

SUN HELPS TROY GARDENS BLOOM

Unique project combines renewable energy with affordable housing

CASE STUDY

A vital ingredient for any successful garden is ample sunlight. That also holds true for Troy Gardens, a 30-unit residential project in Madison that was designed to allow future retrofitting of solar energy systems if residents so chose. With the help of Focus on Energy, however, many of the project's residents were able to install the renewable energy systems and start reaping the benefits right away.



Troy Gardens' developers were able to work with Focus on Energy to take advantage of energy saving measures and building science principles.

Greg Rosenberg, executive director of the Madison Area Community Land Trust, which developed Troy Gardens, said that renewable energy was crucial to the character of the development. The mixed income development was initiated to preserve the community gardens and green space that area residents have enjoyed for years. "We were interested in sustainable development," he said, adding that rising energy costs were also a concern, especially for the low income residents. "Many of these homeowners would not be able to absorb spikes in energy prices."

The up-front, total installation cost of renewable energy systems – in this case, solar domestic hot water and solar electric (or photovoltaic) – can be prohibitive when compared to simply paying a monthly energy bill; however, the rewards are well worth it. Renewable energy systems have long been considered a future solution, with few builders and homeowners considering them for current homes. With the increased interest in and understanding of renewable systems, the developers designed the homes to be renewable ready. That means the building has electrical and plumbing placements that allow the homeowners to add the systems more easily at some point in the future.

Many of the eventual buyers chose not to wait. half of buyers are including solar domestic hot

water systems and some have chosen solar electric systems. What is remarkable, according to Rosenberg, is that buyers of both market rate and low income residences have chosen these systems. This was made possible with help from Focus on Energy's Renewable Energy Program, which worked with a local bank to include the cost of the systems in buyers' mortgages. The program also worked to secure Cash-Back Rewards for any buyers who opted to install the systems.

FOCUS ON ENERGY HELPS WITH CHALLENGES

Developing Troy Gardens was a "tough row to hoe." The 30 units not only had to consider renewable energy systems, but they also had to meet high standards of energy efficiency and indoor air quality, while still remaining affordable. That presented challenges, according to Randy Handel, vice president of McGann Construction, Inc., who was selected to build the homes. "One of the big challenges is keeping costs down," he said.

"Another is coordinating the subcontractors so that everyone is on the same page and everything checks out."

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Many residents chose to incorporate solar energy during the building process. Shown here are six solar hot water heating panels and a square grouping of nine solar electric (PV) panels.

To help with those challenges, Rosenberg enlisted the help of Focus on Energy's Apartment & Condo Efficiency Services Program. The Madison Area Community Land Trust had worked with the program on previous developments, and Rosenberg knew they would be an excellent resource. He would soon find out that Focus on Energy would bring even more resources to bear to make Troy Gardens a success.

Josh Arnold, manager of the Apartment & Condo Efficiency New Construction Services Program, helped the project by recommending energy saving measures. "We worked with the developers from early on, suggesting cost effective ideas that would make the homes energy efficient," said Arnold. Some of the measures Arnold suggested included high efficiency heating, cooling and lighting.

Building the homes to be well insulated and sealed and properly ventilated was the final piece to the puzzle. The Wisconsin ENERGY STAR® Homes Program got involved to help

incorporate efficient building practices and materials. "Wisconsin ENERGY STAR Homes certification is a good investment, so it made sense for the program to get involved," said Arnold. "Consultants with the program reviewed plans, worked with contractors and made site visits throughout the building process." This helped ensure all of the program's standards were being met and that the homes would achieve maximum efficiency.

TROY GARDENS OWNERS LEAD, DEVELOPERS TO FOLLOW

Due to the combined efforts of Focus on Energy's Renewable Energy, Apartment & Condo Efficiency Services and Wisconsin ENERGY STAR Homes Programs, residents of Troy Gardens will have comfortable, energy efficient homes for years to come. With the solar energy systems, the project also meets the larger goal of sustainable development.

The leadership shown by the Troy Gardens developers and planners should also gain the attention of other builders, developers and homebuyers in Wisconsin. As energy prices continue to rise and builders increasingly offer renewable ready homes, buyers are deciding to install these systems right away to take advantage of Focus on Energy incentives. Troy Gardens proved that it is possible for energy efficient homes to be affordable. "The homeowners feel really great about treading lightly on the earth," said Rosenberg. "And they are going to love their utility bills."

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Contact Focus on Energy to learn more about energy efficiency and renewable energy or how to work with the Apartment and Condo Efficiency Services, Renewable Energy and Wisconsin ENERGY STAR Homes Programs. Call 800.762.7077 or visit focusonenergy.com.