

Distribution Centers Bring Power to the People—Literally—through Use of Solar Panels



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By Drew Torbin

It's no secret that environmental factors are affecting the way we live. Each day, we are exposed to the effects of climate change, poor air quality, and the depletion of resources. We also feel the ramifications when we pay our skyrocketing energy bills. The good news is that many forward-thinking nations are already investing in renewable energy sources and working diligently to counteract these effects.

In general, Green initiatives in Europe are significantly more developed than those in the United States. Over a decade ago the European community, along with Japan and many other nations, ratified the Kyoto Protocol. In doing so, they committed to reducing greenhouse gas emissions by a pre-determined, targeted percentage by 2012, an action that jump-started widespread green initiatives in these nations. In recent years, individual

governments across Europe have sponsored and mandated programs designed to accelerate the implementation and adoption of Green practices. For example, Germany has enacted a 29-point Integrated Energy and Climate Program and the United Kingdom passed the Climate Change Bill—both intended to further reduce greenhouse gas emission levels by 2020.

Some of the more successful European initiatives, such as renewable energy installations, are beginning to emerge in the United States. For instance, solar panels are gaining in popularity because they produce clean, renewable energy that is devoid of greenhouse gas emissions and fossil fuel pollutants. They also harness the power of a limitless resource—the sun; and they have the ability to generate vast amounts of power during peak energy-usage hours, when it is most needed.



ProLogis Solar Panels Moissey Cramayel, Chanteloup, France

Rooftop solar installations are fairly congruous when placed on top of industrial warehouses. The large, flat construction style of these facilities offers thousands of square feet in unused roof space. In addition, the roofs of most industrial facilities sit slightly lower than the exterior walls of these structures, making rooftop solar panel installations viewable only from an aerial perspective and virtually unnoticeable to passersby on the street.

What's Good for the Environment Is Good for Everyone

Many countries around the world are years ahead of the United States when it comes to sustainable initiatives. Our country is, however, showing tremendous progress. This is evidenced in some progressive states, such as California and Oregon that are already establishing renewable energy goals, including the use of rooftop solar panels.

For instance, the State of California has enacted legislation encouraging the installation of one million solar roofs in California by 2018. If successful, the plan will provide 3,000 megawatts (MW) of solar energy and reduce greenhouse gas emissions by three million tons per year, which is equivalent to taking one million cars off the road. In Oregon, new global warming legislation targets certain greenhouse gas emission goals and provides tax credits for residents and businesses that implement solar technology. Solar panels on the roofs of an increased number of bulk distribution centers will clearly help these states achieve their objectives.

Utility companies can benefit significantly from industrial rooftop solar panel installations, using them to generate clean power in an economical way. Owning the solar equipment and leasing roof space allows a utility to make a one-time investment and subsequently generate power for years from a free

input source (the sun). By owning the equipment, the utility can also make a fixed return on the capital expenditures by “rate basing” the investment and passing incremental costs to ratepayers.

Industrial rooftop solar panels provide utilities with some operations-related opportunities as well. They enable utilities to reduce the strain on their power grids during peak hours of energy needs while diversifying their offerings to give ratepayers more choices in energy sources—traditional or “clean” renewable energy. In addition, because the input source of solar energy is free, it can result in long-term cost savings that can be realized by consumers, businesses, and energy providers alike.



ProLogis-Solar Panels Installed

Finally, renewable energy projects create strategic opportunities for property owners of distribution facilities. Companies such as ProLogis—one of the world’s largest owner, manager, and developer of distribution facilities—can effectively use rooftop solar panel installation to generate environmentally conscious, renewable energy that simultaneously meets the needs of local communities and enhances return on property investments. In essence, rooftop leases for solar panel installations provide an innovative way for property owners to utilize otherwise unusable roof space to generate incremental income.

With a rooftop lease of this nature, a utility company has the opportunity to lease roof space from a property owner and occupy it for a specified period of time, generally under a long-term lease of 20 or 30 years. Typically, a third-party investor and/or the utility will contribute the capital needed to purchase, install, and provide ongoing maintenance of the solar panel arrays. Perhaps

the most important part of this arrangement is that, once installed, all energy generated from the project can then flow back into the neighboring electrical grid to help the utility meet its customers' energy needs. This gives the phrase "power to the people" a whole new meaning.

Drawing on Past Experience to Build the Future

Using rooftops to produce renewable energy is nothing new for ProLogis; solar installations at parks in France, Germany, and Spain already successfully deliver power to the local power grids. And, a strong partnership between ProLogis and Southern California Edison (SCE) has made the concept a reality in the United States.



ProLogis Solar Panel installation, Moissey Cramayel, Chanteloup, France

In Moissy-Cramayel, France, ProLogis Park Chanteloup is a 2.7-million-square-foot distribution park that features a 446-kilowatt (kW) installation of photovoltaic solar panels—one of the largest in the country. All of the energy generated with solar panels at ProLogis Park Chanteloup is sold back to local utilities at a premium to market rates under government-sponsored programs that promote clean, renewable energy.

In Spain, industrial facilities are now taking part in the country's "solar farming" program. A 527,000-square-foot distribution center at ProLogis Park Penedes was one of the first of its kind to participate. The facility includes a 105-kW installation that is modeled after ProLogis Park Chanteloup with a flexible, amorphous roof panel. As in France, energy generated with the solar panels on this facility is sold back to local utilities. ProLogis also has a similar project in Germany, totaling 550 kW.

Back in the United States, ProLogis and SCE recently announced a pilot program for the country's



ProLogis Kaiser Facility

largest rooftop solar installation project ever proposed by a utility company. SCE, the largest utility for one of the world's largest economies, is leasing 607,000 square feet of roof space at ProLogis' Kaiser Distribution Park in Fontana, California, where it plans to install a 2.2 MW solar panel array. SCE will make the capital investment to purchase and install the array; energy harvested will go directly to the grid and will be used by the utility's customers in the region. ProLogis will manage the construction and installation of the panels and will enter into a long-term roof lease with SCE.

When the 2.2 MW solar panel installation is completed in the fall, Kaiser Distribution Center #7 will harness enough energy to power 1,426 households for one year ... and that's just the beginning. With 179 additional facilities in SCE's territory, ProLogis can offer more than 41 million square feet of rooftop to the utility for future installations. SCE plans to install 250 MW of solar panels over the next five years as a part of California's Million Solar Roofs program. When completed, SCE's long-term project has the potential to produce enough power for 162,000 homes.

Projects such as the rooftop solar panel installation at ProLogis' Kaiser Distribution Park are clear indicators that successful renewable energy initiatives are finally making their way to the United States. The U.S. has recently made great strides in catching up to the efforts that are currently underway in other parts of the world, but we've still got a long way to go. The time is right for the U.S. industrial real estate industry to accelerate its fight against global warming and promote energy independence. Doing so will allow us to generate renewable energy and simultaneously generate a renewable revenue stream. ➔