

Wind Asset Performance

Mouli Vaidyanathan

Why Asset performance

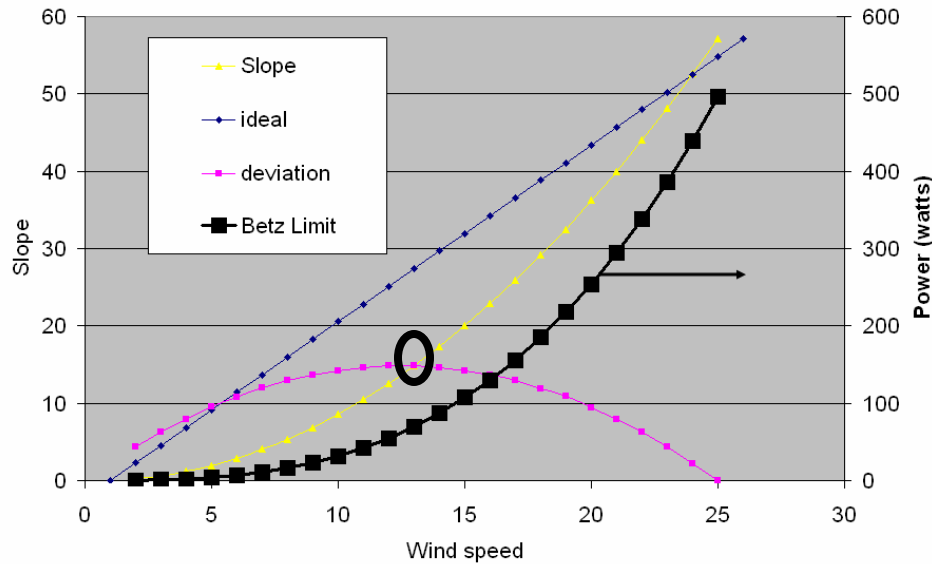
Background:

- Wind farm power generation output varies with wind speed.
- Turbines rated typically at one wind speed.
- Turbine performance drops dramatically at 13mph (see chart next slide)

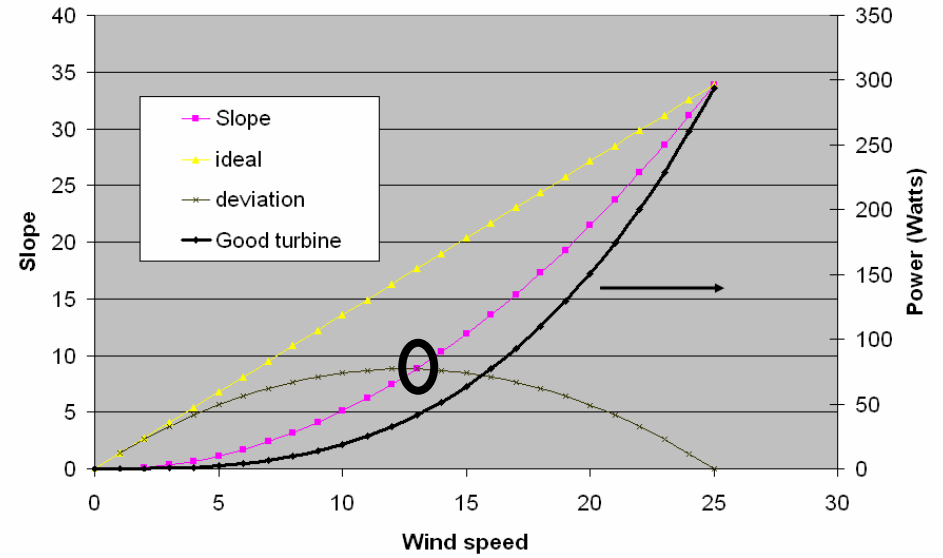
Estimated revenue loss is \$300k to \$400k for every percentage loss in efficiency for 1MW power turbine.

