

THE STATE OF NEW MEXICO "STATE BUILDINGS GREEN ENERGY PROJECT"

CUSTOMER STORY



Challenge

In 2018 New Mexico's government leaders faced a common dilemma by communities: how to modernize aging buildings in a way that was fiscally sound and environmentally sustainable.

At more than 50 years old, 30-plus State-owned buildings in the capital of Santa Fe were uncomfortable for staff and visitors, with inefficient HVAC systems that left them unbearably hot during Southwestern summer heatwaves and cold in the desert winters. Furthermore, the unreliable systems demanded costly emergency repairs. At the time, the State was already facing over \$300 million in deferred maintenance costs—which relied on taxpayer funding.

Climate change exacerbated the problem. While rich in natural resources and beauty, New Mexico—known as the Land of Enchantment—has been in a drought for nearly two decades, and upland forests are threatened annually by fires. The Santa Fe campus's fragile building infrastructure was no match for the pressure of fluctuating temperatures and weather uncertainty.

Solution

New Mexico's Facilities Management team searched for an Energy Savings Performance Contractor (ESPC) to help identify the facility improvements needed. The state chose trusted partner Trane as its ESPC. Trane had been the state's HVAC management partner for more than 30 years, providing nearly 90 percent of the Santa Fe campus facilities' controls, equipment and service contract agreements.

Trane conducted an investment grade audit and worked with the state's Energy Engineer to create an energy and building-efficiency project that would meet each of the Santa Fe facilities' immediate and long-term building management needs. The extensive audit—reviewing the energy efficiency and renewable energy components in each of the 32 buildings, a scope which would normally take six months to a year—was completed in just 60 days.

As Rob Wax, Trane's Regional Director - Energy Services, explains, the audit process allowed the state to see the potential within their buildings—and that they could accomplish not only their financial and operational goals but their sustainability goals as well.

"We want to be wise stewards of taxpayers' dollars, so a project like this that saves money while saving energy is just a win-win. But I'm also proud of the fact that the building's going to be a healthier place for my staff and the public who visit us."

Sarah Cottrell Probst, Cabinet Secretary of the Energy, Minerals and Natural Resources Department, State of New Mexico

The State of New Mexico Santa Fe, New Mexico

PROJECT HIGHLIGHTS



Cost Savings

More than \$1.1 million in annual energy costs saved, and nearly \$200,000 in utility rebates garnered.



Renewable Energy

Multiple large-scale rooftop solar PV installations.



GHG Emissions

Over 7,400 metric tons of greenhouse gas emissions offset annually.



Occupant Comfort

Modernized existing HVAC systems for efficiency, comfort and health.

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Aligning with the state’s significant sustainability goals was a crucial part of Trane’s proposal. In 2019, the State committed to transition toward clean energy resources and a statewide reduction of greenhouse gas emissions **by at least 45 percent by 2030**. Leaders also pledged to protect New Mexico’s scarce water resources by funding water infrastructure improvement projects throughout the state.

With that in mind, Trane proposed a project that included:

- Modernizing the existing HVAC systems throughout 32 State-owned buildings.
- Upgrading the building envelope to reduce waste. Upgrades included converting traditional lights to new LED lights, which use one-tenth the energy; adding window film to increase the insulation level of windows without replacing them; installing energy-efficient transformers; and installing low-flow fixtures to reduce the amount of water used by the state.
- Clean, renewable power generation through multiple large-scale rooftop solar photovoltaic (PV) installations—the largest solar PV system that isn’t owned by a utility in the state of New Mexico. Many of the solar panels serve a dual purpose—they constitute a large carport, where employees and visitors can park in the shade, while generating 1.6 megawatts of energy each year.
- Funding through a Guaranteed Energy Savings Performance Contract, so that a large portion of the project would be paid for through guaranteed energy savings backed by Trane. The project team also found nearly \$200,000 in energy efficiency-driven utility rebates to help subsidize the costs.



“We’re saving over a megawatt of energy, which is the equivalent to a thousand homes’ annual energy usage.”

Rob Wax, Trane’s Regional Director of Energy Services

Now known as the State Buildings Green Energy Project, the improvements were approved in 2019. And while the COVID-19 pandemic resulted in supply chain, labor and inflationary obstacles, Trane was able to complete the State Buildings Green Energy Project—the largest renewable energy efficiency project ever undertaken by the State—on time and on budget in 2022.

Results

Today, New Mexico’s State Buildings Green Energy Project is a leading example for how efficient and healthier buildings can help create communities that are more resilient, prosperous and sustainable—for residents and the environment alike.

Not only are the facilities now safe and comfortable for visitors and staff members, the improvements ensure they will stay that way—even in the face of future calamities. If the State loses power during a wildfire, for example, a back-up energy supply kicks in, thanks to on-site energy storage.

Sustainability Is Good for Local Economies

Working with Trane, the State of New Mexico has set a new standard for government leaders’ economic stewardship of tax dollars by illustrating just how sustainability and cost-savings go hand in hand to benefit local economies.

The State Buildings Green Energy Project has accelerated the State of New Mexico’s clean energy and carbon reduction plans. As a result of the improvements made with Trane, the state is conserving 5.2 million gallons of water and offsetting over 7,400 metric tons of greenhouse gas emissions—the equivalent of eliminating the emissions produced by burning over 8 million pounds of coal—every year.

Equally impressive are the financial benefits, which New Mexico’s economy will reap for many years to come. The State Buildings Green Energy Project created jobs, reduced operational costs by modernizing the facilities and continues to save the state over \$1.1 million in annual energy costs.

As more states and municipalities search for ways to achieve two important goals—spending tax dollars wisely while protecting the environment with sustainable initiatives—they’re seeking out partners with a proven track record. Through its successful partnership with the State of New Mexico, Trane has demonstrated that it can help communities become more sustainable and resilient.



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