

A little goes a long way



The Southern Alliance for Clean Energy in downtown Asheville. Basement encapsulation to reduce moisture in the SACE office. (below) Garret K. Woodward photos

Solar/Green Consulting: Clean Energy for US (formerly Solarize Asheville)
Solar Panels: Sundance Power Systems
Solar Modules: SunPower (E20-327)
Solar Module Efficiency: 20.4%
Solar Module Rating: 327 watts
Initial Solar Module Production (25 years): 87%
Initial Solar Module Production (40 years): 70% (+)
Projected Annual Solar Output: 14,941 kilowatt hours (kWh)
Solar GPS System: AllSun Tracker (24 panels at 25'x25')
Windows: Window World (Energy Star-rated)
Fiberglass insulation (Basement Ceiling): R-19 (after insulation) (Attic): R-10 (before) to R-48 (after)
Temperature (Attic): 124 degrees (before insulation) to 90 degrees (after)

□ BY GARRET K. WOODWARD □
A local nonprofit organization, which promotes “responsible energy choices that create global climate change solutions and ensure clean, safe and healthy

communities,” the Southern Alliance for Clean Energy has been a pioneer in green energy and initiatives for 30 years, with offices dotting the Southeast.

And at its Asheville office, SACE’s



early 20th century building was in need of not only retrofitting, but also energy efficient renovations that fell in line with the ideals and pursuits of the organization.

When it moved into the Asheville office, SACE brought in Green Opportunities, a local organization that provides green job training and job placement services for low-income individuals. A blower door test, air blaster test and visual inspections were done on every corner of the building, all in an effort to find energy inefficiencies and provide solutions to the structural issues. The basement was found to have 93 percent humidity when it should be 9 percent, as well as 50 percent duct leakage down there and 20 percent in the offices upstairs.

The building soon underwent renovations, which included basement encapsulation, where the walls and floor are sealed up, preventing any moisture from getting into the space. During renovations, SACE also installed Energy Star-rated windows, used low-VOC paint inside the office, mounted programmable thermostats, and insulated the water heater tank. Today, the staff regularly changes air filters and uses natural ventilation by opening windows and turning on ceiling fans instead of solely relying on air conditioning.

The final piece to the upgrading puzzle came with the installation of a dual axis tracking solar system on the property. Installed in April 2014 and commissioned the following month, the 7.8 kW-dc (6.9 kW-ac) system generated an average of 1 MWh of power each month during its first year. Since May 2014, the panels have helped the office save more than 10,400 kg of CO2 emissions.

With more and more people looking into energy efficiency in their own homes and businesses, SACE notes that the average U.S. home has between 30 and 50 percent duct leakage. In these buildings even the smallest of changes, whether it be proper insulation or caulking, can make the biggest of differences in one’s quality of life, personally and professionally.