



FINANCIAL ISSUES RELATED TO UTILITY-SCALE WIND DEVELOPMENT

This document seeks to lay out the typical ways that utility-scale wind developments finance their projects, and how various grants, tax credits, and other tools are used. The analysis relies on information gathered from a prospectus released in August 2010 by First Wind and other sources.

In recent years, state and federal programs have been established to support the development of renewable energy projects. These programs are designed to enable various policy goals to be met, and to make it more attractive for for-profit developers to participate in the build-out of the country's renewable energy production infrastructure.

Recent developments in the world energy marketplace have made these financial incentives even more important. In 2005, before the recession cut electricity demand and prices dropped, returns on investment were in the 20 to 25% range and low-cost long-term contracts were readily available. In the current market, energy developers (and electricity producers) have to maximize their use of government programs and sell at higher prices in order to get an acceptable return on their investment.

The programs that have been created seek to do one of three different goals:

- 1) enhance developers' revenues
- 2) reduce developers' taxes and/or costs for construction and operation, or
- 3) reduce the volatility/uncertainty of the electricity marketplace

Enhance Revenues

- Sale of RECs (Renewable Energy Tax Credits): As defined by the EPA, a REC "represents the property rights to the environmental, social, and other non-power qualities of renewable electricity generation." The recent development of mandates on companies to use non-polluting electricity sources has created a marketplace in which companies can purchase the benefits of this kind of generation, separate from the actual electricity, and use them to satisfy their own requirements. For the wind developer, this can mean that they can sell the electricity generated by the project for \$0.10/kwh, and the related REC might be worth \$0.035/kwh.
- State incentives: States that have a Renewable Portfolio Standard (RPS) create market-driven incentives. An RPS mandates that a certain portion of the power used by the state comes from renewable energy. While there are increased costs due to the need to build new generation, the need for that generation to meet the RPS allows developers to sell at higher rates. Cape Wind has negotiated power sale agreements at \$0.187/kwh, much higher than the current price of grid power that is less than \$0.100/kwh. No utility would buy the power at that price, unless the state RPS required them to do so.

Reduce Taxes/Costs

- PTC (Production Tax Credit): This tax credit is provided by the Federal government as a means of reducing the tax due on electricity sales. The current rate is about \$0.022/kwh.

Often this credit is used by the developer's parent company or to offset taxes owed by other divisions. These credits are often not useful to a growing industrial wind company, which generally loses money for many years.

- **ITC (Investment Tax Credit):** This tax credit is provided by the Federal government as a means of encouraging capital investments. The credit is triggered by the size of the investment rather than the amount of electrical output. If the owning entity has significant tax liabilities then a major portion of the cost of the project can be recovered through reduced taxes in the first year. This credit is an alternative to the PTC, which is received over the life of the project. The developer gets to use one or the other, and the choice is usually determined by their corporate structure.
- **Expedited Depreciation:** Developers use this program to increase the apparent costs in the beginning of the project in order to reduce initial income. Sometimes referred to "double declining balance depreciation", this technique only works if the parent company has income from other projects that need to be sheltered. These techniques are used by Florida Power and Light (now NextEra Energy) to bring their tax rate down to 17% versus a more standard corporate rate of 28%.
- **Stimulus Grants:** The federal stimulus bill (ARRA) provided for hundreds of millions of dollars of grants available for renewable energy projects. Recipients receive upfront support, as opposed to future reductions in their tax bill.

Reduce Volatility

- **Delayed sale of RECs:** In cases where developers seek to protect themselves from the swings in the electricity market, they can choose to hold onto their RECs and sell them at a time when increased income is needed. Because the prices of RECs themselves vary over time, the profitability of these sales is not assured. Some developers attempt to solve this problem by "hedging", a financial transaction that offsets the risk. In all cases, the status of the REC marketplace itself is not certain in the long-term.
- **Power Purchase Agreements (PPAs):** In order to sell power in the easiest and most secure way, developers sometimes sell their generation into the electrical grid and enter into a financial swap to moderate the risk of short term sales. While this may mean a long term security, it is impossible to know what the financial impact is until the PPA price is compared to the actual market price. Since PPAs can last for many years, it is impossible to determine which approach is financially the most rewarding when the PPA is negotiated.
- **Tax Equity Financing:** This financing instrument allows a developer to assign the risk and the reward (in the form of tax credits and other incentives) to another investor. The investor gets the immediate benefits, while the developer gets access to the capital needed to build the capital-intensive project. An investor who has earnings and significant tax liabilities can take advantage of the skewed cash and earnings flow of a typical project. Meanwhile the developer concedes the returns on the project for many years, but receives their benefits later in the project.