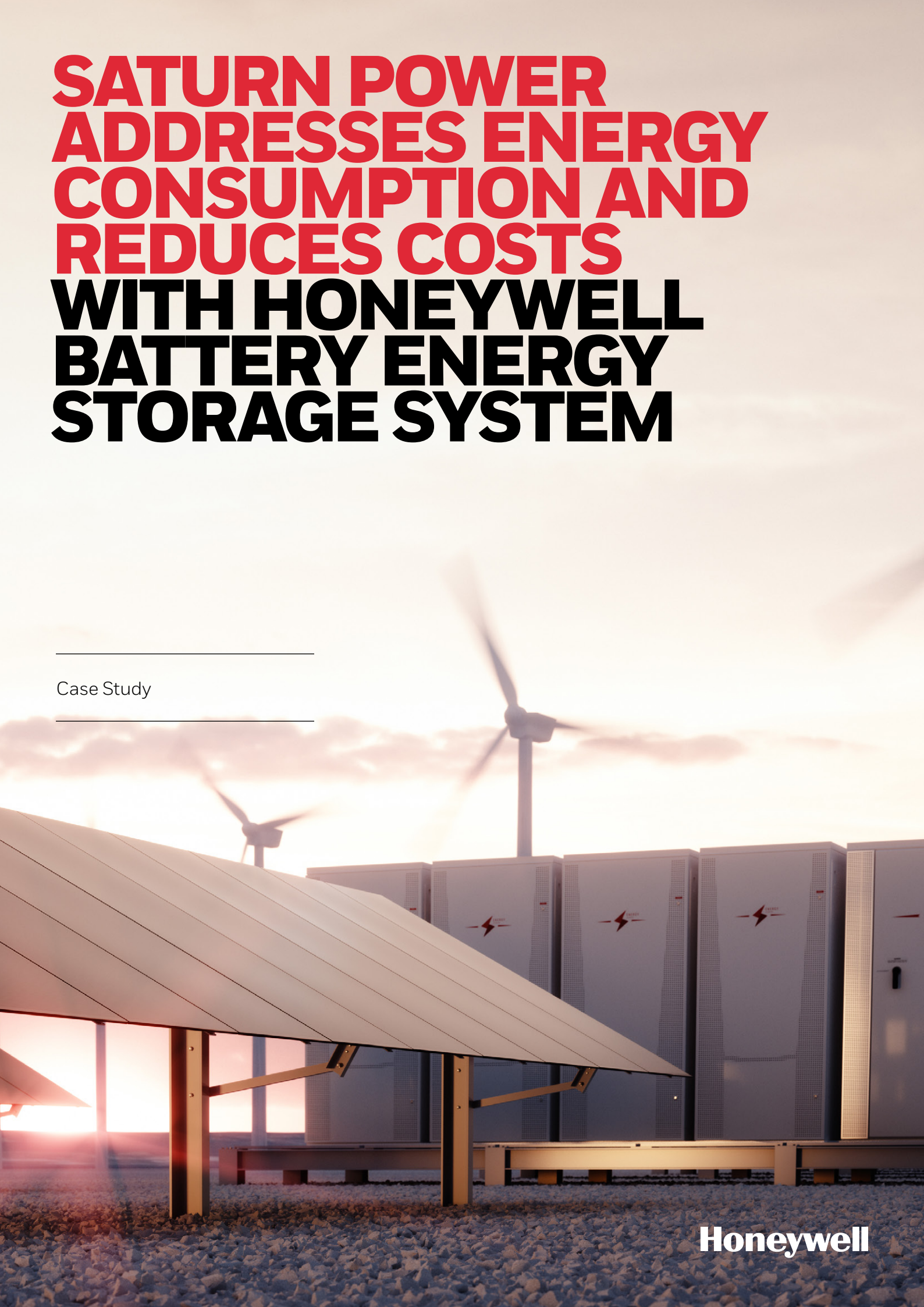
SATURN POWER ADDRESSES ENERGY CONSUMPTION AND REDUCES COSTS WITH HONEYWELL BATTERY ENERGY STORAGE SYSTEM

Case Study



Honeywell

OVERVIEW

For a Canadian renewable and clean energy provider, an innovative battery energy storage system helped to address electric consumption requirements and reduce costs for customers while supporting a vision for a sustainable future.

BACKGROUND

Today's electricity supply system dictates that the production of energy and the demand for that energy be proportionate and equal. This can often be a difficult balancing act given the unpredictability of power consumption mixed with the inevitable failure of generation and distribution equipment and the volatility of weather patterns that can have a direct effect on production.

Independent power producers like Saturn Power are focused on empowering commercial and industrial (C&I) customers to take control of their energy costs and operational performance to gain a competitive advantage.

Founded in 2007, Saturn Power has developed and contracted over 200 megawatts (MW) of solar, battery storage and wind power projects, including developments in Ontario, Western Canada, the United States, Turkey and Bermuda. The company, which also has expertise in project financing and engineering, procurement and construction (EPC), as well as the operation and maintenance of existing renewable assets, has been actively engaged in the battery energy storage system (BESS) and energy storage markets since 2017.

