

Close to Its Home, Walgreen Tests Energy-Saving Ideas



Camburas & Theodore.

A depiction of a Walgreen store being built in Evanston, Ill., north of Chicago includes its sloping roof, which is to contain more than 800 solar panels.

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CHICAGO — As the [Walgreen](#) Company expands its sales items to fresh salads, Redbox DVD rentals and digital photo scanners, among other products, its consumption of power keeps inching up.



Nathan Weber for The New York Times

The Evanston store construction site last month. Walgreen, based in Deerfield, Ill., expects to have the “net zero energy store” open by Thanksgiving.

While the company cannot significantly reduce its electricity use in all stores immediately, it is building an experimental “net zero energy store” just north of Chicago that it hopes will produce more energy than it consumes.

“We’re just like most American homes where we have become more reliant on servers, computers and monitors,” said Menno Enters, Walgreen director of energy and sustainability. “We need to reduce our electricity consumption.”

Alternative energy equipment at the store under construction in Evanston, Ill., includes more than 800 solar panels on the roof, two 35-foot wind turbines and a geothermal energy system dug hundreds of feet beneath the store’s foundation.

Walgreen building planners and engineers estimate the net zero store will use about 200,000 kilowatt-hours of electricity over a year’s time while generating about 256,000 kilowatt-hours during the same period.

“There are a lot of other retailers that consume less energy per square foot — when you think of a clothing store — but Walgreen does sell it all, so it makes a net zero store much more challenging to pull off,” Mr. Enters said. “If Walgreen can do this, a lot of other retailers can do this.”

The net zero concept is part of the retail giant’s overall sustainability plan to reduce energy use by 20 percent by 2020 across all of its more than 8,000 stores, including Duane Reade stores in the New York area. That goal is also the target of the Department of Energy’s [“Better Buildings Challenge”](#) initiative, which President Obama [established in 2011](#) to encourage energy conservation across the country and Walgreen has signed on to.

The effort is not without its challenges, or additional costs.

The cost of building the new store will be about twice that of a typical new store, though Walgreen executives would not disclose financial details. Over time, however, executives expect to recoup the extra costs from reductions in the store’s energy use, tax credits and rebates from utility companies.

A spokeswoman for the Energy Department said the agency was unaware of any completed net zero projects among more than 110 public and private commercial, industrial and governmental energy conservation projects that are part of the government program to reduce consumption.

Though the department does not offer incentives or pay for any upgrades among the projects, a department spokeswoman, Maria Vargas, said “often local utilities or others do offer incentives.” In Walgreen’s case, the company said the Evanston store would ultimately generate more electricity than it needed, so the surplus could be sold to the local utility,

what energy experts call “getting your meter spinning backward” or “selling it back to the grid.”

Other incentives are offered to companies willing to invest in alternative energy. Walgreen said it expected to receive rebates for lighting and mechanical systems under a separate program.

In terms of federal incentives, Walgreen plans to apply for energy tax credits for the geothermal investment, up to 10 percent of its expenditures, and for the wind investment, up to 30 percent of expenditures.

Ms. Vargas noted that Walgreen was interested in sharing its net zero plan. “We want to have replicable models to eliminate the learning curve on how to do this,” she said. “We are looking forward to seeing the results.”

Walgreen has no plans to build all of its new stores into the net zero variety, but the company is not ruling out more such stores. It is also using the net zero store as a laboratory to test successful energy reduction strategies that could be incorporated into new or older stores.

“A lot of the stuff we are doing in Evanston we have done in other places, but not all in one store,” said Jamie Meyers, Walgreen manager of sustainability. “The opportunity is combining them together to see what the result would be. Then, we want to see if there are synergies and put them in new stores.”

Walgreen is incorporating several conservation and energy producing strategies in existing stores, including LED lighting, energy-efficient building materials and carbon dioxide refrigerant for heating, cooling and refrigeration.

The new store, on the site of an old store that had been razed at Chicago Avenue and Keeney Street in Evanston, is being built by recycling more than 85 percent of the demolished store’s material like bricks, concrete and metal.

Plans call for the new Walgreen store, just six blocks west of blustery Lake Michigan, to capture the area’s infamous gusts with eight-foot-diameter wind turbines that will stand about as tall as the store. There will be 850 solar panels covering practically the entire slightly pitched roof to create solar energy.

In addition, Walgreen has drilled eight 550-foot holes for pipes — one executive described them as about as deep as the landmark Chicago Board of Trade building is tall — to create a geothermal energy system that will use the constant temperature of earth to heat and cool the building.

The so-called geothermal wells will carry a water/glycol mixture at a constant temperature of 55 degrees. This means that the store will consume only enough electricity to be heated or cooled another 17 degrees or so to reach a typical 72-degree temperature.

Executives say the proximity of the net zero store to Walgreen corporate headquarters, about 15 miles away in Deerfield, Ill., allows company engineers and planners to more closely keep watch on it and make adjustments if the store is not meeting its targets. “If we do start straying from our predicted use, we can find out more quickly what the reason is,” Mr. Enters said.

The net zero concept is already gaining global attention from [a Facebook page](#) Walgreen created to update customers in the Evanston community, which includes Northwestern University, on the store’s construction. The store is expected to be open by Thanksgiving, in time for the holiday shopping season.

Facebook fans get regular updates on construction. One was on the use of bricks from [CalStar Products](#), based in Racine, Wis. CalStar does not fire its masonry products, “so much less energy is required to form the bricks and much less CO₂ is produced,” Walgreen said on the site.

Walgreen plans to seek the United States Green Building Council’s LEED Platinum status, the council’s highest designation. Company executives say they have been fielding requests for tours from college engineering professors across the country, as well as Japanese tour groups, once the building is complete.

“This could become a tourist attraction,” Mr. Enters said.