

Renewable Energy Facility Repowering

The federal government has successfully advanced the development of a viable renewable energy generation market for the US through the use of multiple incentive structures via iterations of the production tax credit (“PTC”), first enacted in 1992, investment tax credit (“ITC”) first enacted in 2005, the 1603 Treasury Grant program (2009), and most recently the Inflation Reduction Act of 2022 (“IRA”). These incentives are applicable as of the in-service date of newly constructed projects and “repowered” facilities.

While we have been presented with repowering of different project types, this article addresses the valuation analytics associated with the application of the “80/20 Rule” (aka “80/20 Test” or “80/20 Analysis”) for the most common renewable energy source, wind.



INTRODUCTION

The Internal Revenue Service’s (“IRS”) 80/20 Rule has been utilized to promote economic revitalization and growth of certain industry sectors since the late 1960s by affording tax incentives asset owners after the original commercial operation date. While we have experience with the repowering of solar and fuel cell energy generation projects, most renewable energy project analyses performed by Marshall & Stevens are for wind farms.

Sponsors seeking **improved economic performance** for their wind farm investments typically pursue technological and capacity upgrades accompanied by **new tax incentives** for their “reborn” project. Simply put, at least 80% of each wind Facility, defined below, must be replaced to meet the 80/20 Rule and therefore qualify for federal tax credits.

THE 80 / 20 TEST

To determine whether a wind farm may be considered “placed in-service” as new, the total Fair Market Value (“FMV”) of the Remaining Assets is compared to the total FMV of the replacement or New Assets for federal income tax purposes.

- **The “20” side of the Test** considers the FMV of the components of each Facility that will remain in place after the repowering (the “Remaining Assets”). The FMV of these Remaining Assets are measured as of a current date for the purposes of the 80/20 Rule.
- **The “80” side of the Test** considers the cost of the new/replacement components of each Facility (the “New Assets”). All depreciable costs of the New Assets are considered for the purposes of the 80/20 Test.

IRS GUIDANCE

Revenue Ruling 94-31 is the primary source of IRS guidance for wind repowering. This guidance has been updated with Notice 2016-31 and Notice 2017-04.



Revenue Ruling 94-31 defines “individual wind turbines and functioning components, together with their respective towers and supporting pads” as the “**Facility**”. IRS Notice 2016-31 amplifies Revenue Ruling 94-31, by stating, “[a] facility may qualify as originally placed in service even though it contains some used property, provided the FMV of the used property is not more than 20 percent of the facility’s total value (the cost of the new property plus the value of the used property).”

THE VALUATION OF REMAINING ASSETS

A typical wind farm consists of multiple Facilities, with assets such as turbine generators, blades, and supporting components, towers, and foundations/supporting pads. Any Facility component may be replaced and tested for the 80/20 Analysis. Costs outside of each Facility, such as balance of plant assets, are not considered applicable for the 80/20 Test.

In most instances, Facilities and their respective assets do not independently generate income (Income Approach) or transact separately (Market Approach), thus, the Cost Approach to valuing the assets of each Facility is the most appropriate appraisal methodology. The assets remaining in place and in use by each Facility (the “Remaining Assets”) are valued on a component level, or a bottom-up approach, via the Cost Approach, as part of the 80/20 Test.

The Cost Approach considers the Cost of Replacement New (“COR”) for every asset in each Facility. A depreciation factor is applied to reach a depreciated replacement cost (“DCOR”). Deductions are then taken, as applicable, for (i) economic obsolescence, (ii) functional/technical obsolescence, and (iii) physical depreciation.

- **Physical depreciation** is applied based on the concluded remaining economic useful life (“REUL”) of the Remaining Assets as they reside in the existing project. This is typically done by applying an age life factor which considers the salvage value and any other decommission costs.
- **Economic obsolescence** associated with the Remaining Assets is measured via a discounted cash flow analysis of the subject Project as a whole, as of a current date, assuming no repowering. As previously mentioned, the Remaining Assets do not have discrete income streams and do not lend themselves to discrete discounted cash flow valuation. The aggregate Project economic obsolescence factor is then applied to the DCOR of all Project components in order to then arrive at a current FMV opinion for the Remaining Assets
- Any potential **functional obsolescence** due to performance that may or may not be present is considered captured by the economic obsolescence measurement.

THE VALUATION OF REMAINING ASSETS

Once the value of the Remaining Assets is determined for each individual Facility, the concluded value of the Remaining Assets is compared to the provided depreciable costs of the New Assets to conclude whether the Facility is eligible to be considered originally placed in service under the 80/20 Rule.

The 80/20 Rule can be mathematically applied as follows:

The FMV of Remaining Assets must be less than or equal to 20% of the sum of the FMV of the Remaining Assets plus the Cost of New Assets

or

The Cost of New Assets must be greater than or equal to 80% of the sum of the FMV of the Remaining Assets plus the Cost of New Assets.

One of the most common misconceptions of the 80/20 Rule is that the FMV of the Remaining Assets is the same as their respective book (depreciated) value. This is not correct. Experienced machinery & equipment valuation professionals, like we have at Marshall & Stevens, can explain the difference, and determine the most supportive value for the 80/20 filing, especially if the analysis is ever questioned by the IRS.

It has been our experience that sponsors and investors seeking new tax credits for their project want an 80/20 Analysis that leaves margin for “interpretation” by the IRS, with results for the 80/20 Test in the area of 85/15 or better.

CONCLUSION

The execution of repowering project analyses by Marshall & Stevens’ Energy & Infrastructure and Machinery & Equipment professionals is approached on a highly client specific and consultative basis. The repowering model is assumption-driven, and many scenarios may need to be examined to quantify various sensitivities to multiple potential outcomes. We must maintain a high degree of direct interaction with our client and their respective financial, tax, and legal teams so that the most supportable 80/20 Rule positions are taken and documented as the basis for our conclusions.

ABOUT MARSHALL & STEVENS

Founded in 1932, Marshall & Stevens’ is a full-service independent consulting firm with practices specializing in Fairness Opinions, Solvency Opinions, and the valuation of businesses, intangible assets, debt and equity instruments, machinery & equipment, and real estate.

Since 2010, Marshall & Stevens has provided valuation opinions in excess of \$100 Billion to Energy & Infrastructure industry clients, including repowering analyses.

For more information, please visit our website or contact one of the parties listed below.



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