In the behind-the-meter energy storage market, Saturn Power works closely with Industrial Conversation Initiative (ICI) clients looking to manage their global adjustment costs with customized, intuitive and efficient solutions. The ICI was launched nearly a decade ago to reduce peak demand levels in Ontario by providing incentive for large industrial facilities to reduce consumption at these times.

Saturn Power has also seen an increase in the number of C&I customers of all sizes looking to engage in the renewables sector.

In recent years, there has been a noticeable increase in the Renewable Portfolio Standards, a set of regulatory mandates to increase production of energy from renewable sources such as wind, solar, biomass, and other alternatives to fossil and nuclear electric generation. This has been accompanied by greater public awareness of the role renewable energy should be playing in the power supply mix, both domestically and at a global level.

Consumers are now examining ways to engage in global warming mitigation strategies in order to do their respective part to ease the burden.

For renewable and clean energy providers, however, navigating shifting governmental policies and regulations with respect to renewables in markets throughout North America continues to be difficult. They are seeking to find the right balance that encourages clean, renewable energy transmission in a manner that is respectful to a jurisdiction's ratepayers.

Figure 1: For C&I customers, managing peak energy consumption can be challenging.

CHALLENGES

Commercial and industrial operations are dealing with higher costs for electric power, as well as increasingly frequent and costly disruptions in the grid. These are costs that eat into the bottom line and, for some businesses, can severely affect their ability to operate profitably.

Managing intense peaks during the summer and winter months, when energy consumption substantially increases, has been a recurring challenge in the manufacturing sector. Plant owners/operators must find ways to escape the costliest periods of demand charges. They also need to be assured of reliable, ready backup power, eliminating the lost revenues that result when operations are curtailed by grid outages.

Principally, like many emerging industries, keeping track of shifting regulations and technological advancements is key to staying knowledgeable and viable within the renewable sector. This includes complex interconnection requirements and electrical system impacts as well as new advancements and developments with project-specific technology.

SOLUTION

Saturn Power chose Honeywell to provide a multiple megawatt-hour battery energy storage system (BESS) solution at a commercial site classified by Ontario's grid operator, the Independent Electricity System Operator (IESO), as Class A customer of electricity with high peak demand.

Honeywell supplied the batteries for the BESS that Saturn Power integrated in order to provide global adjustment mitigation services to achieve lower electricity bills. Honeywell's technology will enable the batteries to charge during off-peak times and draw from BESS when energy demand on the grid and costs spike — typically on hot, air conditioning-intense summer days or cold heating-intense winter days.

As Ontario has both cold winters and hot summers, driving up demand for both air conditioning and heating, peak demand events happen multiple times a year, most acutely in those seasonal peaks.

Saturn Power decided to partner with Honeywell based on key factors such as:

- Competitive cost
- Favorable reputation
- Industry experience and deployment numbers

Honeywell's size, stability, responsiveness, and comprehensive warranty services on equipment purchases were other important factors in its selection.

Saturn Power's energy services solutions, which include Honeywell-supplied battery storage technology, have made it possible to address acute electricity consumption needs while subsequently reducing energy costs for customers, supporting the vision of creating a sustainable environment for future generations.

The BESS solution is designed to supply up to 8.8 MWs and 18 MW-hours of energy. This is enough to support 600 average Canadian households for an entire day. The system delivered by Honeywell provides unparalleled cell-level control, which improves the life and performance of the system, along with performance guarantees for the project.

RESULTS

Saturn Power has been very satisfied with its experience with Honeywell and looks forward to opportunities to work together to provide additional cutting edge solutions to clients. The company's utilization of Honeywell's BESS solution for the peak shaving application helps reduce the need to bring additional, non-renewable energy generators online, providing grid reliability while decreasing supply costs. It also benefits C&I customers that operate in Ontario, which usually pay a premium for energy use during peak periods due to the expense associated with running ancillary plants.

Saturn Power's project experience with Honeywell also enabled greater confidence in the behind-the-meter storage market, allowing it to offer clients bankable solutions that include long-term electrical demand reduction and electrical bill reduction.

Saturn Power looks forward to the opportunity to continue building its portfolio of energy storage projects as more ICI clients realize the benefits of its tailored solutions.

SUMMARY

Experience has shown that deploying batteries for peak shaving can help decrease supply costs, due to the lower portion of energy used onsite that is drawn from the grid. Ultimately, that can enable reliance on fewer non-renewable sources of energy while providing a resilient and reliable solution for the customer or energy storage system host.

In the renewable and clean energy market, Honeywell's unique, modular battery management technology minimizes installation and commissioning time, making it ideal for quick deployment and a fast return on investment (ROI).

Figure 2: Honeywell's unique BESS solution makes it ideal for quick deployment and a fast return on investment.

HONEYWEL ENERGY STORAGE SOLUTIONS

Honeywell offers a full-suite of products tailored to the distributed energy value chain. Our scalable and evolutionary technology allows us to provide outcome based performance guarantees around energy, carbon footprint and demand management.

For more information

To learn more about how Honeywell Energy Storage Solutions can improve performance, visit https://hwll.co/energy-storage-solutions or contact your Honeywell Account Manager.

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