Wind PTC motivates gust of activity in wind power facility repowering
What’s the Trend?

Renewable power developers scored a victory in December 2015 when Congress extended the wind production tax credit ("PTC") and the solar investment tax credit ("ITC") by four years and seven years, respectively, as part of a larger “omnibus” spending measure. Some leading experts then predicted a renewables boom as a direct result of the renewable energy tax credits extension. And indeed, not quite a year later, we are seeing an uptick in interest and activity on the PTC side given stepped-down rate reductions in value for wind repowering projects beginning in 2017, leaving interested parties but a few months left in this 2016 calendar year to take advantage of a 100% PTC.

As a growing number of the nation’s portfolio of wind power facilities age, they are rolling off of their original 10-year PTC schedule and no longer generating PTCs, companies are analyzing the potential for “repowering” older wind power facilities by replacing used equipment with new equipment (e.g., wind turbine, etc.) to take advantage of the tax incentive and create an economic benefit.

Wind power facilities that commence construction this year can take full advantage (100%) of the wind Production Tax Credit (PTC) value. After this year, the allowable credit steps down, completely phasing out by 2020, which in turn reduces the economics of new wind power investments.

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Background

Under US IRC Section 45, qualified energy resources of wind, closed-loop biomass, and geothermal are eligible for a 2.3 cents per kilowatt-hour ("kWh") (inflation adjusted) tax credit for the first 10 years of a renewable energy facility’s operation. Other qualified energy resources are eligible for a 1.2 cents/kWh (inflation adjusted) tax credit.

Originally enacted in 1992 under the Energy Policy Act, the PTC has created boom and bust cycles for wind power facility development over the last few decades, with Congress allowing the PTC to expire and then renewing it numerous times since its original enactment. Most recently, Congress extended the PTC in December 2015, through the Consolidated Appropriations Act of 2016 (the “Act”), which lengthened the construction start date expiration date of the PTC to December 31, 2019. In addition, the Act detailed a phase-down of the PTC for wind power facilities starting construction after December 31, 2016.

Under the Act, wind power facilities that commence construction during 2016 will qualify for 100% of the PTC. Those that commence construction during 2017 will qualify for 80% of the PTC, 60% in 2018, and 40% in 2019. This phase-down approach provides both transparency to developers into the amount of PTC that could be received based on various construction start dates, as well as near-term incentive for development to capture higher levels of PTCs.

Under IRS rules, wind power facilities may requalify for PTCs if the fair market value of the wind power facility’s used property is not more than 20% of the wind power facility’s total value (the cost of the new property plus the fair market value of the used property that remains). This requalification test is referred to as the “80/20 Test” and is driving companies to consider repowering.

As discussed in IRS Notice 2016-31, Section 6, for repowered facilities, the 5% safe harbor is applied only with respect to the cost of the new property used to retrofit an existing facility. In other words, if a company incurs at least 5% of qualified expenditures in 2016 on new equipment, construction is presumed to have started in 2016 and the company would qualify for 100% of the PTC value.

PTC value over time, based on construction start year

<table>
<thead>
<tr>
<th>Year Construction Commences</th>
<th>PTC Value Received ($/MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>$23.0</td>
</tr>
<tr>
<td>2017</td>
<td>$18.4</td>
</tr>
<tr>
<td>2018</td>
<td>$13.8</td>
</tr>
<tr>
<td>2019</td>
<td>$9.2</td>
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</tbody>
</table>

PTC values shown in the chart above reflect 2016 calendar year PTC amounts.

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2 The expiration date for the PTC for wind power facilities is based on when construction begins. Construction can begin by either starting physical work of a "significant" nature or by "incurring" at least 5% of eligible project costs. No proof of continuous construction/continuous efforts is required if the project is completed within 4 years, measured from the end of the year in which construction commences.

Why are companies repowering?

While a major economic driver for repowering is requalifying for PTCs, other economic benefits can be achieved and are driving the expected improved economics, including:

Larger improved turbines and extended lives

The industry has witnessed significant improvements in wind turbine efficiency and the development of larger wind turbines over time, resulting in increased capacity factors and improving wind power facility economics. Wind power capacity additions surged in 2015, with $14.5 billion invested in 8.6 gigawatts (“GW”) of new capacity. Wind power constituted 41% of all US generation capacity additions in 2015, up sharply from its 24% market share the year before and close to its all-time high.


