

Case Study



Renewal



Sustainable



Office Bldg



PROJECT CREDITS

Owner

Architects HGW

Architect/Designers

Architects HGW
San Diego, CA

Vitro Products

Solarban® 70XL glass

Glazing Fabricators

Vitro America
Oceanside, CA

Glazing Contractor

Sunset Glazing
La Mesa, CA

Architects HGW transformed a former gas station and auto repair shop into California's first net-zero-energy building with the help of Solarban® 70XL glass by Vitro Architectural Glass (formerly PPG glass).

Architects HGW

SAN DIEGO, CA

PROJECT BACKGROUND

A building can undergo a lot of changes in a half-century, but it is hard to imagine a more dramatic example of reuse and revitalization than the San Diego offices of Architects HGW (Hanna Gabriel Wells). That's where a 4,500 square-foot auto repair shop once devoted to serving California's still-insatiable car culture has been transformed, with the wizardry of its owners and a little help from Solarban® 70XL glass by Vitro Architectural Glass (formerly PPG glass), into the Golden State's first net-zero-energy building.

Situated in the heart of San Diego's cozy Ocean Beach community, the Architects HGW headquarters became a historic first, thanks to two things: the firm's loyalty to the neighborhood and a fruitful alliance with their local utility company, San Diego Gas & Electric (SDG&E).

Randy Hanna, Jim Gabriel and Matt Wells established their namesake practice in Ocean Beach in the late 1990s and, after nearly a decade in the neighborhood, Gabriel says he and his partners were determined to establish a permanent home there. "We really like the community," he explained.

Architects HGW

The idea began to take fruition in 2007 when the three agreed to buy a 50-year-old auto service station, based partially on the appeal of its big service bays and connection to the local streetscape. “It was a natural fit for what we wanted to accomplish,” Gabriel explained. “It was one big room – like a large, old-fashioned drafting room – and there were no partitions. It was really kind of a blank slate for us.”

The three also saw the potential to reinforce their fundamental commitment to sustainable building. “It [was] an opportunity to showcase a lot of things we preach to our clients,” Gabriel added. A series of discussions with SDG&E encouraged the partners to think beyond mere sustainability to something even bigger. The result of their collaboration is the first commercial building in San Diego County that actually creates more energy than it uses.

One of the building’s major highlights is a welcoming look of wide-open transparency that seems to belie its historic energy performance. “Being on street-level, we wanted to be open and connected to the daily life that takes place there,” Gabriel explained. To achieve that objective, Gabriel and his partners specified *Solarban*® 70XL glass, a solar control, low-e glass developed by Vitro Glass. “We were familiar with [*Solarban*® 70XL glass] and liked it for its high solar performance and, at the same time, it’s clear appearance,” he said.

With visible light transmittance (VLT) of 64 percent and a solar heat gain coefficient (SHGC) of 0.27, *Solarban*® 70XL glass enabled the architects to maximize natural light and open their space to the community, while negating the potential heating impact of southern California’s renowned sunshine.



Solarban® 70XL glass helps connect the headquarters for Architects HGW to the local streetscape and floods workspaces with natural light.

To further offset energy use, the HGW team equipped the office with high-efficiency LED task and photosensitive lighting, ENERGY STAR computers and appliances, and a solar thermal water heating system. Countered by a 16-kilowatt photovoltaic system mounted on its rooftop, these energy conservation measures enable the building to return more than 100 percent of the energy it consumes to the SDG&E grid.



In addition to being a primary visual element on the building envelope, *Solarban*® 70XL glass also is part of an integrated lighting and ventilation system that incorporates operable windows, fans, skylights and shades to enhance indoor air quality and bathe more than 90 percent of the work space in natural light. Gabriel said that artificial lights are rarely used and, because of the natural air flow and aggressive heat gain reductions provided by the windows and skylights, there was no need to install air conditioning. Those two attributes alone made the new HGW headquarters nearly 50 percent more energy-efficient than a standard building of its size.

The Architects HGW building is LEED® *Gold* certified, not just for its lack of energy consumption, but for other environmental attributes as well. For instance, the architects reused more than 90 percent of the original repair shop structure and diverted 80 percent of the construction waste from local landfills. Low-flow toilets and faucets, together with waterless urinals, reduce indoor water use by 46 percent and xeriscaping and drip irrigation cut outdoor water use by more than 60 percent.

Now that the building is occupied, Gabriel and his partners couldn’t be more pleased with the final result. From a comfort and performance standpoint, the building is “just terrific” he said.

For more information about environmentally progressive *Solarban*® 70XL glass and other *Cradle to Cradle Certified*™ architectural glasses by Vitro Glass, visit vitroglazings.com, or call 1-855-VITRO-GLS (1-855-887-6457).