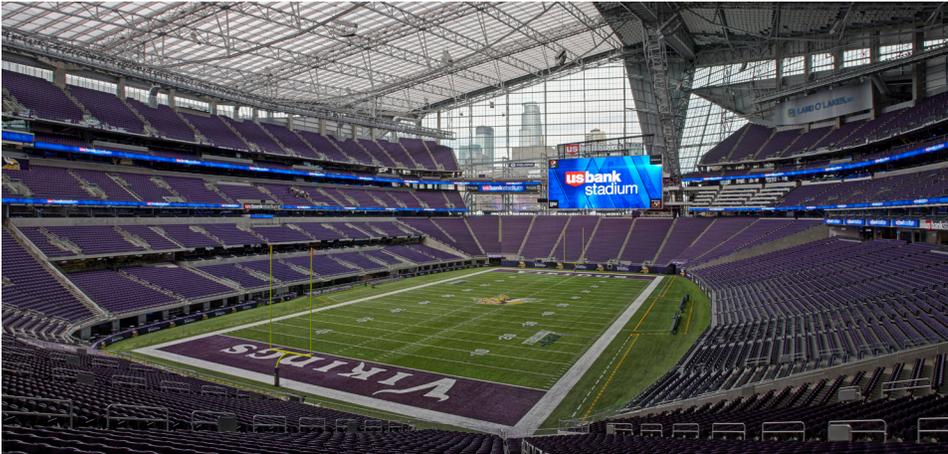




U.S. Bank Stadium

New home of the Minnesota Vikings impresses in size and energy savings



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Michele Kelm-Helgen,
Chair of the Minnesota
Sports Facility Authority

Knowing why you're making energy efficient choices always helps with the decision making process.

That was the case with U.S. Bank Stadium, the new home of the Minnesota Vikings in Minneapolis. The Minnesota Sports Facility Authority (MSFA) had many decisions to make in building the new stadium and topping the list were energy efficiency and sustainability. They were grateful to work with Xcel Energy and an architect familiar with the steps to achieving LEED certification.

"The legislation is very clearly focused on achieving LEED certification," explains Michele Kelm-Helgen, Chair of the MSFA. "Sustainability and efficiency are mandates and priorities for us. Knowing why these measures would make sense to do in the long run due to long-term savings was very important."

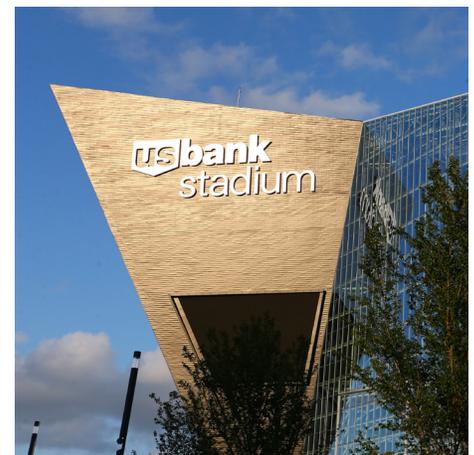
With that understanding, the team went to work on building one of the newest and most energy efficient stadiums in the country.

Tough choices and new technology

The new stadium is 1.8 million square feet, with signature 100-foot tall transparent glass front doors, the largest moveable doors in the world and a co-polymer, plastic-like roof that lets sunlight in and makes everyone forget they're actually inside a building. From the moment people step inside, they're impressed.

"190,000 people came to our open house sessions and all of them had the same amazed looks on their faces," Kelm-Helgen says.

In addition to making a world-class stadium for the home NFL team and its hundreds of thousands of fans, the MSFA needed to achieve LEED certification. They worked with Xcel Energy's Energy Design Assistance program—providing energy modeling to identify all the energy efficient opportunities to consider, equipment costs, payback terms and rebates—and a savvy architect and engineers to make it happen.



Project snapshot

Xcel Energy rebate	\$733,360
Energy savings	3.874 GWh, which saved 20 percent compared to baseline
Payback	1.8 years

Some decisions, like using LED lighting wherever possible to significantly cut energy costs, were no brainers. But some things were harder to determine.

“We’re the first stadium in the country to be constructed with LED sports lighting and we have the Minnesota Vikings to thank for paying to install the system and Xcel Energy for the rebate to help offset the initial cost,” says Kelm-Helgen. “Although it was more expensive upfront, the long-term energy savings will be significant and provide a much shorter payback.”

She adds that the LED lighting alone throughout the stadium reduced electric costs by 37 percent.

The heating and cooling systems were next.

A heat recovery system, air-handling units and other measures reduced their energy costs by another 15 percent.

“There are hundreds of considerations and measures to achieve LEED,” says Sara Terrell, Xcel Energy account manager. “Our program’s energy modeling helps customers understand the choices and make decisions.”

The list of sustainability and efficiency measures is long and impressive. It includes:

- LED sport/stadium lighting
- Motion sensors and high efficiency lighting throughout the building
- CO2 control of outside air
- Air handling unit staging for the upper and lower bowls
- Wall and roof insulation
- Heat recovery system
- ENERGY STAR® TVs and refrigerators
- Low flow showerheads and toilets

Sustainability measures rounded out the effort, including recycling, landscaping around the stadium focused on native plants and the unique roof material which lowered the use of steel in the building.

The combination of measures helped them achieve more than \$733,000 in Xcel Energy rebates and energy savings of more than 20 percent compared to building to code. The payback term is just under two years.

High tech and highly impressive

Residents in the area are just getting to experience the new stadium and see its many impressive attributes. But Kelm-Helgen takes the most pride in the things implemented behind the scenes.

“We’re always open to reducing our carbon footprint and reducing energy usage so we’ll continue to look for ways to save,” Kelm-Helgen says.



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