



## Villa del Sol: Affordable Housing Meets Energy Efficiency



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Karen Reid,  
Executive Director of the  
Neighborhood Development Alliance

Keeping costs under control is a top priority for affordable housing communities, in addition to providing comfort and amenities to its residents. At Villa del Sol near downtown St. Paul, one cost they knew they could control was energy use. They partnered with Lunning Wende Associates and Xcel Energy's Energy Design Assistance program to determine the best ways to build energy efficiency into the new building from the ground up.

### Planning ahead

Villa del Sol is an income restricted housing community offering 1, 2, and 3 bedroom units for families wanting an urban community close to downtown. In addition to the 40 units, the building also includes mixed-use arts and cultural spaces.

Karen Reid, Executive Director of the Neighborhood Development Alliance, had worked with whole building energy efficiency programs before.

"Installing high-efficiency lighting, heating and cooling equipment makes good business sense and decreases our energy costs," Reid says. "We had completed retrofits before with other buildings and focused on efficiency so when I heard about the EDA program, I knew we would want to participate."

"This is typically the way we build," explains Bob Lunning, Principal of Lunning Wende Associates, designer of the building whose work has won awards for building performance. "We knew we could help Villa del Sol manage their energy use."

### Picking priorities

The building envelope quickly became a priority for keeping a tight seal on the building.

"We used continuous insulation which helps us save energy throughout the entire building and we took a chance on single package vertical air conditioners in the individual units for heating and cooling. That was a new technology for us that turned out really well," says Scott Wende, Principal of Lunning Wende Associates.



### Project Highlights

Project completed	New construction of 40-unit affordable housing structure near downtown St. Paul
Xcel Energy rebate	\$43,000 (Gas and electric rebates)
Estimated energy savings	44%
Estimated annual energy cost savings	\$36,600

These were the biggest energy saving measures implemented throughout the building:

- Carbon monoxide (CO) sensor control of garage ventilation
- Single package vertical air conditioners which improve cooling efficiency by 20 percent
- 95-percent efficient gas furnaces in all residential units
- Reduced lighting power density
- Low-e windows
- ENERGY STAR® appliances

“We also installed LEDs and used daylighting and every other low hanging fruit that we could find,” adds Lunning.

The measures made a big difference. It’s estimated they’ll cut their energy use by 44 percent and save more than \$36,000 per year. For their efforts, they received Xcel Energy rebates of nearly \$43,000.

On a larger scale, Reid says that Villa del Sol is participating in Minnesota’s B3 Benchmarking Program to track energy use for the next ten years. They’re also participating in the St. Paul Sustainable Building Policy to reduce energy and water consumption, as well as reduce carbon emissions.

“We came in seven to eight percent lower in energy use than anticipated,” says Lunning. “I wish we could use EDA program on every building. It’s extremely beneficial to projects like this. Affordable housing is one of the most important places to save money.”

### Home sweet home

One of the unseen yet critical elements of energy efficiency is overall comfort. Efficiency measures like extra insulation reduce noise and allergens coming in from the outside. And a quiet, more comfortable home, means happy residents for Reid.



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