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# What's hot in renewable energy project financing

By Ed Feo, Milbank Tweed Hadley & McCloy LLP

Renewable energy projects – wind, solar, biomass, and geothermal – have enjoyed significant growth as renewable portfolio standards, tax policies and public sentiment have driven up demand for renewable energy. Fossil fuel energy production still dominates, but the increased cost of fossil fuels plus concerns regarding global warming have opened the door for the expansion of renewable resources. And while there clearly are issues related to renewable resources, such as intermittency of production and transmission constraints, there is no question that the demand for capital in the renewable energy is significant and growing at a rate in excess of 25 percent per year.

In response to that demand for capital, we have seen the development of new financial products. These products are designed to provide capital for equipment supply, long term financing and monetization of the tax benefits embedded within these projects. This article will discuss the market in 2007, focused on the US, with respect to two of the hot products for renewable energy projects.

## Tax Equity Financing

Wind, geothermal, solar and biomass projects will qualify for the production tax credit (“PTC”) under Section 45 of the Internal Revenue Code (the “Code”) and for five year accelerated depreciation (“MACRS”) under the Code. Solar projects will qualify for the energy investment tax credit (“ITC”) under Section 48 of the Code.

The PTC is a two cent per kWh credit and the ITC is a credit equal to 30% of the invested capital, in each case for projects placed in service before the end of 2008. The combined effect of the PTC/ITC and MACRS is that a significant portion of the value of a renewable energy project is related to tax benefits. For example, the net present value of these benefits in a wind energy project may approximate 60% of the total capital cost.

Given the language of Section 45, requiring that the taxpayer be the owner and operator of renewable energy facility, PTC based financings have used a disproportionate allocation partnership as the preferred financing vehicle. With this structure, the entity seeking to monetize the tax benefits becomes a partner in a partnership in which the allocations are disproportionate. That is, one partner is allocated the lion's share of the income and loss. (Note that this is a partnership for tax purposes – for state law purposes this may be a partnership or a limited liability company.)

After the tax investor has earned a stated return, the allocations will flip so that the tax investor becomes a minority partner. The tax investor may make its payments for the interest in the partnership up front or over time; and the payments over time may be fixed or contingent based on the actual production of the project.

A key development in 2007 was the issuance of IRS Revenue Procedure 2007-65 which defined a safe harbor for disproportionate allocation partnerships for wind projects. The key elements of the safe harbor are:

- 1) an initial allocation of no more than 99/1;
- 2) a flip to no less than 5/95 of the initial interests;
- 3) a requirement that the minimum unconditional investment be at least 20% of the sum of fixed capital contributions, plus reasonably expected contingent payments;
- 4) at least 75% of the fixed capital contributions plus reasonably anticipated capital contributions must be fixed;
- 5) the developer may not have a purchase option on the project or the interests in it at less than fair market value and no fair market purchase option earlier than the first five years after commercial operation, and;
- 6) guarantees by the developer on investor return are prohibited.



*Ed Feo is a partner in the international law firm of Milbank, Tweed, Hadley & McCloy LLP. He co-chairs the Firm's project finance and energy practice and is a member of the Firm's Global Executive Committee.*

In ITC-based deals, the investor may invest either through a disproportionate allocation partnership, as described above, or through a lease. In the lease structure, the solar facility is owned by a special purpose entity, which in turn is owned by the tax investor. The asset owner then leases the assets back to the developer or a third party. The benefit of the lease is that the tax investor has all of the tax benefits associated with the asset. There are tax rules regarding what will qualify as a lease, including that the lease term not exceed 80% of the economic life of the asset and that the residual interest not be less than 20% at the lease term. Hence, one key distinction from a disproportionate allocation partnership structure is the size of the residual.

The tax equity investors are large corporations that have US taxable income. Typical investors are financial institutions, life insurance companies, utilities and industrials such as GE.

The tax equity market for renewable energy projects boomed in 2007. In the wind sector, the number and size of the deals increased. Deal size was driven by a number of portfolios being brought to the market (including by FPL, PPM Energy, EdP and Enel). While the number of tax equity investors in the market increased, the competition for deals drove down returns and also had deal terms flexing in favour of the larger sponsors. Rates of return have been falling for several years as investors have become more comfortable with investment in the wind sector, and the premium of these investments over other tax advantaged investments (especially low income housing) declined. Rates at which the deals “flip” fell below six percent after tax on an unleveraged basis. Given the turmoil in the credit markets, investors have been protecting their forward commitments on investment through rate indexing.

One area where deal terms have definitely crept on the bigger deals is the extent of recourse to the

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sponsor for the representations on closing. In the basic transaction, the developer will make representations as to various matters regarding the project, including certain matters key to tax ownership. If the representations are breached there is then recourse through an indemnity to the developer at any time during the term of the investment. In certain deals this year, the extent of the representations was limited, the time for a claim was limited, and recourse to the ultimate creditworthy parent was limited or non-existent.

