

## **Audit shows Manitou could save big on energy bills**

**By Jeanne Davant**

Manitou Springs could save significantly on its utility bills, operating costs and carbon dioxide emissions through projects such as replacing leaky windows, replacing antiquated boilers and ductwork, and installing better ventilation in city buildings.

According to Ennovate Corp., the city's energy service company, these projects could pay for themselves through utility and operational cost savings and reduced capital costs.

Ennovate representatives presented their report Tuesday to City Council on an energy audit of city buildings conducted over a five-month period last year.

Overall, the survey found that Manitou's energy use was higher than average for the types of buildings the city has, and that energy consumption is rising.

Ennovate Engineer Blake Calderwood found aging, inefficient heating and cooling equipment throughout the five city buildings, as well as lighting that sucks up a lot of power.

"I spent a lot of time walking through City Hall," Calderwood said. Employees told him it was uncomfortable to work in some areas of the building because of a low-efficiency furnace, lack of insulation and aging windows, among other things.

In the library, Calderwood found that the lower floor is much colder than the top floor and that ventilation is inadequate. The only way to let in fresh air is to open the windows, which can't be done in the winter. That allows carbon dioxide to build up.

"My CO2 measurements indicated a 'sick' building," Calderwood said, adding that the problem would be easy to fix.

In the public works buildings, the heating unit is "operating on borrowed time," he said. The boiler is inefficient and needs frequent repairs.

The city pays more than \$200,000 a year for utilities. Street lights, which account for more than 44 percent of the energy bill, are the biggest energy hogs. Street lights were not a part of the Ennovate survey, because they are owned and maintained by Colorado Springs Utilities.

The Aquatics Center is the city's second biggest energy user, representing nearly 28 percent of the energy bill.

Ennovate proposed a number of improvements to remedy these problems and save energy and maintenance costs. At the Aquatics Center, for example, the company suggested upgrades to heating units and hot water heaters, lighting retrofits and an air curtain for the main entrance.

Upgrades at City Hall would include adding double-pane windows to the historic windows and replacing nonhistoric windows with new, efficient ones with a historic look.

According to the report, if Manitou adopts the recommended conservation measures and performs the upgrades, it could reduce CO2 emissions by 309 tons per year, the equivalent of 56 passenger cars. In its Climate Action Plan adopted in 2007, the city set goals of reducing greenhouse gas emissions by 30 percent from 2005 levels by 2020 and being carbon-neutral by 2030.

Other benefits would include increased worker productivity from better lighting, less hassle for maintenance crews, increased HVAC automation, potential Energy Star certification, and better working environments.

Ennovate projects a cost of \$773,366 for needed improvements that would be financed through lease-purchase agreements. In the first year, the city could save almost \$36,000 on utility bills that could go toward payments. The city also could realize more than \$15,000 in operational cost savings and almost \$51,000 in capital costs for equipment that would have to be replaced

anyway. Total savings are estimated at \$102,000 for the first year, which would cover the lease payment and program monitoring.

Ennovate guarantees that clients will achieve at least the energy cost savings it projects.

"All of the guarantees we have put out, we have exceeded," said Joe Staib, business development manager.

The energy survey is one step in a process Manitou decided to join in April 2008. It's part of the Energy Performance Contracting program of the Governor's Energy Office, which aims to help public agencies, governments and schools make needed upgrades with no up-front capital and pay for them later through energy savings. The office prescreens companies that perform energy audits, oversees their work and provides information about affordable ways to save energy.

In January 2009, Council appointed five people to an ESCO selection committee, which picked Ennovate as the city's contractor. The committee, composed of Jerry Unruh, Kurt Eckert, Mary Ellen Montgomery, Shannon Solomon and Coreen Toll, conducted interviews and fielded proposals from ESCO companies. It accepted Ennovate's proposal in June, and Council approved a contract for the energy audit in July.

Ennovate has drawn up a contract for the needed energy services, and if Council approves it, the company would solicit bids and find the best terms for the city. Additional financing could come from grants and rebates. Once upgrades were installed, Ennovate would continue to monitor and verify energy savings.

Copies of the report are available for review at City Hall.

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