

Prototype

More than merchandise, an eco-testing lab

While Wal-Mart's new supercenter in Highland Village features a host of merchandising initiatives, the company also used the venue to introduce the latest version of its "high efficiency" prototype in furtherance of some ambitious sustainability goals.

As a result, the store not only reflects Wal-Mart's current thinking regarding merchandising, it also demonstrates how Wal-Mart intends to achieve major reductions in overall energy consumption and resource utilization. Wal-Mart's sustainability goals, as spelled out in late 2005, encompass three main areas: being supplied 100% by renewable energy, creating zero waste and selling products that sustain resources and the environment.

The Highland Village store furthers the company's efforts to varying degrees in each of those areas and a strong environmental statement is made before customers even enter the store as Wal-Mart altered the orientation of the store to accommodate a 125-year-old pecan tree. The massive tree is surrounded by about a quarter acre of land and is located between the store's two main entrances and the parking lot.

Although other trees were sacrificed in the development of the 66-acre Marketplace at Highland Village shopping center that Wal-Mart anchors, the company sought to offset the impact by donating hundreds of trees to the city and residents of the community during a special event held prior to the opening.

Beyond the conservation of the high-profile tree, the store is expected to use 20% less energy than a typical supercenter. To achieve the reduction, the store relies on something called an "integrated water source format" heating, cooling and refrigeration system. Another big source of energy savings can be found inside the store's refrigerated and frozen display cases. They contain light emitting diode bulbs (LED) which are beneficial because they use less energy and generate less heat. In addition, they are connected to motion sensors so they turn off after a period of inactivity in the aisle.



Wal-Mart altered the orientation of its storefront to accommodate a 125-year-old pecan tree. And while the company did have to cut down some trees to make room for the unit, the retailer made up for it by donating hundreds of other trees to the community.

Further energy efficiency is obtained through treatment of the store's air. The 2% reduction in overall energy efficiency is anticipated due to the use of a Munters dehumidification system.

Beyond these changes, the store contains hundreds of skylights, a polished concrete floor that reflects light and baseboards and chair rails made of recycled plastic.

The store is the third such high-efficiency prototype to open this year in addition to stores in Kansas City, Mo., and Rockton, Ill. Each of the stores is strategically located in different climate zones so Wal-Mart can evaluate the effectiveness of various energy saving initiatives.

Many of the efficiency measures in the Highland Village store and the two other high-efficiency prototypes that opened earlier this year are transparent to customers, but that wasn't the case with the opening of environmental prototype stores in July 2005 in McKinney, Texas, and November 2005 in Aurora, Co. Those stores featured a broad range of cutting edge experiments that were highly visible to customers such as large wind turbines, reduced height ductwork systems, solar panels

and uniquely designed exteriors. Other less visible tests included radiant heating systems, stormwater retention and treatment processes and a boiler that ran on used cooking oil from the deli.

Sam's Club also opened an environmental prototype two months ago in Fayetteville, Ark., that features numerous sustainability measures.

The point behind all the experimentation is to determine what type of changes to store design, construction techniques and material usage are suitable for broader application across Wal-Mart's store base as it continues to build and remodel stores domestically and expand internationally.

Longer term, Wal-Mart's pursuit of sustainability is a big win for the company as it leverages its scale to make a difference in a world where consumers are increasingly concerned about the environment. In addition, the wide range of sustainability efforts being pursued at Wal-Mart are expected to yield a competitive cost advantage as reduced energy consumption and resource usage will lessen the company's exposure to volatile energy prices which all retailers have seen erode margins in recent years. ■