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## Bexar looks to sun to save cash

[By Vicki Vaughan](#) - Express-News

The roof of the Bexar County Adult Detention Center Annex isn't pretty. Across its vast expanse are flocks of strutting pigeons, old air conditioning units and a solar hot-water system that hasn't worked in years.

But changes on the roof — and the addition of the latest in solar-thermal technology — will beautify the county's bottom line.

Over the next few weeks, the county will install a new solar hot-water system that will save as much as \$60,000 a year and provide all the hot water the building needs, officials say.

The system is one of several green initiatives the county has launched or will begin. The projects include solar for parking garages that can power electric cars and a million-dollar rooftop installation.

“Solar energy makes incredible sense, especially in Texas,” said Bexar County Commissioner Tommy Adkisson, who has long encouraged the use of renewable energy.

“Solar is clean, renewable and domestic — and it's getting cheaper by the day. We also need it for national security, even if it's through the prism of Bexar County.”

It's all part of the county's energy conservation and recycling policy commissioners adopted in 2007. The broad goal is to reduce consumption, conserve energy and promote environmental responsibility.

The new solar hot-water system at the detention center annex will heat water for showers, the building's laundry and kitchen, and sinks for hand-washing, Bexar County energy manager Golda Weir said.

Bexar plans to spend almost \$4.4 million on the system, a price tag that includes electronic digital controls for the air conditioning system that will make it more efficient.

The money also will be used to replace rooftop air conditioning units and the roof, which will get upgraded thermal installation to boost the efficiency of the entire building, county facilities division manager Betty Bueche said.

Bueche and Weir estimate the solar thermal system will save the county \$30,000 to \$60,000 a year in energy costs.

The annex's earlier solar hot-water system of flat-plate collectors was installed in 2001 and worked for a few years, Bueche said, but ultimately failed. Leaks developed and water seeped into its panels; when the water froze, it damaged the panels. When one panel went down, the entire system shut down, Bueche said.

“The system we're installing isn't going to be vulnerable in that way,” she said.

Adkisson is philosophical about the old solar-thermal system.

“We all have to help usher in the solar era,” he said, “and sometimes that can extract a price. Some are on the leading edge; we were on the bleeding edge.”

The new solar-thermal system uses different technology: evacuated vacuum tubes. The tubes have some advantages because they work on overcast days and in colder weather, Bexar officials said.

The county learned of an installed solar evacuated-tube system that was working well at the Army Residence Center in northeast San Antonio, county energy manager Weir said.

The Army Residence Center tested a small evacuated-tube system last year on a single cottage. It worked so well that the center's board approved spending \$460,000 for a big system for its high-rise with 180 apartments that began operating about three months ago.

There's a 13-year payback for the big system, which provides hot water for the high-rise, Bruce Chittenden, the center's director of finance, said.

“We'll be able to better control our costs compared with the natural gas that we were using,” he said. “Solar puts us in the driver's seat.” He expects savings to average about \$2,500 a month over a year's time.

After looking at the Army Residence Center's system, Bexar bid out the detention center project, considering price, qualifications and experience. It named San Antonio-based Kencon Ltd. general contractor, while local Cinco Solar is one of the subcontractors and will handle the solar installation.

Bexar is moving ahead with other solar projects, too. Last week the county won a \$1 million federal grant to add a solar photovoltaic system for the Justice Center Expansion Building under construction just south of the Cadena Reeves Justice Center. The building will be a silver LEED- (Leadership in Energy and Environmental Design) certified structure.


Also, the county plans to match a \$475,750 federal grant to install a solar photovoltaic system on a parking garage planned for South Flores Street next to the existing Bexar County parking garage, Bueche said.

The solar panels will provide power stations for plug-in electric vehicles and electricity for a few offices on the garage's first floor.

“There are a lot of electric cars coming out toward the end of next year,” Adkisson said. “If we as a county can power them through the sun, hallelujah!”

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