Wind Speed vs Power

Ideal Energy using Albert Betz Law

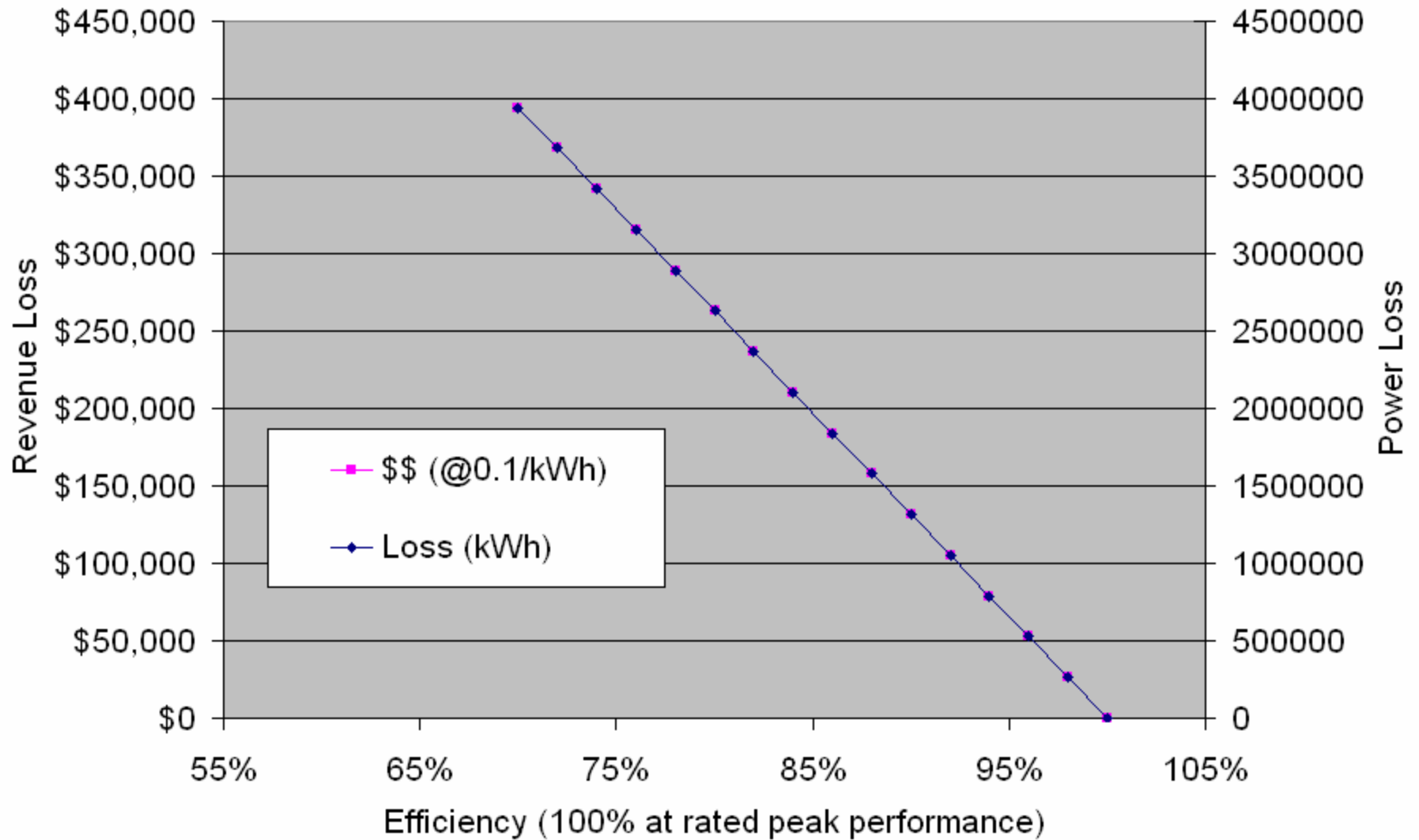


Good turbine performance vs Wind speed



To obtain best performance, a minimum of 13mph wind speed is required. Below which there is too much efficiency loss.

Revenue and Power Loss (per year)



Mouli Engineering claim

- A farm with 500MW capacity can loose \$1M for each 1MW of loss power per year.
- Using intelligent monitoring of weather data, turbine performance, people resource, and wind engineering, Mouli Engineering can give measurable improvements in efficiencies.

Why Mouli Engineering

- Have proven track record in improving yields in state of the art semiconductor technology.
- Yield engineering is $\frac{\textit{Actual}}{\textit{Ideal}}$
- As Wind energy optimization is similar to yield engineering, am absolutely confident of delivering measurable value.