



## Building Tune-up Helps Southtown Office Park

Comfortable tenants, higher efficiency, lower bills



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Steve Heim

Building Manager, Southtown Office Park

### Start with a tune-up

With 20 years of maintaining 43 year-old Southtown Office Park in Bloomington, Minnesota, Steve Heim, building manager, knew the building needed some efficiency upgrades, but wasn’t sure where to start. He decided to go through Xcel Energy’s Recommissioning program to determine the best areas to start saving energy and money.

“Recommissioning is basically a tune-up of an existing building,” explains Glen Fisher, Xcel Energy account manager. “Many of the things we find are low-cost and no-cost fixes that will help bring the building back to an optimum performance level.”

### Creating a checklist

The two-step process starts with a study of the building to determine where improvements can be made. The list of suggested measures is then given to the building manager, who chooses which items to implement. Completing the measures is step two. Xcel Energy funds a portion of the study to help offset the cost and offers rebates for implementing the measures that were identified in the study.

### Start the savings

At Southtown, the study identified first steps, including measures that didn’t cost them much.

First, they reset the controls to reduce the run time for the air handlers when the building wasn’t occupied and adjusted the zone temperature set points. These measures saved Heim over a gigawatt in electricity—or \$65,000 each year.

Enabling the economizers was the next low-cost step.

Using an economizer at the air handling unit allows cool, outside air to be used for cooling instead of mechanical cooling. Control improvements can provide additional cooling and heating savings.

### Common areas reviewed in a typical Recommissioning study include:

- Chilled water reset
- DDC controller retrofit
- Airside economizer
- Night setback and setup
- OSA demand ventilation
- Supply static reset
- HVAC equipment retrofits
- Energy-efficient electric motors
- Start stop optimization
- Temperature resets
- VAV/VFD retrofit
- Lighting control
- Time of day scheduling
- Pump VFD retrofit
- Occupancy scheduling
- Adaptive controls
- EMCS control strategies
- Sub-metering

That measure saves them an additional \$20,000 in electricity each year.

“We were thrilled with the savings with those measures, so it was easy to look ahead at the next thing we should do,” says Heim.

Equipment was next. They bought three high-efficiency boilers and boiler controls to regulate them. Heim then installed Variable Air Volume boxes (VAVs) to control the timing of the heating and cooling systems in each office or suite. He can now control each thermostat through his computer, enabling him to make instant changes, and spend less time trouble shooting tenant issues.

“I have 80 different tenants and some have two or three heating and cooling zones, so installing these controls was not only an energy saver but a huge time and maintenance saver for me,” says Heim. “Now if they say they’re cold I can at least check my computer before calling an HVAC specialist out to fix a potential problem.” He adds that tenants may change, meaning the zones can change over time, further complicating the process.

Another must: fix the air leaks they discovered to cut back on wasted heating and cooling. He says it took a long time to find them, but the effort was worth the savings.

From there, Heim made some smaller changes, like installing motion sensors in the restrooms. All of the changes quickly made an impact.

Fisher adds that finding 1.7 gigawatt-hours of energy savings in a 136,000 square foot building is impressive.

### Learnings and next steps

“I’m happy with the savings and that the process was so easy,” says Heim. “I don’t have to be as much of a heating expert now that these new measures are in place.”

The energy savings in implementing these measures adds up to \$118,600 per year in electric savings and nearly \$40,000 per year in gas savings.

Xcel Energy paid for 75 percent of the study and gave Southtown \$33,600 in rebates for the efficiency work they completed. Another important factor Heim points out is that maintenance costs are lower now that the right equipment is in place.

Heim’s next step is to upgrade a fourth boiler. He’s also considering more efficient lighting in the lobby, common areas and parking lot. For now, he’s enjoying the savings on the things he’s already changed.



### Southtown financial snapshot

The Recommissioning study revealed savings opportunities through the following identified measures:

- Adjusting run times for air handling units
- Enabling economizer
- Installing high-efficiency boilers and boiler controls
- Installing variable air volume controls for individual tenants
- Fixing air leaks in air handling units
- Controlling each tenant’s thermostat electronically to regulate heating and cooling times
- Installing motion sensors

Study cost before rebate	\$15,000
Xcel Energy rebate	\$11,250 (75 percent of cost)
Study cost after rebate	\$3,750
Xcel Energy rebates for measures implemented	\$33,600
Gas utility rebates for recommissioning measures implemented	\$16,000
Estimated annual electric savings	\$118,600 or 1,767,580 kilowatt-hours
Estimated annual gas savings	Nearly \$40,000 or 4,680 Dekatherms

For more about Xcel Energy’s Recommissioning program, please visit [xcelenergy.com/Recomm](http://xcelenergy.com/Recomm).