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Renewable Energy Project Finance: Cause for Optimism Amidst Turmoil

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Financing conditions have changed so drastically, and quickly, in the U.S. during the past few months that renewable energy industry professionals may already be looking back at the recent years' phenomenal growth rates with a sense of nostalgia. Whether it's short-term bank lending or debt securities issuance, project or corporate finance, private placements or tax equity deals, the flow of capital from banks, private equity and venture capital funds all but dried up in the latter part of 2008.

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But in the face of all this, promising signs and valid cause for optimism remain.

Long fought over extensions and expansions of renewable energy investment and production tax credits were included in the US $700 billion financial rescue and economic stimulus package passed in October. Adding to that, "green" economic stimulus is a core aspect of President Barrack Obama's "American Recovery & Reinvestment Act of 2009," which could inject as much as $126 billion worth of government capital and additional private sector incentives into the economy over the next two years.

Moreover, the bursting of this latest speculative investment bubble is imposing a healthy dose of investment and fiscal discipline that was probably lacking during the frothy "go-go" days of recent years. Though credit is far tighter, and costlier, than it's been, a clearer, more definitive line is being drawn and market tiering is taking place based on more stringent evaluations of operational, financial and credit risk. Companies that have demonstrated success in developing projects and putting proven technologies to good use, or commercializing new technologies, are rising to the top and are more secure in their ability to raise short- and long-term capital.

The Rising Cost of (and Shrinking Demand for) Tax Equity

When it comes to financing and renewable energy, Merrill Lynch's Cleantech Group — now merging Bank of America's Cleantech group — continues to be active on three broad fronts: investment banking, trading and making investments as principal, "platforms that have evolved in conjunction with a broader corporate sustainability framework," explained Parker Weil, co-head of energy and power investment banking at Bank of America Merrill Lynch.

"The market environment is challenging and the cost of capital has increased dramatically. In addition, the price of oil and natural gas has declined, which makes renewable energies less attractive," Weil said.

Tax equity financing — selling the projected dollar value of tax credits at a discount to finance projects — has been a mainstay for the industry, and investment banks have been the main, pivotal players in this market. As bank losses have mounted, this vital source of project financing has dried up.

"Tax equity really was the oil that was lubricating [renewable energy project finance]. It's attractive as a financing vehicle because it's low cost, and the financial benefits are easily quantifiable and certain. [But] it offsets taxable earnings, so if you can't use the deduction there's a problem going forward, one that's not easily solved," Weil said.

The expected rate of return on a tax equity investment used to be in the 6% area, he continued. "It's now higher, so the cost of capital from a project developer's perspective has increased. That's consistent with the cost of capital across industries and investment types. The cost of debt and equity has increased. You need to pay a higher new issue premium and bigger discounts to get deals done."

That's an assessment that executives at Ormat Technologies, a leading player in the geothermal power market, would agree with, though with an experienced management team, proven technology and successful track record, Ormat hasn't been significantly hindered by lack of access to financing and capital.

"The tax appetite of many institutions who used to be players in the monetization of tax incentives has diminished," CEO Dita Bronicki said. The number of active market participants "has diminished from maybe 20 big players 1-½ years ago to maybe a handful today...They're mostly financial institutions [and] the financial crisis has had a devastating impact on this."

Nonetheless, there are still investors willing to pay $0.90-$0.95 on the dollar for tax credit packages, added Raser Technologies' head of investor relations Richard Putnam. "Investment banks have been large buyers of tax credits, but there are a number of companies out there, not as many as years past, but there's still a good market."

Power Purchase Agreements

Power utilities being willing and able to sign long-term power purchase agreements (PPAs) with renewable energy project developers has been integral to financing projects. They're secure, long-term and hence bankable contracts with established power producer/distributors which, driven by rising power demand, aging plants and clean energy legislation at the state level, utilities are motivated to tap into.

"Municipalities need to make long-term plans, so they lock in these power contracts and then know that they'll have power available to them, so they are as willing to enter into these PPAs as we are," Putnam said. "We would like to know how much power we can sell, at what price, and when you get that contract in hand you can go to a Merrill Lynch, for example, to raise additional capital."

