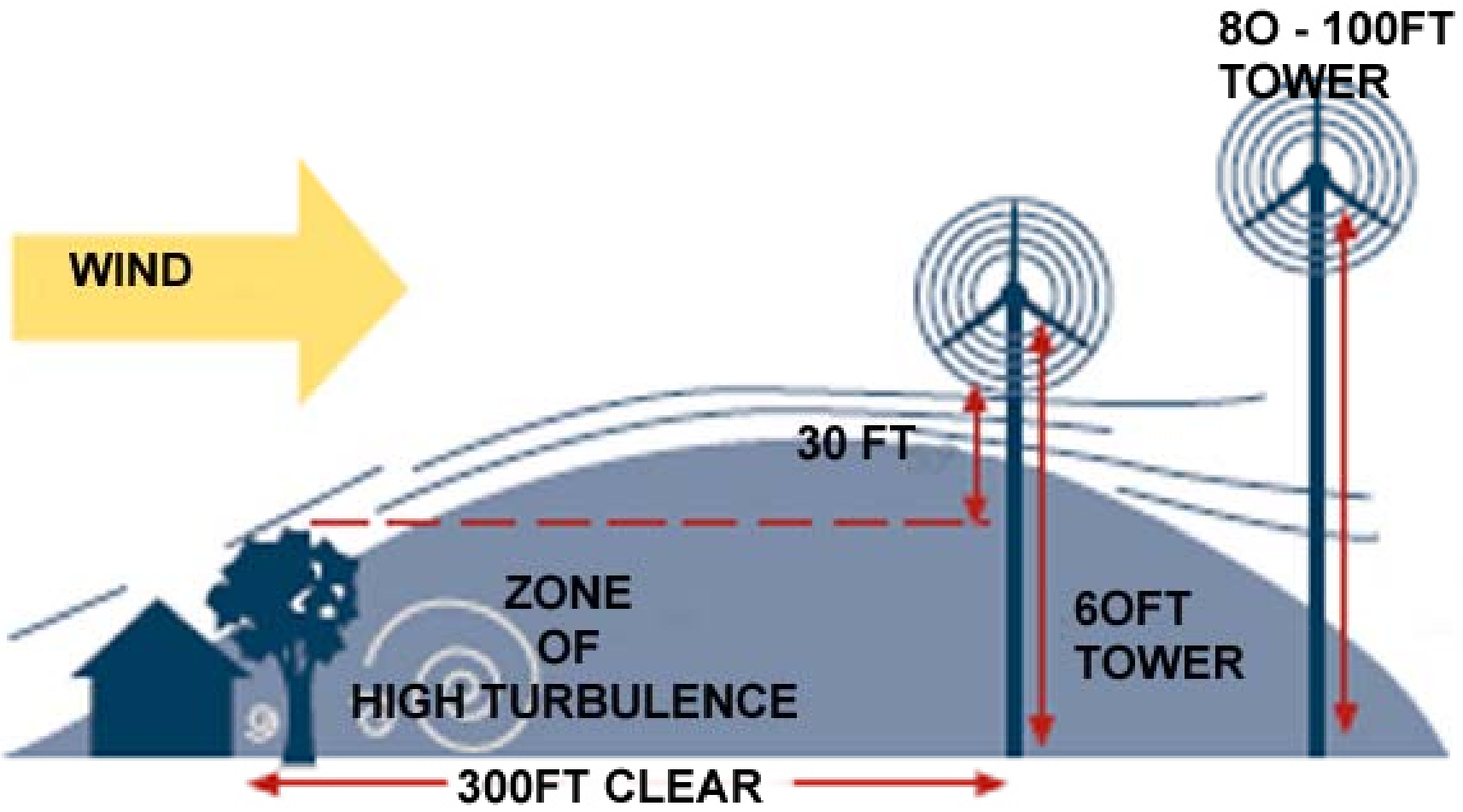
Optimizing Performance



Residential Renewable Energy

- Technical feasibility
  - ➢Siting- Estes Park Anemometer Results
    - CSU Senior Researcher Michael Kostrzewa in conjunction with the Governors Energy Office (GEO) provided data collection & analysis.
    - Estes Park is a number 2 wind class at **60 FEET**. The worst is 1. Kostrzewa/GEO results for Estes Park.
    - Larimer County has a **40 foot** height limit!
    - Wind power classes 3 and higher are generally considered suitable for wind power development.

Residential Renewable Energy

Technical feasibility

- Siting- Estes Park Anemometer Results

That's not good. PRPA will deliver renewable energy from Duke energy's Silver Sage site having 40% net capacity factor.

Turbine	Rotor Diameter *meters*	Rotor Power *kW*	Hub Height *meters*	Hub Height Wind Speed *mph*	Time At Zero Output *percent*	Time At Rated Output *percent*	Average Net Power Output *kW*	Average Net Energy Output *kWh/yr*	**Average Net Capacity Factor %**
Bergey Excel-R	6.7	7.5	12.2	10.14	40.52	3.09	1.1	9,500	14.4
Bergey Excel-S	6.7	10	12.2	10.14	32.06	1.5	1.2	10,200	11.6
Bergey XL.1	2.5	1	12.2	10.14	23.84	4.03	0.2	1,400	16.2
Southwest Skystream 3.7	3.7	1.8	12.2	10.14	38.4	0	0.3	2,500	16.1
Southwest Whisper 500	4.5	3	12.2	10.14	40.52	3.61	0.5	4,600	17.6

Source: Data collection & analysis provided by Michael Kostrzewa (CSU) in conjunction with the GEO.