cost, and CO₂ reductions and puts the District on a trajectory to implementing more energy efficiency into its buildings, operations, and practices.

Recommended Next Steps

This project resulted in measurable energy savings and revealed successes and challenges to implementing energy savings projects at Park City School District. The following five Next Steps are recommended to the District to build on these successes and challenges:

1. Continue treating energy efficiency as a high priority for the District and develop an Energy Saving Committee (composed of staff, faculty, superintendent, school board, etc.) to meet regularly and provide input about how to proceed with energy efficiency projects;
2. Formally adopt and utilize ENERGY STAR Portfolio Manager on an ongoing basis for monitoring and tracking energy consumption at PCSD;
3. Update the District’s Portfolio Manager account with utility data from the now-completed Park City High School and other District buildings;
4. Address the District’s building control challenges with a District-wide assessment of energy savings potential from recommissioning these important energy systems. Contemplate the lost opportunity cost of delaying action and consider hiring an energy consultant or ESCO to facilitate the recommissioning analysis and project(s); and
5. Continue identifying and implementing projects with the goal of achieving (and beating) the original 10 percent energy savings goal.

IMPLEMENTATION GUIDE

Additional lesson learned from this project have been incorporated into a sister document *Utah Schools Saving Energy – Implementation Guide*, can be downloaded at:

www.utahcleanenergy.org/files/u1/Utah_Schools_Saving_Energy_Implementation_Guide_FINAL.pdf.