



“For our new laboratory building, a design focused on promoting interactions among scientists and responsible sustainability was paramount. We sought energy-efficient solutions where practical in the lab and wherever possible in non-laboratory spaces.”

CISCO WERNER,
DIRECTOR, SOUTHWEST
FISHERIES SCIENCE CENTER,
NOAA FISHERIES SERVICE

In addition to its sustainable green roof, NOAA's new Southwest Fisheries Science Center Laboratory features rooftop photovoltaic panels that supply enough solar energy to offset 7% of the building's electrical use.

Annual Savings: 941,069 kWh; 3,734 therms
SDG&E® Incentives: \$211,794

Highlights

- Targeted LEED® Gold certification
- High-efficiency equipment and lighting
- Narrow floorplates, natural lighting and louvers for sun control
- LED parking lot lights and advanced controls
- Fan-assisted ventilation and operational windows
- Building management system

Applying smart science to sustainable construction

When constructing a replacement for its Southwest Fisheries Science Center (SWFSC) Laboratory in La Jolla, the National Oceanic and Atmospheric Administration (NOAA) prioritized sustainable design. With funding from the American Recovery and Reinvestment Act, NOAA was able to rebuild across the street from its previous location. With its unique Ocean Technology Development Test Tank, laboratories, specimen archives, libraries, and office space for 275 NOAA and Inter-American Tropical Tuna Commission scientists and support staff, the new SWFSC building is a showcase for smart development. While laboratory buildings pose unique challenges for energy savings due to their stringent environmental controls, the new facility has integrated a range of green building and energy-efficiency advances that NOAA will showcase through its website, tours, and brochures.

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About the National Oceanic and Atmospheric Administration

The National Oceanic and Atmospheric Administration is an agency that enriches life through science. NOAA keeps citizens informed of the changing environment around them by offering information about everything from weather forecasts and climate monitoring to fisheries management, coastal restoration and marine commerce. In La Jolla, NOAA Fisheries Service's Southwest Fisheries Science Center conducts cutting-edge scientific research to support the management and conservation of domestic and international living marine resources.

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A deep dive into green design

Exploring how sustainable the new building could be started early in the planning process. Notes Architectural Project Manager for the effort and Vice President for Gould Evans, Jim Schraeder, "Our architecture and engineering teams worked closely with SDG&E to identify energy-saving solutions that reduce demand and diminish lifecycle costs." Adds Lily Livingston, Sustainable Design Project Manager for HDR Architecture, "We conducted a sustainability summit to help solicit and analyze options for incorporating energy savings." Through its collaboration with the SDG&E® Savings by Design (SBD) program, the new building is targeted for LEED Gold certification, a rare accomplishment for a laboratory building which typically has high energy requirements.

On average, labs consume about five times more energy per square foot than a typical office building. To offset this, the SWFSC Laboratory incorporates innovative design features such as narrow floorplates and natural daylighting from two or more sides, fan-assisted natural ventilation, and high-efficiency equipment and lighting. By incorporating a green roof planted with California coastal chaparral and shading west- and south-facing windows, the building requires 69% less cooling energy than the ASHRAE 90.1-2004 standard. Altogether, the improvements reduce projected energy use by 33% compared to similar buildings. Sarah Mesnick, Ecologist and Science Liaison, Southwest Fisheries Science Center, NOAA Fisheries Service highlights another important benefit, "Our staff will thrive with the combination of fresh air and natural light in their offices, as well as the open spaces which promote interaction, creating both a wonderfully healthy and scientifically productive place to work."

Casting a wide technology net

NOAA worked closely with the SDG&E Emerging Technologies

department to explore new energy-saving advances. Lighting was an important area for increased building efficiency. The SWFSC Laboratory parking lot includes LED lights with advanced lighting controls. Lighting is kept at a minimum level until pedestrian or vehicular movement activates brighter lighting levels. The office and laboratory spaces also have motion and light photo sensors for reducing the use of artificial light and a building management system, which allows the facilities staff to monitor energy usage and make energy-saving operational changes where appropriate.

A strong renewable energy plan

The building includes a large, rooftop photovoltaic array that supplies 7% of its energy needs. This is the equivalent of powering 40 typical homes. Because it is highly visible to anyone passing by, the array also serves another purpose. Explains Mesnick, "In addition to its functional use, the photovoltaic array communicates our strong commitment to alternative energy sources and encourages others to enter the building, seek information about sustainable building design and follow our lead." As a result of all of the energy-saving initiatives incorporated into the building, NOAA received \$211,794 in SDG&E incentives and achieved projected annual savings of 941,069 kWh and 3,734 therms. Notes Ray Robeson, SDG&E Account Executive for NOAA, "The new Southwest Fisheries Laboratory embodies NOAA's efforts to promote sustainability as seen in their projects and research."

For more information

To learn which SDG&E program is right for your business, contact your SDG&E Account Executive, call the Energy Savings Center at: **1-800-644-6133** or email businessenergysavings@sdge.com.

These programs are funded by California utility customers and administered by SDG&E® under the auspices of the California Public Utilities Commission. Rebates and incentives are provided on a first-come, first-served basis until program funds are no longer available.

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