

2024 ENERGIZING EFFICIENCY CASE STUDY

Empowering the Past in Leading by Example for the Future:

Achieving Carbon Reduction, Renewable Energy and EV Charging through an Energy Savings Performance Contract with Siemens

OVERVIEW

The Virginia Museum of Natural History strives to lead by example in preserving the past while promoting a sustainable future. By adopting energy-efficient technologies and reducing its greenhouse gas emissions, the museum not only protects natural heritage but also encourages the community to adopt greener practices. In orchestrating these initiatives, the museum is being responsive to Virginia's Clean Economy Act, achieving costs savings and supporting local economies through Buy American policies and fair wages under the Davis-Bacon Act. These efforts not only benefit a reduction in its carbon footprint but also contribute to the Commonwealth's energy resilience and sustainability goals. The journey towards these goals began with a comprehensive energy audit conducted to identify potential areas for improvement. Following this assessment, a strategic partnership was established with Siemens to implement an Energy Performance Contract (EPC).

THE CHALLENGE

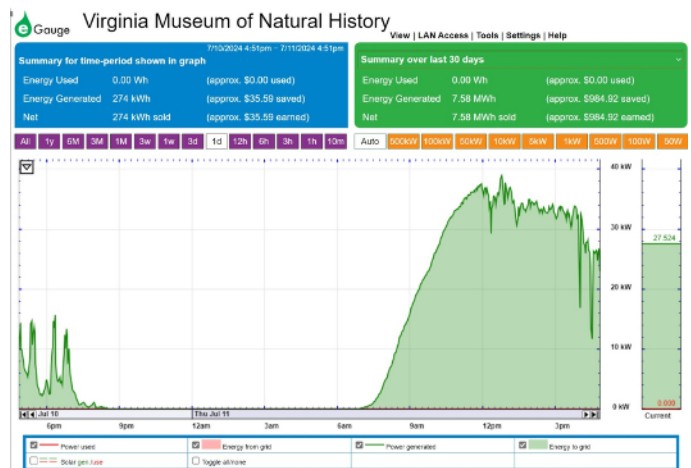
One of the key challenges encountered during the project was the interconnection process with the utility company. This was particularly critical for integrating two electric vehicle (EV) charging stations and solar panels into the existing infrastructure. Overcoming this challenge required meticulous planning, coordination with utility providers, and adherence to regulatory requirements.

THE RESULTS

The implementation of energy-efficient technologies and renewable energy sources has translated into tangible financial savings that are necessary to pay for the project over time. In addition to energy efficiency gains, upgrades HVAC systems, advanced lighting controls, and enhanced building automation systems not only optimize energy usage but also provide occupants and visitors with a more comfortable and productive environment. The museum now has greater control over its energy systems, allowing for proactive management and adjustments based on real-time data and operational needs. By reducing energy consumption and operational costs, the project has generated measurable dollar savings for the museum over the long term. These savings not only contribute to the institution's financial sustainability but also reinforce its commitment to environmental stewardship and community responsibility.

First Year: May 1, 2023 to April 30, 2024

- \$132,443 Annual Realized Savings
- Electricity: 946,962/kWh vs 402,958/KWh
- Natural Gas: 2,114/MCF vs 1,618/MCG
- Oil: 1,307/Gal vs 1,307/Gal



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