

### Contract Details

#### Contract Type:

Energy Efficiency; Water Conservation;  
Energy Savings Performance Contract

#### Facility:

33 buildings  
1,014,820 sq. feet

#### Annual Energy and Water Savings:

\$147,028  
1,515 kGal  
1,852,190 kWh  
65,544 therms

#### Energy Project Size:

\$1,535,388

### Summary

Western State College of Colorado was facing aging infrastructure and budget constraints. With limited resources and a small maintenance staff, Western partnered with Ameresco to identify and implement energy and water saving measures that would upgrade the infrastructure and enhance the campus setting for students and staff.



Western's original windows leaked and did not lock. Ameresco installed new heavier grade windows, which sealed the buildings and improved occupant safety.



Under an energy savings performance contract (ESPC), Ameresco's team retrofitted lighting and water fixtures and replaced aging mechanical equipment and windows.

### Customer Benefits

Under the auspices of the Colorado Governor's Energy Office, Ameresco was awarded an energy savings performance contract (ESPC) with Western State College of Colorado (Western). Western is located in Gunnison, Colorado, near the foot of the Crested Butte Mountain Resort. The town is situated at the bottom of several valleys in the Rocky Mountains where cold air settles at night, making the Gunnison area one of the coldest places in the United States during the winter. Despite cold weather and difficult construction environments, Ameresco's team carried out a successful \$1.5 million project at Western.

Western needed to upgrade its water and lighting because of the budgetary strain of unexpected maintenance costs. The measures that Ameresco installed have improved the level of comfort and safety for students and staff as well as provided cost savings for Western's administration.

### Environmental Benefits

Through its partnership with Ameresco, Western reduced its carbon footprint. Western is expected to save the equivalent of 12,900 tons of CO<sub>2</sub> over the contract term. The green benefit from this carbon reduction is roughly equal to:

- ▶ 2,295 cars taken off the road for one year

The project helps reduce the need for energy from traditional power plants fueled by fossil fuels.

### Accolades

*"Western selected Ameresco as its energy partner because of their extensive track record in educational facilities, their holistic and comprehensive approach to facility upgrades and renewal, and their unsurpassed record in meeting and exceeding performance guarantees... Western has undergone a historic makeover in the past five years. Ameresco has played a significant partnering role in the revitalization of our campus by developing and managing \$1.5 million in energy retrofits and infrastructure renewal upgrades."*

*- Julie Feier, Associate Vice President for Finance and Administration, Western State College of Colorado*

### Services Provided

Construction on this project began in June 2010, and measures included an energy management system upgrade/expansion, energy management system scheduling, retro-commissioning of buildings, carbon dioxide sensors for ventilation control, air handling unit retrofits, water conservation (toilets, urinals, and faucets), window replacements, lighting retrofits and lighting controls. The project was completed on schedule in November 2011.

Ameresco was responsible for all energy management control scopes of work, which enabled Ameresco to re-commission the existing control systems. Several problems were identified during this process. To summarize, many of the controllers had gone off line, which resulted in the various fans, dampers, and valves failing to operate in proper

## About Western State College of Colorado

Western State College of Colorado is a 4-year public, liberal arts and sciences college located in Gunnison, Colorado. The enrollment is approximately 2,400 students. Many students enroll here for the location, which is nestled in the Rocky Mountains. Popular majors include business, art, biology, environmental studies, and outdoor education. Western offers a state-of-the-art petroleum geology program, founded and funded by Western State College of Colorado alumni donations.

Learn more at [www.western.edu](http://www.western.edu).

## About Ameresco

Ameresco, Inc. (NYSE:AMRC) is one of the leading energy efficiency and renewable energy services providers. Our energy experts deliver long-term customer value, environmental stewardship, and sustainability through energy efficiency services, alternative energy, supply management, and innovative facility renewal all with practical financial solutions.

Ameresco and its predecessors have constructed billions in projects throughout North America.

For more information about Ameresco and our full-range of energy efficiency and renewable energy solutions, please visit <http://www.ameresco.com> and <http://colorado.ameresco.com>.



The lighting retrofit in the gym resulted in more evenly distributed light.

## Services Provided (cont.)

sequence. Once identified, Ameresco worked with Western to resolve these deficiencies, which resulted in greater mechanical efficiency and heating/cooling performance.

A central component of this project was the lighting retrofit. Western had just one electrician to keep up with maintaining the lights. Given the heavy work load, he was not always able to keep up with the bulb and ballast replacements. The lighting retrofit replaced the majority of building light fixtures, alleviating some time constraints of facility staff. The new T5 lights in the gym replaced old metal halide spotlight type fixtures, resulting in a much more even distribution of light, which enabled Western to be more competitive with other facilities throughout the state when tournament sites are selected. Overall, the new lighting made the campus buildings much brighter. This was especially true of the library, which in turn created a more positive learning environment.

The water conservation measures addressed issues surrounding aging water fixtures that had begun to go into disrepair. The gaskets had begun to leak on some of the flush valves and faucets. The porcelain had cracked at the bases of some of the water closets and carrier flanges had cracked and begun to leak. Facility staff were having difficulty cleaning some of the



fixtures because of staining. Furthermore, Western had just one plumber on staff and it was difficult for him to keep up with the numerous unbudgeted repairs. Ameresco installed new fixtures throughout the campus.

At Western, many of the existing windows were original, did not lock properly, and leaked. This was not only a safety concern, but also an unbudgeted maintenance issue. Ameresco installed new windows that are a much heavier grade and should eliminate any maintenance concerns for years to come.

Finally, the air handlers serving the library had not been re-commissioned in several years. The control dampers and valves were in disrepair, and the existing control system was not operating in proper sequence. By retrofitting these air handlers, all of the problems were addressed, which increased student and staff comfort levels.



At Savage Library, Ameresco re-commissioned the air handlers and performed a lighting retrofit to improve the air quality and study space.