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Insuring Renewable Energy Projects

Law360, New York (May 6, 2011) -- Over the past decade, federal, state and local governments have made available (and continue to make available) billions of dollars of funding for solar photovoltaic and other renewable energy projects (solar PV projects) across the nation. These dollars typically come in the form of tax credits, cash grants, accelerated depreciation and other incentives.

Even with all the available funding, however, the financial crisis has made it difficult for many solar PV project developers to obtain the financing needed to complete megawatt-scale renewable energy projects. This disconnect has resulted in the underutilization of the available governmental incentives designed to increase the installed capacity of renewable energy.

Reacting to the difficulties involved with obtaining financing, some innovative insurers are beginning to create and offer products to address those risks, allowing solar PV project developers to meet the financing market's risk requirements and develop their projects. To offer these products effectively, however, the insurance industry must understand and address the relevant regulatory issues and other risks that inherently attach to such products.

How Large-Scale PV Projects Are Financed

Traditionally, most solar PV projects have been financed using long-term, fixed-price energy contracts called power purchase agreements (PPAs) or similar purchase agreements for the renewable attributes. Many solar PV projects are often collaborations between a governmental entity (such as a municipality or county) and third-party solar PV project developer, whereby the governmental entity provides the space for the solar PV project installation, and the developer provides the upfront capital for the installation. The governmental entity then enters into a PPA with the developer at rates that are often competitive with traditional local utilities.

The third-party development model provides certain advantages for both parties. For instance, governmental entities, which have no tax liability, cannot take advantage of the many types of solar PV project incentives made available to private parties/businesses.

Additionally, governmental entities may not have the capability or desire to finance the high upfront capital costs of solar PV project installations and may not be willing to assume the risks associated with development, construction and operation of a power plant with technology that is new to them.

However, local governments often have significant amounts of real estate ideally situated for the solar PV project installation, including rooftops, schools, reservoirs and park land. Third-party developers have the tax appetite to use the incentives and often have the ability to arrange for large-scale financing, making them excellent partners for solar PV project development.

One of the most important aspects of obtaining financing for a large-scale solar PV project is the warranty provided by the manufacturer of the PV panels to the developer, which in turn guarantees a certain level of output. A typical warranty in the industry guarantees that a panel will produce electricity for 10 years at 90 percent of its rated power output, and for the next 10 to 15 years at 80 percent of its rated power output. The declining warranty level is the result of the fact that all solar panels slowly degrade over time.

Financing parties require these decades-long warranties before agreeing to any funding of a solar PV project. However, such a performance warranty creates a liability on a company's balance sheet, and manufacturers must maintain hefty capital reserves for any future claims. In addition, in recent years there has been a significant increase in the number of manufacturers entering the business that might not have the track record or balance sheet necessary for the financing parties.

If the financial industry does not think the manufacturer has the capacity to satisfy its potential claims, it may not provide the financing necessary for a megawatt-scale underlying project.

Solar PV Output Insurance

A handful of insurers have recently begun to respond to the undercapitalization of solar PV project panel manufacturers by providing an insurance product that covers potential warranty claims. The product transfers the risk of a panel's failure to produce the guaranteed energy output from the manufacturers' balance sheet to the insurance carrier.

Not only does this free up a substantial amount of capital for the manufacturer to use on research and development and other investments, it also provides third-party development projects and their associated financial institutions the security that the output warranty is backed by an insurance carrier. By obtaining such a “backstop” insurance product, PV panel manufacturers become more competitive in their own market, and more large-scale solar PV projects are likely to be built.

Some insurers are even exploring the possibility of providing the backstop insurance directly to solar PV project developers, with the coverage tied to the warranty provisions of the panel manufacturers.

One of the largest current challenges to the insurance industry in offering output guarantee products is determining the actual risk that the solar panels will not meet the terms of their warranty. Because the commercial solar panel industry is still relatively young, with new technology and manufacturing processes emerging constantly, the insurance industry must invest a significant amount of capital in analyzing the underlying market factors before it will likely be able to offer an actuarially sound product.

These costs and risks should decrease as the panel manufacturing industry matures. However, the premiums on solar output policies will likely be relatively high for the foreseeable future to offset these factors. Despite such high premiums, many see the market for such policies growing significantly as the financial industry continues to show signs of restrictive lending practices in the coming years. Moreover, manufacturers also may be able to offset the high premiums by deducting them from the manufacturer's tax liability as a business expense.

Coverage and Regulatory Concerns Associated With Solar PV Project Policies

As discussed above, one of the primary coverage concerns for such products is determining what events constitute a loss that triggers coverage under the policy. Typically, such a policy will indemnify for a reduction in power from the solar PV panels' warranted guaranteed energy output.

However, among other things, insurers will need to determine whether a loss is based on the annual energy output or some shorter time period and whether coverage is for the entire project, each individual panel installed, or some other subpart of the project. There also will likely be other technical project specific factors that will need to be taken into account when determining the scope of the offered coverage.

In addition to the preceding, insurers need to carefully design their policies to avoid covering losses caused by damage to the panels from outside forces such as windstorms, vandalism, failure to properly maintain the panels and so forth. All of these can, of course, cause significant reductions in the panels' output, but are not typically included in the scope of what is essentially a contractual liability/warranty backstop cover.

Furthermore, even if it is possible to exclude all nonmanufacturer-based risk from the policy, the insurer must be careful to select the appropriate percentages (of reduced energy output), deductibles, and limits of liability. Because the latest solar PV panel technology is just now being installed, determining these numbers based on the success rates of the industry in meeting these 10- and 25-year guarantees will be inherently difficult.

Another underwriting challenge is that many of these policies are likely to be somewhat of a hybrid of claims-made and occurrence-based policies. For example, they may define a loss as a power underage that occurs during the policy period, and also require a claim to be made within a set period of time following policy inception.

Given the typical length of the panel manufacturers' warranties (10 to 20+ years), and depending on the size of the project and the level at which the coverage trigger and liability limits are written, the policies may trigger significant reserve requirements for many years.

Finally, there also are potential regulatory concerns that will impact policy underwriting and issuance. For example, if the coverage is written on a surplus lines basis, many of the typical surplus lines coverage form concerns will arise, including:

- Whether the policy must comply with state-specific cancellation and non-renewal requirements.
- The form of required surplus lines "notice" requirements/disclosures.
- Whether the policy is exempt from rate and form filings (See article below, "Federal Court Rules That Surplus Lines Insurers Must File Policy Forms With Commissioner Of Insurance," addressing, Edward E. Gillen Co. v. Insurance Co. of the State of Pennsylvania, No. 10-C-564, 2010 WL 431 4266 (E.D. Wis. Nov. 2, 2010)).
- Whether the underwriting insurer must qualify for any applicable state export list.

Given the rapidly evolving world of renewable energy technology, it is inevitable that the insurance industry will continue to progress and change to adapt to the needs of the renewable energy sector. As such, it is crucial for insurers to stay abreast of developments in all areas of this rapidly growing sector of the economy to ensure that new policies and products prove to be both profitable for the insurance industry and useful for the renewable energy industry.

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