Desert Wind Farm Is Oasis Of Renewable Power

The 150 MW Alta Wind I project represents the first phase of the massive Alta Wind Energy Center, which will be among the largest wind farms in the U.S. upon completion.

BY MARK DEL FRANCO

Almost everything associated with Terra-Gen Power's Alta Wind Energy Center speaks to its size or significance. When the build-out is completed, the massive 3 GW complex located in the Tehachapi region of California will be among the largest wind farms ever built in the U.S. The wind complex is being developed in multiple phases. The first phase, which featured 100 GE 1.5 MW SLE turbines, was completed in the fourth quarter of 2010 and was operational in January.

Aslo, in January, GE Energy Financial Services (GEEFS) and Bankers Commercial Corp. acquired the 150 MW Alta Wind I wind farm in Tehachapi, in Kern County, Calif., and are leasing it back to its developer, operator and manager, Terra-Gen Power LLC.

Wind Energy Constructors, a local construction company, constructed the first phase of the project.

GEEFS and Bankers Commercial Corp. each own 50% of the wind farm. Funds from the sale will be used to pay off construction loans Terra-Gen entered into for the project in March 2010.

The wind farm will help California meet its renewable portfolio standard goal of having 33% of its electricity derived from renewable resources by 2020.

The wind farm actually dates back to the early 2000s, when developer Oak Creek Energy Systems first began to develop the project.

Oak Creek conceived the long-term major expansion of wind capacity in the Tehachapi Wind Resource Area (TWRA) of California. In December 2006, Alta Windpower Development LLC signed a power purchase agreement (PPA) with Southern California Edison (SCE) to deliver 1,550 MW of wind energy under long-term development agreement in the TWRA. At the time, the PPA announced by SCE was the largest renewable energy contract ever signed by a utility in the U.S.

The current GE 1.5 MW turbines are interspersed among the older turbines. Photo courtesy of Nikki Cummings, World Wind Services

Snow covers the mountains of Tehachapi
Photo courtesy of Nikki Cummings, World Wind Services

Oak Creek was initially contracted to develop the project on behalf of Terra-Gen. However, Oak Creek transitioned development of the project to Terra-Gen.

The $1.2 billion Alta II-V wind energy project, which closed last year, marks the first large-scale project to use a sale and leaseback financing structure. Although some experts believe that leasing rarely provides acceptable tax risk and attractive economics, Terra-Gen Power demonstrated that leasing is not only viable but also worth serious consideration.

According to David Mayer, a partner in the Dallas office of law firm Patton Boggs, leasing can deliver significant value compared to the more well-established partnership-flip structure used for wind power financing. "With the right economic and tax attributes, including government tax incentives, leasing a wind power project can make sense," Mayer says.

"The ultimate choice to use leasing may hinge on the additional tax benefit available to a lessor when the lessor's fair market value purchase price of a project exceeds the developer's actual project development cost," he continues. "The purchase price may

enable the lessor to take higher tax deductions and claim a greater amount of the current cash grant (or tax credits in lieu of the grant) than it could otherwise take on the actual project development cost."

Leasing permits a developer, such as Terra-Gen, to choose a sale-leaseback structure. "That structure gives a developer three months after it originally places the project in service to sell the project to the lessor and lease it back from the lessor without losing the depreciation benefits and the cash grant (or tax credits in lieu of the cash grant). The developer also can use the three months to complete project tasks and documentation necessary to meet conditions precedent to funding."

A developer/lessee may make lower and more predictable payments than in a partnership. The lower rents result primarily from tax benefits, residual value risk taken by the lessor and the 15- to 22-year term of the lease, compared with the six- to 12-year period under a partnership. Mayer notes that "the lessor should, ideally, experience a residual value gain on selling or re-leasing the project at the end of the initial lease term, and that potential 'upside' favors leasing from the lessor's perspective."

As evidenced by other wind power developments, such as Pattern Energy's 101.2 MW Hatchet Ridge wind farm, leasing has gained momentum. "Thanks to the Terra-Gen and Hatchet Ridge projects, leasing wind projects has shifted from market awareness to market reality," Mayer says. "The question now is whether the market will follow the lead of these high-profile projects."

TRTP

Not only is the Alta project noteworthy for its size, but also for the way it interconnects to the grid.

Alta Wind I is the first project to connect with SCE's Tehachapi Renewable Transmission Project (TRTP), the first major transmission project in California to be constructed specifically for accessing a renewable-rich resource area. When completed in 2012, the TRTP will consist of more than 250 miles of new and upgraded high-voltage transmission infrastructure.

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According to SCE, Phase I of the TRTP, which includes segments 1 through 3A of 11 planned segment improvements, was completed in December 2010.

Although the transmission project overcame significant challenges, TRTP is a notable exception to the challenges typically associated with long-distance transmission in the U.S.

The first phase of the TRTP cost $1.8 billion and will ultimately result in a high-voltage transmission system capable of delivering 4,500 MW of renewable energy into the Los Angeles metropolitan area, located about 100 miles south of Tehachapi.

The project involves more than 150 miles on new and existing rights-of-way from Tehachapi in southern Kern County south through Los Angeles County and east to the Mira Loma substation in San Bernadino County.

According to SCE, the TRTP will allow SCE to more than double its wind energy portfolio, and the utility envisions connecting more than 50 square miles of wind projects in the region – triple the size of any existing U.S. wind farm area. NWP