Raser was able to sign a 20-year PPA with the City of Anaheim for the electricity it is producing from its recently commissioned 10-MW Thermo geothermal power plant in Beaver County, Utah, a project area whose estimated resource base has been revised drastically upwards to 230 MW. As per the PPA, the electricity is priced US $78 per megawatt-hour, increasing 2% per year over its life. "There are no fuel costs, no risk of rising costs changing your economic model. That allows us to put in a capital structure profitably," Putnam commented.

The PPA gave the project a firm financial base, which helped in negotiating the 9.5%, 18-year non-recourse loan that funded construction. A production tax credit investment with an internal rate of return projected at 15% over the life of the tax credits-typically around ten years-was the final piece of the financing jigsaw puzzle.

As is the case with regard to tax equity, the financial crisis and recession are taking their toll on utilities' demand for PPAs as well. "Increasing rates have impacted the ability of renewable energy project developers to obtain valuable PPAs," Bank of America Merrill Lynch's Weil noted.

That's largely because it's "a mechanism by which ratepayers effectively finance development. The 30 states that have RPS's right now are willing to sign PPAs, but it's going to mean higher costs to consumers, and in a weakening economic environment there's only so much consumers can bear. So until the federal government requires renewable energy-- a federal RPS (Renewable Power Standard)-- that requires utilities to buy a percentage of their power from renewable sources, that's not likely to change much over the near term."

Looking Ahead: Carbon Prices and Stimulus Packages

Renewable energy industry participants are looking forward optimistically, and somewhat anxiously, at the renewable energy and clean technology initiatives included in President Obama's "American Recovery & Reinvestment Act." As things stand, project developers have a choice of taking a 10% investment tax credit or a $0.02 per kilowatt-hour production tax credit for a project's first ten years. President Obama's new bill proposes to increase the ITC to 30%.

"Investment tax credits are easier to monetize as compared to production tax credits," Ormat's Bronicki explained. "There are ways to alleviate the pressure in the market by being able to monetize [credits] directly. Certain elements of the bill deal with being able to get cash rather than tax credits," she added.

A national RPS and emissions cap-and-trade system are other proposed elements of a national "green" economic plan. Referring to the latter, "that's the assumption of everybody in the industry — we are counting on it; our assumption is that it will happen," Bronicki said, explaining that the Geothermal Energy Association is "trying to have their voice heard in Washington."

More broadly and fundamentally speaking, volatile energy prices and growing concerns about climate change and greenhouse gas emissions have fostered a heightened sense of consciousness on the part of businesses and individuals when it comes to the relative costs of energy resources, and the advantages of improved energy efficiency and conservation. "It's not one thing: you have the tax benefits, the RPS, which is very important and you have the environmental regulations...It's really a combination of all of them that will push renewables forward, and it's awareness that's driving that," Bronicki commented.

Raser's Putnam takes a similar view of things. "Tax credits, depreciation and depletion allowances generated by construction — the key I think is being able to get an optimized capital structure for geothermal power plant construction. That and state tax credits are what is driving capital into this market, as well as RPSs, especially in states such as California with stringent, imminent standards to be met."

He also sees a growing need for energy despite the shrinking economy. "Demand for electricity doesn't necessarily go down in a recession, maybe in sectors like the auto industry, where demand has fallen dramatically. Yet at same time overall demand is increasing or there's minimal decline. On the other side of ledger there's a fairly bold decommissioning of old power plants. We are in a deficit right now in terms of meeting electricity demands," he said.

Putnam also said that Raser will look to take advantage of any of the shovel-ready" "green" initiatives proposed by the Obama administration and passed into law by Congress. "The country is going through a very tough economic time. If there are opportunities to get people back in the workforce, develop renewable resources to reduce carbon emissions and reduce dependence on foreign oil, these are very strategic goals not only in terms of revitalizing the economy, but enhancing environmental and national security."