



Calling the right plays: how State Farm Stadium tackles demand response

Located in Glendale, Arizona, State Farm Stadium is the proud home of the NFL's Arizona Cardinals. It has hosted a variety of major sporting events, including Super Bowl LVII in 2023, and offers a seating capacity of over 73,000. Serving that capacity requires a large footprint – 1.7 million square feet, to be exact – and high energy demand.

As a result, State Farm Stadium was interested in improving how they manage energy across their operations. Participating in demand response was compelling, as it aligned closely with the stadium's broader priorities. It would also provide an opportunity to support grid stability during peak demand, contributing to a stronger, more resilient energy system.

But key considerations needed to be addressed first.

Addressing concerns about operational impact

From a financial and operational perspective, demand response would help the stadium manage peak demand costs while providing deeper insight into equipment performance. Rather than viewing energy use as a fixed expense, the program opened the door to smarter, more strategic energy decision making. But as a large, high-profile venue hosting major sporting events and live operations, the stakes for operational reliability and guest comfort are always high.

Initially, the stadium team faced several key concerns, prompting them to approach demand response with caution. First of all, although the facilities team, headed by Ramsey Henderson, was already familiar with demand response, the challenge was to understand how he and his team could harness the dynamic operations of the facility in a way that would enable them to participate. Having participated in demand response at prior companies, Ramsey knew the value in participating – and saw the potential value of it for State Farm Stadium.

CASE STUDY



Industry

Stadiums and Arenas



1.6 MW

of energy reduction during demand response events, on average



DR program

participation in Salt River Project's Summer Complete Program



DR strategy

involves reducing or delaying non-essential loads while protecting critical operations





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—Ramsey Henderson
Director of Facilities, State Farm Stadium

Second, extreme heat conditions in Arizona added another layer of complexity, especially given the need for consistent, reliable cooling for media assets, servers, and occupants. Ensuring equipment and machine reliability was critical – any energy strategy introduced would have to work seamlessly with existing systems and operational demands.

And third – the team was exceptionally mindful of the operational risks associated with live events, where even minor disruptions could impact athletes, staff, partners, and fans. Demand response events can be unpredictable, sometimes occurring on short notice and potentially overlapping with days when an event is being held at the stadium.

Due to these concerns, developing a participation strategy for demand response required careful planning, and it all came down to understanding the facility and putting the right energy reduction plan in place.

How the stadium shifts energy load during demand response events

To participate successfully in demand response, the stadium relies on a targeted, manual approach to reducing their energy consumption. The team identifies certain non-essential loads – like lighting, AC, even computers – and reduces or delays their usage during demand response events, while critical systems are always protected. Pre-cooling strategies help maintain occupant comfort during load reductions, and clear communication with clients and building partners ensures alignment and transparency throughout the process.



This combination of planning, technology, and collaboration allows the stadium to respond quickly and confidently when called upon. The team's careful planning resulted in a successful strategy that alleviated initial concerns about participation. “Demand response participation was initially approached with caution, but demand response has proven to be a strategic advantage rather than a disruption,” says Katie Wilcox, Director of Marketing & Public Relations at State Farm Stadium.

Operational concerns were further eliminated at Arizona Cardinals training camp when two consecutive events were called. Training camp requires stable building systems and consistent cooling to support players, staff, media, and fans. There is no room for disruption. Despite the timing of the demand response events, the stadium successfully executed their load reduction strategy by prioritizing critical areas and implementing precise, controlled HVAC adjustments. Both demand response events were completed seamlessly, with no impact on guest experience, no client concerns, and no operational interruptions.

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This pivotal experience reinforced the stadium's confidence in their ability to manage demand response effectively. It demonstrated that sustainability initiatives can be integrated without compromising performance or reliability. In many events, they performed well over their target energy reductions – meaning more revenue generated, and more grid support. For example, their strategy has enabled them to reduce their load by an impressive 1.6 MW (1,600 kW). They even hit 166% performance while hosting a carnival on-site, with no noticeable impact on the equipment or to guests.

“Demand response is always possible,” says Ramsey Henderson, Director of Facilities at State Farm Stadium when asked for his advice to other stadiums investigating demand response. “Find ways to get creative and challenge yourself. I say that because we showed that you can participate in demand response while hosting events – from corporate to athletic. It shouldn't cost you anything – a lot of sustainability initiatives don't have buy-in because they cost money. Demand response doesn't require investment, and the benefits are real.”

A proven, positive experience with Enel

Overall, the experience with demand response at State Farm Stadium has been highly successful. Stadium staff have consistently navigated demand response events, even on complex operational days, without affecting guest comfort, client expectations, or event execution.

Each demand response event has provided valuable insights, allowing the team to refine strategies, identify new efficiencies, and further optimize energy performance. Demand response has proven to be a strategic advantage rather than a disruption, strengthening the stadium's ability to manage energy proactively while maintaining the highest operational standards.

The stadium participates in an exclusive demand response program with their utility provider, Salt River Project (SRP), called the Business Demand Response Program. The program offers

several options, with the stadium opting for the Complete Summer Program as the best fit for their operations. This program is offered through an exclusive partnership with SRP and Enel, where Enel is the exclusive demand response provider that helps SRP's C&I customers enroll and manage their participation successfully in the program – all the while helping SRP maintain local grid reliability.

The partnership with Enel makes participation in demand response much easier. “The partnership has been great. It has been great working with the reps and having a dedicated person to reach out to and help,” highlights Ramsey. In addition, Ramsey and his team rely heavily on Enel's demand response software, Enel X Flex, to execute successfully during events. “Flex has been a major tool for us,” says Ramsey. “We rely on it heavily for data to help us develop a plan, show our usage in simple terms, look at our baseline, and share our story to stakeholders and board members.”

Supporting broader sustainability goals

Participation in demand response directly supports broader energy management, efficiency, and sustainability goals across State Farm Stadium and their operator, Legends Global. By strategically reducing peak energy demand, the stadium lowers overall consumption and helps minimize strain on the electric grid – reinforcing a strong commitment to using the resources we already have more efficiently.

It also reinforces their commitment to environmental responsibility. Demand response helps the stadium reduce their carbon footprint by decreasing their energy demand during periods of peak grid stress, when the electric grid often relies on less efficient and higher emission sources, such as peaker plants.

The overall result? An energy strategy that enables the stadium to unlock operational value while supporting long-term sustainability objectives.