



Solar on Affordable Housing

Residential developers are catching onto the fact that putting solar on new housing construction saves money in the long run, plus it adds to the marketability of the home. One example is a new 69-apartment complex in Davis, California (US) being built by Mutual Housing that will offer affordable living for working people with limited incomes.

The apartment complex, called New Harmony, was built by general contractor Sunseri Construction, and it is GreenPoint Rated through the Build it Green program. By becoming a member of Build it Green, developers, contractors, homeowners and others receive training on the latest best practices in building sustainably. The New Harmony complex saves energy because it's built with green materials, uses energy efficient appliances and lighting in the apartments, and has a sustainable water filtration system across the complex. Additionally, it is generating energy with its 780 SunPower solar panels on the roof installed by Berkeley-based Sun Light & Power.



Aerial image of New Harmony Mutual Housing, Davis, California.

Photo by Donny Lieberman

Mutual Housing California develops housing that is affordable to a diversity of households. Our housing builds strong and stable communities through resident participation and leadership development. For more information, call (916) 453-8400 or visit our website at mutualhousing.com.

The 189.6kW DC peak PV system is made up of seven arrays that are spread over the roofs of three buildings. The arrays are a combination of Fastjack flush mount from Pro Solar on sloped roofs, and Hollaender rack mounting on flat roof areas, angled to match the pitch of the slope roofs.

The 7 separate arrays are connected to two Satcon central inverters (a 100kW and a 75kW), and the AC output is run to a dedicated PG&E meter that logs PV generation. It's also connected to a PG&E transformer serving the site. This type of direct connection to a transformer allowed for a very efficient system design, and virtual net metering allows the project owner to distribute the PV benefit across the entire site. This design also simplified the electrical design because it didn't require panel upgrades or additional equipment.

The system has an online monitoring system from Locus Energy that allows the customer to see real time production, and review historical generation from any computer.

The PV system is expected to produce 302,000 kWh of electricity per year, which will equal a reduction of 459,103 pounds of carbon. Aside from generating energy from the sun and reducing greenhouse gas emissions, the solar installation will enable the residents to have a fixed rate on

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their energy bills for the next 30 years, which is a main reason that affordable housing is adopting solar because it eliminates that variable expense.

Founded in 1988, Mutual Housing California develops and operates well-designed rental housing for the diversity of the region's households. The communities have 3,000 residents, nearly half of whom are children.

Through Mutual Housing's focus on leadership, the nonprofit also provides training and mentoring as well as educational programs, community-building activities and services for residents and neighbors. For more information, visit www.mutualhousing.com.