

City Square owner reaching for the sun

Smith installs solar panels to help local facility's energy efficiency

By Scott Wilson

Scott@hendersonvillestandard.com

Greg Smith calls it a no-brainer.

Smith, the owner of City Square Shopping Center in Hendersonville, is taking a major step toward heating and cooling his facility more efficiently by installing 288 photo voltaic (PV) panels on the roof.

They will generate about 100,000 KW of power a year – for 20-30 years and the move, Smith figures, will drastically cut costs at the facility and pay for itself in less than five years.

"There are a lot of benefits to this. The Tennessee Valley Authority program for renewable energy is a terrific and innovative program and this is going to give it a big push," Smith said. "The Governor of Tennessee is making all sorts of commitments to solar energy and this is a good addition to the things the state is doing".

Smith said the potential in solar energy is boundless

and that solar energy has a couple of advantages no other energy technology has.

"The power that is generated from this system is generated right where it is used. That's very beneficial, and it lessens the need for new grid systems and power generating plants," Smith explained. "Solar energy systems generate power best when the power is most needed. On sunny days when air conditioners are running, solar power works best. Finally, it is completely clean. Solar energy is a technology whose time has come."

Solar energy is nothing new to Smith. He has a lot of experience in the field and has installed solar PV systems at two other locations.

"I have been interested in renewable energy and energy efficiency for a long time. I actually built a passive solar house in Nashville in 1980. There are a number of passive solar systems incorporated

in the design of the house," Smith relayed.

"Passive solar design means you don't have any active parts and you don't generate any electricity. All you do is use the heat of the sun to heat a masonry wall or something like that. Think of the sun heating up a black rock!"

Smith said active solar design like the City Square project generates electricity by means of transduction of energy. Put simply, light energy (photons) strike silicon panels, exciting electrons, which in turn generate electricity.

The electricity is direct current, which is fed into an inverter, which turns it into usable alternating current. Until recently, active solar design had not been cost effective, but now it is technically and economically feasible. The total cost of the project at City Square is \$600,000.

Smith said he was able to take advantage of a tax credit and another program through state projects that



Greg Smith, owner of City Square Shopping Center, has installed solar panels on the roof of his complex to help heat and cool the shopping center more efficiently. PHOTO BY SCOTT WILSON

helped to lower the initial cost of the program. He said he would also receive a slight premium for the electricity generated at City Square.

Smith believes solar energy will drop in cost by 40-50 percent every two to three years and eventually become the cheapest source of power in the world.

"We have three separate

arrays on the roof and we have hooked them to three separate meters. One of them provides power for City Square's common areas. The tenants bear a proportionate cost of those expenses, so to the extent that we generate this power, we can either lower their costs or at least refrain from raising them," Smith said.

"It is good for the tenants as all of the tenants will be affected at least indirectly by the project. "It also reflects well on City Square, provides green jobs, and there are a lot of environmental benefits. As a final benefit, any excess power generated is fed back into the NES network, providing power for the nearest user."