



How Vulcan improved their energy economics and sustainability with Enel

Vulcan Materials Company is the nation’s largest producer of construction aggregates – primarily crushed stone, sand and gravel – and a major producer of aggregates-based construction materials, including asphalt and ready-mixed concrete. Their coast-to-coast footprint and strategic distribution network align with and serve the nation’s growth centers.

Balancing energy economics and sustainability

As an aggregates producer with sites across the United States, Vulcan is by necessity a large energy user. As a result, the company evaluates opportunities to reduce their energy spend to improve their bottom line. This is especially essential in their industry, according to Scott Clouse, Director of Energy, Raw Materials and Data Analytics for Vulcan.

“In the inflationary environment we find ourselves in, reducing cost in our business helps ensure we can maintain

sustainable growth for our customers and shareholders while reducing our environmental impact,” Clouse said.

Vulcan has set ESG goals for the years ahead, among them to reduce Scope 1 and 2 greenhouse gas (GHG) emissions intensity per ton of product produced by 10% by 2030. These twin objectives – profitability and sustainability – guide the work they do to optimize and drive forward their energy strategy.

Maximizing value with an integrated energy partner

By working with Enel, Vulcan has been able to find cost efficiencies while increasing sustainability. Enel’s integrated approach to holistically addressing energy infrastructure has allowed Vulcan to meet multiple objectives in a simplified way by working with a single partner to deploy multiple energy solutions.

Clouse recently took over the Enel relationship for Vulcan after the two companies had already worked together for over a decade, and he notes the

excellent work that Enel employees have done across the board.

“I have been impressed with every single person that I’ve talked to,” Clouse said. “They’ve been easily accessible – the responsiveness of the partnership is top notch, as is the technical expertise of every individual that I have talked to. They understand not just how the batteries work, not just how distributive generation works, but really the markets at large.”

CASE STUDY



7

battery energy storage system projects, including 2 paired with solar



4

operational batteries, with the largest at 1.3 MW/2.68 MWh



\$2.9M

projected on-bill savings over the next 10 years through storage



25

metric tons of CO2e reduced due to storage systems across 3 sites



\$10.9M

earnings from demand response since 2010 across 60 sites



“

Kevin Green is our Account Manager ... it's like he is an employee of Vulcan. He handles everything and communicates well with our operations. He knows that if he does his job well, both of our companies benefit.”

—Joel Huguley
Former Procurement Energy Manager at Vulcan

Earning new energy revenue with demand response

Vulcan first began working with Enel in 2007, by enrolling in demand response. Demand response programs enable large energy users to earn payments for reducing or shifting energy consumption, while supporting grid flexibility and reliability.

With Vulcan's widespread geography and significant energy usage, they were able to benefit from Enel's access to and experience in a wide variety of demand response markets throughout the country.

“We've had a fantastic relationship with Enel in demand response,” said Joel Huguley, Clouse's predecessor at Vulcan who served as Procurement Energy Manager for 21 years before recently retiring. “Enel was the best in the business on both the technology and the service. So we built trust and a rapport and a conversation over time.”

As Vulcan has worked with Enel on demand response for over 15 years, they've seen how much Enel and Enel employees advocate for them.

“Kevin Green is our Account Manager for demand response,” Huguley said. “With Kevin, it's like he is an employee of Vulcan. He handles everything and communicates well with our operations. He knows that if he does his job well, both of our companies benefit.”

Increasing bill savings with battery storage

Vulcan knew that they'd be a strong potential candidate for the benefits of battery storage because of the volume of energy they consume. Battery storage enables organizations to store and consume low-cost electricity to help them reduce time-based energy and capacity costs.

Enel had a long history of installing battery energy storage systems in California, where Vulcan has several sites. Vulcan was impressed by what they saw.

“I initially said it cannot be done, because I couldn't believe you could buy a large enough battery system to reduce demand all the times it will be necessary,” Huguley said. “But once we started looking at the detailed analysis, there was opportunity there. Enel showed me some real-life examples with other plants and how the batteries were actually working. And I said, well, I'm sold.”

Vulcan now has 4 operational battery energy storage systems with Enel in California, with 3 more on the way. Two of those future systems will be paired with existing solar systems, increasing the sustainability of the setup, a major concern for Vulcan as an organization.

“We recognize that if we're pulling less grid electricity in the peak hours when more carbon-intensive resources are running, our GHG footprint is lessened,” said Clouse. “There is an ESG benefit that we're championing around these battery storage projects. It's not large in terms of the volume impact, but every little bit adds up as you're marching to a 2030 goal and a longer-term goal.”

What's next for the Enel-Vulcan partnership?

Vulcan hopes to continue expanding their usage of battery energy storage systems beyond California and throughout North America, with Clouse noting that there is no better proof point for other Vulcan sites than the success of these existing systems. In the meantime, they know their work with Enel will continue to provide them with important economic and sustainability benefits.

“Enel is going to do everything they can to get me what I need,” Clouse said. “That's how Enel really puts Vulcan at a competitive advantage.”