

The Amendment 37 Effect: Colorado Homebuilder Makes Solar Panels Standard on New Homes in Denver

BY MARK MEHRINGER

Harvard Communities, Inc., one of the semi-custom homebuilders at the Stapleton development in Denver, announced that its entire line of Architect Collection homes in the Stapleton development in Denver will now come with photovoltaic (PV) solar power as a standard feature. Called the "Harvard Solar Advantage," the initiative is the first announced by any semi-custom homebuilder in Colorado.

For Architect Collection homeowners, the solar PV panels will provide approximately 30% of their home's electrical power needs (a 2.7 kilowatt system for each house). The solar PV system will integrate with the power the home gets from the regular electricity grid, so the homes will always have power, and will not need an expensive battery backup system. When the panels produce more power than is being used in the home, the excess electricity will flow back into the grid, helping to power surrounding homes, and causing the electric meter to run backwards, thus reducing the electric bill each month for the household. If the home produces more power over the course of a month that it uses, the extra energy will be credited toward the next month's bill.

John Keith, president of Harvard Communities, acknowledged that this program has been made possible as a result of the voter-approved Amendment 37, which prompted buy-back and rebate program by Xcel Energy. Xcel essentially refunds more than half of the cost of installing a solar electric system. Keith further noted that prices for Harvard Architect Collection homes will not be increased, so homebuyers will reap significant savings as a result of electric bills estimated to be 30% lower, and a \$2000 federal tax credit for installation of renewable energy system.

"Harvard is the first homebuilder in the state to announce



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the use of solar PV as a standard feature and, we believe, this bold decision will create the consumer demand that inspires other builders to follow our lead," said Keith. "We've made a conscious choice to standardize solar panels in our homes because buyers are much more concerned about resource conservation and frankly, it's the right thing to do."

Harvard Communities is partnering with Namaste Solar Electric, Inc., a solar design and installation company operating in Denver and Boulder, for the Harvard Solar Advantage program. "Since Amendment 37 passed, we've been flooded with

interest from home owners, office buildings and local governments about how to utilize solar power," said Blake Jones, President of Namaste Solar. "Utilizing solar energy in new home construction just makes sense when you live in a state that gets as much sun as we do in Colorado."

In addition to adding solar panels, Harvard's homes are generally 40% more efficient than the typical new construction home built to code. Keith added, "Sealing the duct work right is more important than PV when it comes to making a home energy efficient."

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Keith notes that it is too early to what impact their decision to make solar standard will have on sales, but at least one homebuyer decided to go their way because of the company's efforts in energy efficiency. Harvard Communities also is building two homes they dub a "near-zero" home because it qualifies for the U.S. Department of Energy's requirements to qualify as a "zero energy home." This "near-zero" home will have a 6kW solar PV system in addition to high efficiency appliances and insulation, resulting in a home that uses 70-75% less energy than the average home of its size.

Harvard Communities is exploring the use of solar thermal collectors for these "near-zero" homes that would capture energy from the sun to provide hot water for the home. Keith says that they did not opt to make solar thermal standard yet because the technology involves somewhat more homeowner maintenance than with a

solar PV panels, which he says simply require being cleaned off every few years.

The benefits of a solar PV system extend beyond a homeowner's pocketbook as well. Over thirty years, a 3 kW system will alleviate approximately 300 barrels of oil, 1,000 lbs of acid rain emissions, 480 lbs of smog emissions, and 177,000 lbs of greenhouse gas emissions, which is the equivalent of planting 420 mature trees.

Some potential buyers have raised concerns about potential hail damage to systems. Keith notes that the panels they use are made of the same materials as windshields and have been tested against breakage by hitting them with ice cubes fired at 150 MPH.

There are at least four other sites in Stapleton utilizing solar PV panels for at least some electricity generation, including the recently opened Shops at Northfield Stapleton, Westerly Creek Elementary School, Bill Roberts Elementary School, and one residence (the author's house). The system at the residence produces up to 4.94 kW of electricity and thus should provide about 90% of the household's electricity usage in an average year. This system was installed by Armadillo Solar Outfitters.



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