



The Energy Group

Northwest & Intermountain Power Producers Coalition

Capacity Factor Impact on Wind Power Financials

Ted Risher
The Energy Group
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Background

Due to the intermittent availability of wind power, public utility commissions, utilities, and independent power producers are struggling with the proper assessment of the capital investment and ongoing OA&M costs for wind power generation facilities

- The primary measure of generation availability due to wind speed, altitude, and wind turbine design is “capacity factor”
- Capacity factor is a key determinant of the financial viability of a wind power generation project
 - In general, a wind turbine will generate nearly 50% more electricity at a location with an average wind speed of 16 mph than one at a location with an average wind speed of 14 mph
- As part of a recent regulatory proceeding, a senior state official commented demonstrated an incomplete understanding of the financial impact of capacity factors in wind power operations
 - “With respect to [the Project’s] capacity factor, at a projected 31 percent, the project’s capacity factor is reasonably close to the 35 percent average capacity factor used in [the utility’s]... Integrated Resource Plan.

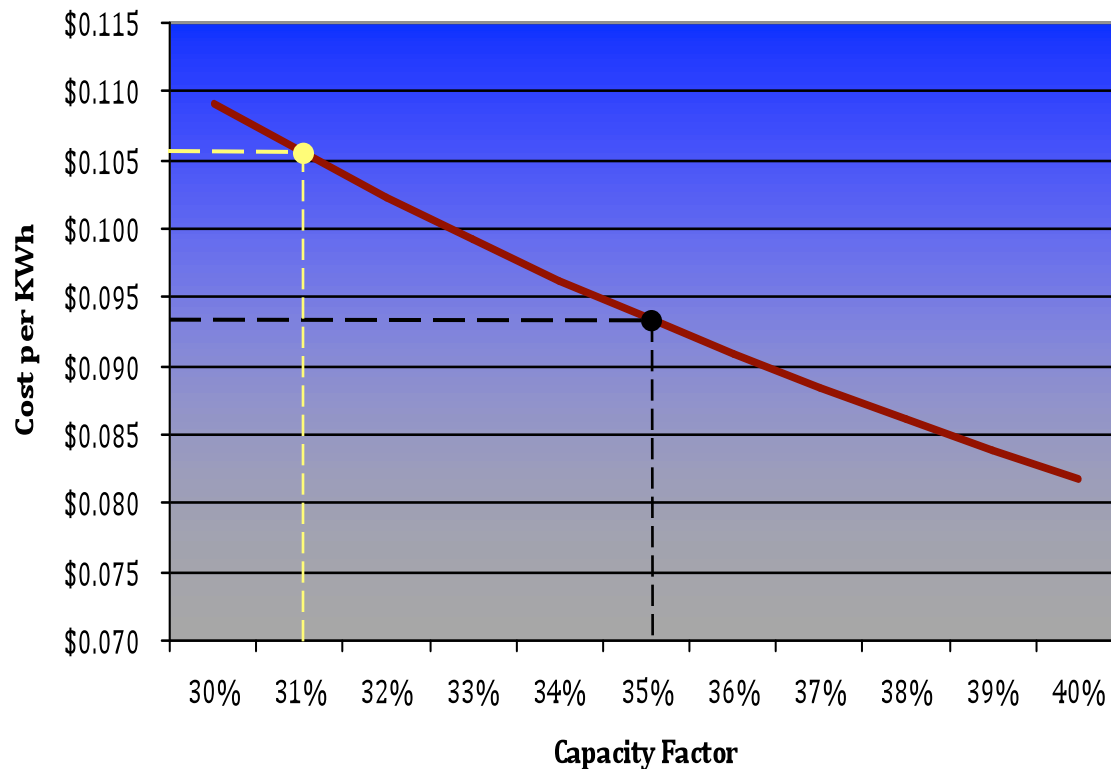


Capacity Factor Impact on Price per KWh



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Capacity Factor Impact on Price per KWh



- The financial viability of a wind powered generation facility is very sensitive to capacity factor
- Each percent loss of capacity factor leads to an additional 0.27¢ increase in the per KWh required to cover debt, achieve required return on equity, and recover operational costs.
- A wind generation facility running at 31% versus 35% translates to a difference of 1.21¢ price per KWh to consumers