Solar Industry®

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Building Renewable Portfolios With Commercial-Scale Solar

When negotiating lease agreements, carefully consider financing, legal, construction and technology issues.

Drew Torbin

Southern California Edison leased 607,000 square feet of roof space at the Kaiser Distribution Center in Fontana, Calif., to accommodate a 2.4 MW solar installation. Photo courtesy of ProLogis.

Utility companies are facing widespread pressures to build their renewable energy portfolios. As a result, the solar industry has taken off, especially in the area of rooftop solar installations. But the "where, when and how" of bringing commercial-scale projects to fruition on rooftops can be quite complex.

Drew Torbin

By now, we all know why solar energy is in demand. Across the nation, mandates set by state governments require utilities to generate a specified percentage of their energy generation as renewable - with due dates as early as 2010. Internal company goals add to this pressure. In an effort to become more sustainable and meet customers' demands for clean energy, utilities have set their own renewable energy targets.

Helping solar is the political outlook for 2009, a period during which many industry experts predict that President-elect Obama's focus on renewable energy development will help bring more incentives and rebates to the industry.

Just recently, as a part of the government's financial rescue plan, the availability of tax credits for renewable energy installations was extended for eight additional years. Enhancements were also added, eliminating the $2,000 cap and allowing utility companies to take advantage of these tax incentives, which were previously available only to residential and business entities. These actions are significant, considering solar technology is still notably expensive.

Nevertheless, numerous challenges remain for commercial-scale solar - particularly finding appropriate locations in which to install large rooftop solar installations.

It is best for these installations to be located near a utility's customer base, where the energy is ultimately used. However, infill areas where these customers are located are packed with existing infrastructure. Although land is widely available on the cities' perimeters, transmission issues come into play. Plus, obtaining the proper entitlements when purchasing land can be a lengthy and difficult process.

For these and other reasons, partnerships between utilities and commercial or industrial real estate owners often make perfect sense.

Industrial warehouses, by design, are located near major populations. They are mostly occupied by consumer-related companies, such as Kraft Foods and SC Johnson, that need to distribute their goods locally and regionally. Therefore, facilities that reach these populations are connected to the local utility company's electrical grid, which serves these same populations.

Moreover, these warehouses are big - even huge. The average size of a distribution center in the U.S. in 2007 was somewhere around 312,000 square feet. To put this size in perspective, consider that a 300,000 square-foot building can hold a 1 MW system, or enough power to satisfy the energy needs of approxi-

An artist's rendering of a portion of a 1.1 MW solar installation at a distribution center in Portland, Ore. Courtesy of ProLogis.

mately 1,000 houses for a year - or perhaps more, depending on the technology used.

The design of these warehouses often benefits solar installations: The roofs are very flat, and they sit slightly lower than the exterior walls of the warehouse, making installations viewable only from an aerial perspective.

Construction does not harm the community, and security is enhanced by the location, which prevents possible vandalism or theft both during construction and over the life of the power-generating installation.

The best aspect of utilizing a warehouse roof for solar installations may be that the building is immediately available. It is already properly entitled, and no capital needs to be spent by the utility for purchasing land. The owner of the industrial facility has existing site control as well as a long-term vested interest in the property. Thus, power can begin to be generated on a near-term basis - in as little as 90 days in the most ideal situations.

Environmentalists appreciate rooftop solar because the installations do not take up greenfields (land that has not yet been touched by development).

Additionally, from a technical standpoint, rooftop solar installations are also more stable on a commercial scale because utilities are able to harness the benefits of a distributed generation technique, making the aggregate system more resilient in case of outages or other potential disruptions. In short, the power is generated in a place where the users are located during peak usage times, with minimal need to increase transmission capability.

There are obvious benefits to utilizing large rooftops for solar installations, but utilities can find additional value in working with real estate partners that understand the goals and objectives of the power generator and can meet project timelines. The following describes what a utility needs to know to make projects like this work, and what it should look for in a real estate partner.

Utility responsibilities

In 2008, our company partnered with two large utilities - Southern California Edison (SCE) and Portland General Electric (PGE) - for rooftop solar installations. When pursuing projects like these, each partner should leverage its core competencies to reduce the chances of overcommitting resources or making mistakes.

Commercial real estate owners are experienced at leasing space and are skilled at construction management. Utilities, on the other hand, are experienced in owning energy-generating assets, meeting their customers' needs and knowing how best to meet their energy requirements.

Therefore, deal structuring matters. Beyond utilizing their core competencies, real estate owners may also be interested in leasing the roof area, because they gain additional income from an existing asset. They maintain a long-term interest in the property, and their customers inside the building also benefit from additional insulation on the roof, which helps reduce the cost of cooling and heating.

The building owner is also likely experienced in construction and is certainly intimately familiar with its own buildings, including structural elements of each facility and how much load a particular roof can take. In addition, real estate owners have existing relationships with the architects that designed the facilities, as well as with contractors in the area that can best complete the project in the necessary time frame and for the appropriate price.

On the other hand, it is advantageous for the utility to own and operate the solar installation. This way, the utility is able to help fund the project through its rate base, which can limit the exposure a project has to the current credit crisis.

As previously mentioned, many utilities are now able to take advantage of government-related subsidies and tax incentives. It is also in the utility's best interest to maintain ownership of the system so that it can control maintenance and general repairs. The system is, after all, being used to serve its customers.

Negotiating the transaction

When negotiating rooftop lease agreements, both sides must carefully consider financing arrangements, le-

Workers install thin-film solar panels at ProLogis Park PDX in Portland, Ore. Photo courtesy of ProLogis.

gal requirements, construction techniques and technology selection.

Financing arrangements can make or break the deal. In today's market, it makes sense to align with a business partner that has a lasting reputation. Lenders like to know that participation includes established companies that have experience with related, successful projects.

In some instances, major real estate companies even have an investment management component to their business, thus providing connections to other sources of capital.

Because each side wants to ensure that its best interests are represented, legal requirements in the agreements between real estate partners and utilities can be quite involved. Having a real estate partner that has leased roof space previously is a real benefit and will help eliminate any guesswork that may come by nature of these arrangements. Partnering with an experienced site host will also pay dividends throughout the construction period and operational life of the project.

As mentioned previously, real estate owners have intimate knowledge of their buildings and the contractors in local markets. They should, however, also bring knowledge of the best technology needed for a particular location.

Choosing the wrong technology has the potential to be a major dealbreaker. For example, our project with PGE is located in an area with high wind conditions and heavy snow loads. After lengthy consideration, our team decided on building-integrated thin-film solar panels, which are laid flush against the roof material, leaving it nearly impossible for weather-related damage to occur. Having a partner that has this experience is paramount and ensures the investment is protected.

Support from local government organizations and the community is essential as well. With a real estate partner that is active in a particular market, the deals come together smoothly and swiftly because of their existing relationships. For example, in our transaction with SCE, we already had working relationships with government officials in Southern California and were able to fast-track permits.

The best real estate partner for the utility is a company that can negotiate all of the needed relationships and hurdles associated with pulling these rooftop projects together. This ability is the biggest help of all.

The time is right to accelerate the fight against global warming and promote energy independence. If carefully planned, business relationships between utility companies and real estate companies can launch successful solar projects that bring us closer to those goals - rooftop by rooftop.

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