



First National Bank Building

A comprehensive plan to energy efficiency



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Scott Goltz,
Vice President
Madison Equities

Recognizable for its giant red “1st” on the top, the First National Bank Building in downtown St. Paul is historically iconic with a beautifully renovated interior for its many tenants. When Madison Equities bought the building, it was in great shape but needed some updating on its internal systems and infrastructure.

The sheer size of the building at over a million square feet meant there were numerous opportunities to retrofit lighting, heating, cooling and other equipment, but the internal engineering team wanted a smart, all-inclusive plan that wouldn’t disrupt tenants any more than necessary. To create a priority list, they turned to Xcel Energy and a third party controls contractor to develop a comprehensive plan.

The right mix

Xcel Energy’s Turn Key program is a great place to start when the owner of a building is hoping to implement or identify efficiency measures for the entire building, no matter how big or small. The full-service program starts with an on-site energy efficiency assessment and includes free implementation services to help them make energy-saving improvements. Most projects identified in the energy assessment also qualify for a 30 percent bonus rebate, if implemented within a year of the assessment.

“We review their systems to find the best options for the building’s specific needs,” explains Michael Hepfler, Xcel Energy account manager. “We generate a report that outlines all of the potential measures and savings and go through the numbers with the customer to ensure they have an understanding of the recommendations.”

Financing was a key factor for Scott Goltz, vice president at Madison Equities. In addition to Xcel Energy rebates to help offset the cost, the St. Paul Port Authority provided financing through its Trillion BTU Energy Conservation Program and the Property Assessed Clean Energy (PACE) program.

Trillion BTU loans businesses up to 100 percent of the project cost with no money down to complete their efficiency projects. Similarly, PACE provides affordable, long-term capital to help building owners implement large-scale clean energy improvements.

In addition, Madison Equities also discovered roughly \$600,000 in tax credits to further offset the project cost.



After reviewing the report, the initial rebates, bonus rebates and the financing, Goltz decided the investment would be well worth the estimated return.

“We decided that if we’re going to go through the process of retrofitting equipment, that we should do it all at once,” Goltz says.

“The Turn Key program provides benefits regardless of building size, but this project was really the result of a perfect storm,” Hepfler says. “We had the right customer, the right building, the right timing, the right resources and a steadfast determination by the customer and all entities involved to complete this massive project.”

Getting it done

In all, Goltz implemented the following efficiency measures over a months-long process:

- A fully integrated Building Automation System (BAS)/Energy Management System (EMS) controlling and monitoring lighting schedules, chiller plants, cooling towers, heating system, air handling units, and more. The BAS/EMS is also capable of controlling temperature set points and humidity levels for individual rooms allowing a more granular control of tenant spaces and increased occupant comfort.
- More than 3,000 light fixtures in common areas and tenant spaces were converted to LED bulbs with occupancy sensors.
- All fan and pump motors were replaced with NEMA premium efficiency motors and fitted with Variable Frequency Drives (VFDs).
- Two existing 1000-ton chillers installed in the early 1960’s and one existing 75-ton chiller from the 1970’s were replaced by a modern 1000-ton magnetic bearing chiller.

“All of our tenants were very amenable to these upgrades because they understood what we were trying to achieve,” Goltz says. “And, Michael at Xcel Energy was a huge asset for our team. We couldn’t have done it without him.”

“Most customers don’t realize that we can provide such a comprehensive plan and would have felt overwhelmed by the size of this project,” Hepfler says. “But Scott knew we would help him so he picked up the phone. It’s that partnership that provided the foundation.”

Next steps

Madison Equities also owns the 375 Jackson Building and US Bank Center, two other large buildings on the same corner in downtown St. Paul, and is in the process of reviewing the energy efficiency possibilities at both.

“As a prudent building owner, we’re always looking for ways to reduce costs and be as efficient as possible,” Goltz says. “Once we get everything in place, we go through a six month learning process to get everything tuned up properly. It’s well worth the time and cost we put into these projects, because we reap savings for years to come.”

For more information about Xcel Energy’s Turn Key and other rebate programs, please visit xcelenergy.com/Turnkey.

Project highlights

Project	Install and replace various energy efficiency equipment throughout 1 million s.f. building
Estimated project cost	\$6.75 million
Estimated total annual energy savings:	\$657,000 or 7,300,000 kWh
Rebate and bonus amounts	\$715,200 rebate, \$214,500 bonus rebate
Estimated demand reduction	1,500 kW

