Maclay Architects Designs VT’s Largest Net-positive Office Building

By Green Energy Times Staff

SunCommon, one of Vermont’s earliest Beneficial Corporations, is Vermont’s largest solar installer, serving nearly 3,000 Vermonters with solar at home or as Community Solar Array members. The business’ mission statement starts with the belief that every person deserves a clean and safe environment. SunCommon’s mission is to remove the barriers to renewable energy so every Vermonter can get solar power.

SunCommon was founded in 2012 in Waterbury Center. The company began with 16 employees in a net-zero building, and over four years its workforce had grown to 80 and it needed a larger space. A move to Waterbury village strengthened SunCommon’s relationship with the town, a connection that was important to the company in the course of recovery after Tropical Storm Irene. With the new location more central to the village, employees enjoy shorter commutes and the option to bike or walk to get lunch.

SunCommon has a mission-driven commitment to people, planet and profit, so a design for net-zero energy use or better was important. SunCommon teamed with Bill Maclay of Maclay Architects to start working on the building design, together with the owner, Malone Properties providing for construction. Maclay Architects is located in Waitsfield, Vermont and has been constructing high-performance buildings with renewable energy since 1971. Malone Properties is a commercial real estate developer based in Montpelier, Vermont. With net-zero building design, heat pumps, and a rooftop community solar array, SunCommon’s building is Vermont’s largest net-positive office building, as it produces more energy than it uses. It was finished in the spring of 2016, with its 16,000 square feet including 8,640 square feet of office and 6,120 square feet of warehouse.

The office area is open, divided into functional “neighborhoods,” so employees are stationed near those with whom they work most. The exterior walls have glass for solar gain, views, and optimal daylighting. This makes it possible to have a building that is not merely energy efficient, but also esthetically pleasing.

The building’s heat pumps provide both heat and air conditioning, for a very simple, and surprisingly cost-effective, approach to maintaining comfortable temperatures. Bill Maclay said that given the design of the building, with solar gain, good insulation, and good air sealing, it was not considered necessary to have backup heating systems.

SunCommon’s goal with the building was to be net-positive, producing more energy than it uses. To do this, Maclay designed a single, large shed roof, completely covered with solar photovoltaic panels, combined with a solar canopy for a patio. These provide 150kW (kilowatts), about twice the power needed to provide the business’ electricity requirements. The extra energy is exported to the grid and will provide for about thirty Vermont homes, which subscribe as members of this community solar program.

The SunCommon headquarters is a showcase where people can learn about the implications of net-positive energy construction. Bill Maclay pointed out that the increase in construction costs produce a relatively small increase in the monthly payments for financing. That increase is more than offset by the reduction in costs for electricity and heat. This net-positive building was less expensive than conventional construction right from the beginning. Maclay said of this, “What the public does not really know yet is that we are in the renewable era.”

This is a project that has plenty of praise going around. Maclay said, “The only reason we do great projects is that we have great clients.” Jessica Edgerly-Walsh, the Organizing Director of SunCommon, was excited about Maclay’s design, but also about the leadership in her own company. “I am really proud of our business. We are going to make clean energy happen for Vermonters, for our climate, and for our economy, and the building is a symbol of that commitment.”