Lower wind turbine pricing continues to push down installed project costs. Wind turbine prices have fallen 20% to 40% from their temporary highs in 2008, and these declines are pushing project-level costs down. Wind projects built in 2015 had an average installed cost of $1,690/kilowatt (“kW”), down $640/kW from the temporary peak in 2009 and 2010.

Source: SNL

By replacing older turbine technologies with newer technologies, companies are expecting an increase in the size of the turbine and thus increasing the MW rating of the wind power facility, but also improving the wind power facility’s capacity factor through more efficient operating turbines. The bigger MW rating and upgraded turbines supports increased output from the wind power facility, which is expected to generate higher levels of revenues for the owner over the remaining life of the wind power facility. For those companies considering repowering aged wind power facilities, increased performance, efficiency and extended project lives could be achieved by replacing the older turbines with new and improved turbine technology.

Companies should focus on these key considerations now to analyze repowering

Companies should analyze whether repowering will generate positive net economic benefits. This analysis should account for the capital cost outlay for repowering the wind power facility, as well as the expected economic benefits associated (e.g., increased power output, extended useful life, and additional PTCs).

Five questions in particular should be answered when valuing used equipment:

1. What is the appropriate baseline replacement cost for valuing the used equipment that will remain?
2. What is the functional difference between the assumed replacement and the used equipment being valued, and how can a functional obsolescence adjustment be derived?
3. What is the appropriate curve or method for depreciating the baseline replacement cost for physical deterioration of the used equipment to its relative age?
4. How should existing power contracts be addressed in the valuation of the wind power facility?
5. What are the appropriate cash flows for valuing the used equipment in an income approach analysis, pre- or post-repower?

The fair market value derived for the used equipment will be included in the calculation of the 80/20 Test, along with the expected cost of the new equipment. The 80/20 Test must be completed as of the repower date and an investment decision made even before final results of the 80/20 Test are known. As such, companies typically perform a preliminary 80/20 Test valuation at the time of the initial investment decision, and then again as of the repower date to support the IRS PTC application.

Valuation considerations (the 80/20 Test)

Once the economics are determined, companies should employ the 80/20 Test and assess potential tax and accounting consequences. In order to evidence qualification under the 80/20 Test, companies should perform a valuation analysis to estimate the fair market value of the used equipment that will remain in the wind power facility.

In valuing the used equipment, companies should consider multiple valuation methods, including the cost approach, provided component level valuation needs, as well as the income approach, to determine if economic obsolescence is required for application in the cost approach analysis.
**Tax considerations**

Provided additional tax basis will be established with the addition of new equipment, and a renewed 10-year PTC schedule received with a repowering decision, companies will want to determine if they should retain the tax attributes (i.e., taxable depreciation, tax credits) or obtain outside tax equity investors and monetize a majority of the tax attributes and/or portions of the expected project cash flows. If tax equity investors are brought in, the parties will likely require specialized tax and legal advice to confirm that the tax benefits flow to investors as intended.

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**Accounting considerations**

A number of accounting considerations\(^5\) may result from a repowering decision, including retirements and additions accounting, and useful life estimation. Used equipment that will be retired may need to be removed from the balance sheet and a loss on asset disposal recorded in the income statement. For new equipment, the capital cost will be capitalized and added to the Property, Plant and Equipment (“PP&E”) balance on the company’s balance sheet. Companies should consider what costs are eligible for capitalization and when capitalization should commence (e.g. when is it probable that a repowering effort will go forward and be completed).

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\(^5\) Please refer to ASC 360, Property, Plant, and Equipment for supporting clarification.
Conclusion

In order to realize the full value of the PTC, companies should act now to understand what is at stake for repowering and what investments are needed to meet the 5% Safe Harbor in 2016. A number of key factors should be considered as companies commence investigations into wind facilities repowering, including quantifying the expected economics, performing preliminary 80/20 Test calculations, determining how tax attributes will be utilized along with the supporting tax structures needed, and analyzing possible accounting impacts. With our clients, we assess these significant business implications bringing experience, insights and analysis to fully inform the wind repowering evaluation and to execute once an investment decision has been made.
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