Two leases for utility scale solar projects closed in 2007, as did a number of distributed generation solar projects. Because a number of states have provided financial incentives for distributed generation PV projects, there has been a flood of rooftop solar projects reaching the market. Because these tend to be smaller projects, the preferred financing package is a portfolio of projects sold into an investor partnership or lease. Several developers (including Sun Edison and Sunpower) have accessed this market with dozens of rooftop projects.

The tax equity participants in wind and solar are the same, although at this point the wind market is deeper. Greater familiarity with wind and size of the deals has tended to make pricing in the wind sector less than in the solar deals. Deal terms on the extent of recourse to sponsors, restrictive covenants and purchase options are trailing the wind market as well. The expectation is that, as more solar deals come to the market the pricing will converge – and might even swing in favour of solar (depending on assessment of technology risk and size of market).

For 2008, tax equity financing will continue to grow. The wind sector will be bringing a volume of projects to the market on a pace that potentially doubles 2007. The solar sector will see several utility scale projects reach financing this year, and the distributed generation market will likely triple over 2007. Add to that several geothermal projects in Nevada, Oregon and California and a handful of biomass projects, and it will be a busy year for the tax equity market.

#### Debt Markets

Debt for renewable energy projects in 2007 came from a number of European banks, with the occasional Japanese and US bank thrown in. The Europeans have built on their experience in the financing of these projects since the 1990s in Europe.

Debt has been available in a number of structures – construction, long term project debt, equity back

leverage debt, and equipment loans. The hot deal in 2007 was the wind turbine supply loan.

The wind turbine supply market has been subject to a supply demand imbalance for at least three years. As the forecasts for new windfarms have outstripped manufacturer output, larger sponsors have decided to support their development efforts by making multi-year forward purchases of wind turbines. The result is that the major manufacturers are sold out through 2009, and 2010 contracts are being negotiated.

One effect of this demand has been that pricing for turbines has increased plus the payment terms have changed to require a more advanced payment structure. As a result, the developers need a significant amount of capital to meet their turbine supply agreement obligations.

The bank market responded with the turbine supply loan. In this structure, the bank finances a percentage of the turbine supply payments. The bank is secured by the turbine supply agreement, plus typically a pledge of interests in special purpose entities holding the assets of projects in development. In the early versions of the turbine supply loan, the projects included in the collateral tended to be late stage projects where the turbines were to be placed. In the current deals, the project pipeline tends to be a pool of potential projects with varying levels of development, and the developer is not committed to place the turbines in any specific project. The advance rate then varies depending on an assessment of the maturity of the projects in the collateral pool – the more mature, the higher the advance rate. The advance rate may also be affected by the prospect for extension of the PTC.

Given the current expiration at the end of 2008, the advance rates will be reduced at the end of the year if the PTC is not extended. The low end for advance rates is around 60% of the turbine supply costs and the high end is around 80%.

The advance rate may not necessarily be applied to 100% of the turbine supply contract price. Certain items, such as services and options, may be omitted. In addition, the final payment under the turbine supply agreement may not be due until commissioning of the turbines, and hence that payment may be excluded as well. As a result, the amount of the loan may be less – but then so is the amount of equity required from the developer.

The equity contribution will cover the portion of the financed contract price in excess of the advance rate. The equity typically is advanced up front but

may be structured as a pro rata advance if backed by a creditworthy equity commitment. In at least one transaction, the equity was provided through a structurally-subordinated second lien financing.

The turbine supply loan maturity is tied to the expected dates of installation of the turbines, with some room for extension of those dates. The expected take out is from construction financing. Given that turbine supply loans into 2009 are being financed, the outside maturity dates are into 2010.

Turbine supply deals have been increasing in size. Current deals are in excess of \$500,000,000, and the expectation is that 2008 will see even larger deals.

Interest rates for turbine supply loans have been in the range of 175 to 250 basis points rate over the bank's cost of funds. Given the recent credit crunch, pricing has moved up. A couple of year-end deals included "market flex" provisions which permit the lenders to adjust the rate and terms as necessary to reach a specified level of syndication.

The turbine supply loan is also being used in the Canadian market. Pricing is based off of the Canadian dollar bankers acceptance rate. The concerns regarding the extension of the PTC do not apply to the Canadian deals. The Canadian wind project market is less mature than the US market and is largely based on power contracts resulting from requests for proposals to be issued by utilities. On the other hand, land for wind projects is plentiful. As a result, the projects in the collateral portfolio for Canadian transactions tend to be less developed than one might see in a US portfolio but with greater coverage in terms of the potential megawatts of projects.

#### Conclusion

The financing markets for renewable energy projects were robust in 2007 and will continue to be robust in 2008. As demands for capital increase, developers and capital providers will continue to create new products and evolve the terms of existing products to meet the significant capital growth in this sector.

#### ■ Milbank Tweed Hadley & McCloy LLP

www.milbank.com

#### Edwin F. Feo, Partner

Milbank

601 South Figueroa Street, 30th Floor

Los Angeles, CA 90017-5735

Tel: +1 213 892 4417

Email: efeo@milbank.com