sparkfund

CASE STUDY

Implementing an Integrated Energy Solution for a Multi-Site Commercial Portfolio

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OVERVIEW

Sparkfund's innovative energy transition management services offering was recently developed to execute a comprehensive energy management and sustainability project for a global leader in the wine industry with a large portfolio of properties across Napa, California. We developed a tailored energy strategy that not only optimizes the winery's energy consumption across multiple sites but also paves the way for the company to achieve its aggressive sustainability goals. This initiative underscores Sparkfund's commitment to delivering cutting-edge, scalable solutions to complex energy challenges across a portfolio of client properties.

CHALLENGE

The client faced several challenges in implementing a consistent sustainability strategy across their widespread property portfolio, including disparate energy systems and inefficient energy use. The overarching goal was to dramatically reduce energy costs and environmental impact without disrupting the ongoing operations across various locations. Another significant requirement was the need to integrate a comprehensive energy solution that could provide immediate energy savings, integrate existing solar installations at some sites and expand capabilities at other locations while laying the groundwork for the future.

PROJECT AT-A-GLANCE

INSTALLED:

12 SOLAR ARRAYS

8 SITES IN NORTHERN CALIFORNIA

KEY SERVICES PROVIDED:

SITE ANALYSIS AND SELECTION: Sparkfund conducted a detailed analysis of the client's energy usage and property portfolios to identify optimal sites for solar installations. This included evaluating existing solar capacity, potential for expansion, and suitable locations for new installations.

ENGINEERING AND DESIGN: Sparkfund was responsible for the full engineering design of the solar systems, including energy analysis, savings calculations, and return on investment projections.

PROCUREMENT AND INSTALLATION: Sparkfund procured all necessary equipment and managed the installation of the solar arrays.

INTERCONNECTION AND PERMITTING: Sparkfund managed the interconnection applications and permitting processes to ensure seamless integration of the solar systems with the local utility grid.

SOLUTION

Sparkfund developed a multi-faceted energy transition package tailored to the client's unique needs.

The project kicked off with a utility data analysis of all sites within the client's California portfolio. This preliminary step provided invaluable insights into each property's energy consumption patterns and needs, informing the development of a bespoke energy strategy.

The cornerstone of the service offering involved deploying an extensive solar installation across available spaces identified within the client's properties. This not only harnessed California's abundant solar resources but also aligned with the client's sustainability objectives.

The project included a robust energy efficiency audit to identify and implement measures that could lead to significant energy savings and operational cost reductions. This comprehensive approach ensured that the energy usage analysis was fully leveraged, optimizing the sustainability and efficiency of the client's operations across diverse sites.

OUTCOME

The implementation of Sparkfund's integrated energy transition management package yielded outstanding outcomes for the client. The modular, flexible package developed for our client resulted in a marked reduction in energy costs, achieving a substantial decrease in the overall operational expenses associated with energy consumption. The solar installations alone are projected to offset a significant percentage of the portfolio's energy needs, further enhanced by the operational efficiencies gained through the energy efficiency measures.

Additionally, the energy storage systems implemented as part of the project have not only improved energy reliability across the client's properties but have also provided a buffer against peak demand charges, optimizing energy costs effectively.

TECHNOLOGY AND EQUIPMENT

The installations include a mix of dedicated roof mounts, ground mounts, and hybrid systems combining roof, ground, and carport mounts including:

- Trina 500-watt bifacial modules, which can generate electricity from both sides of the panel, enhancing efficiency.
- CPS (Chint Power Systems) string inverters were used across all sites, ensuring reliable conversion of solar power to usable electricity.
- For the roof-mounted systems, Iron Ridge racking solutions were used, while ground mounts utilized Omco ground mounts.
- A custom-fabricated steel canopy structure was built for the carport racking system.

PROJECT TIMELINE

The project began with site development and engineering in 2023, followed by the installation phase starting in March 2024. The project is expected to be completed by Q4 of 2025.

PROJECTED OUTCOMES AND GOALS

The primary goals of the project are to significantly reduce the company's carbon footprint and energy costs. To date, Sparkfund is under contract with the client to install 5.3MW of solar across eight different properties. Although it's too early to measure the exact outcomes, projections indicate that the combined portfolio of solar solutions would generate about 9.5 mWh annually resulting in an estimated $2.1 million in annual energy savings across all eight sites.

Contact us today to learn how we can help you achieve your energy transition goals.

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