





# Technology Advancement in Small Wind Power

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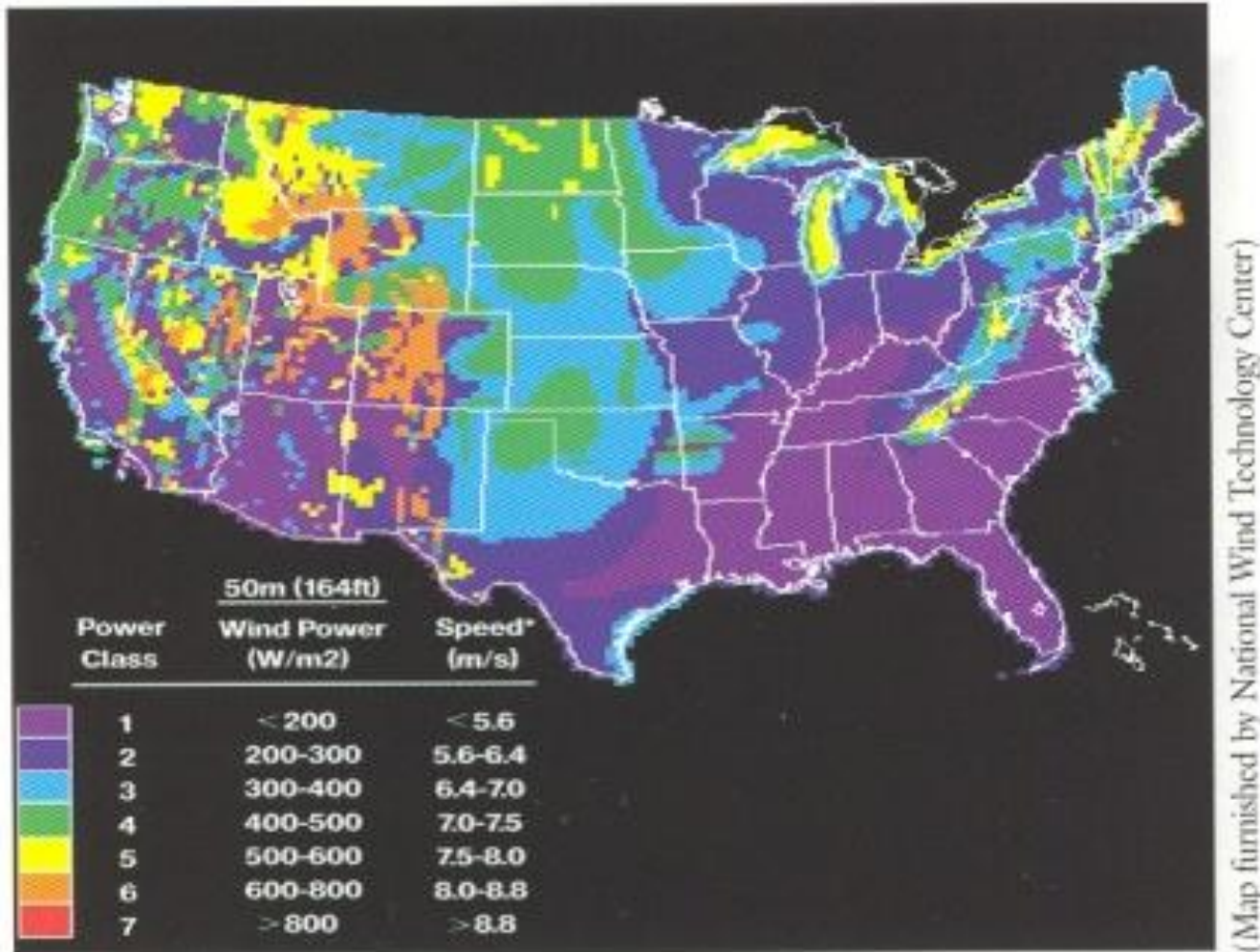
# Germany, April 2005



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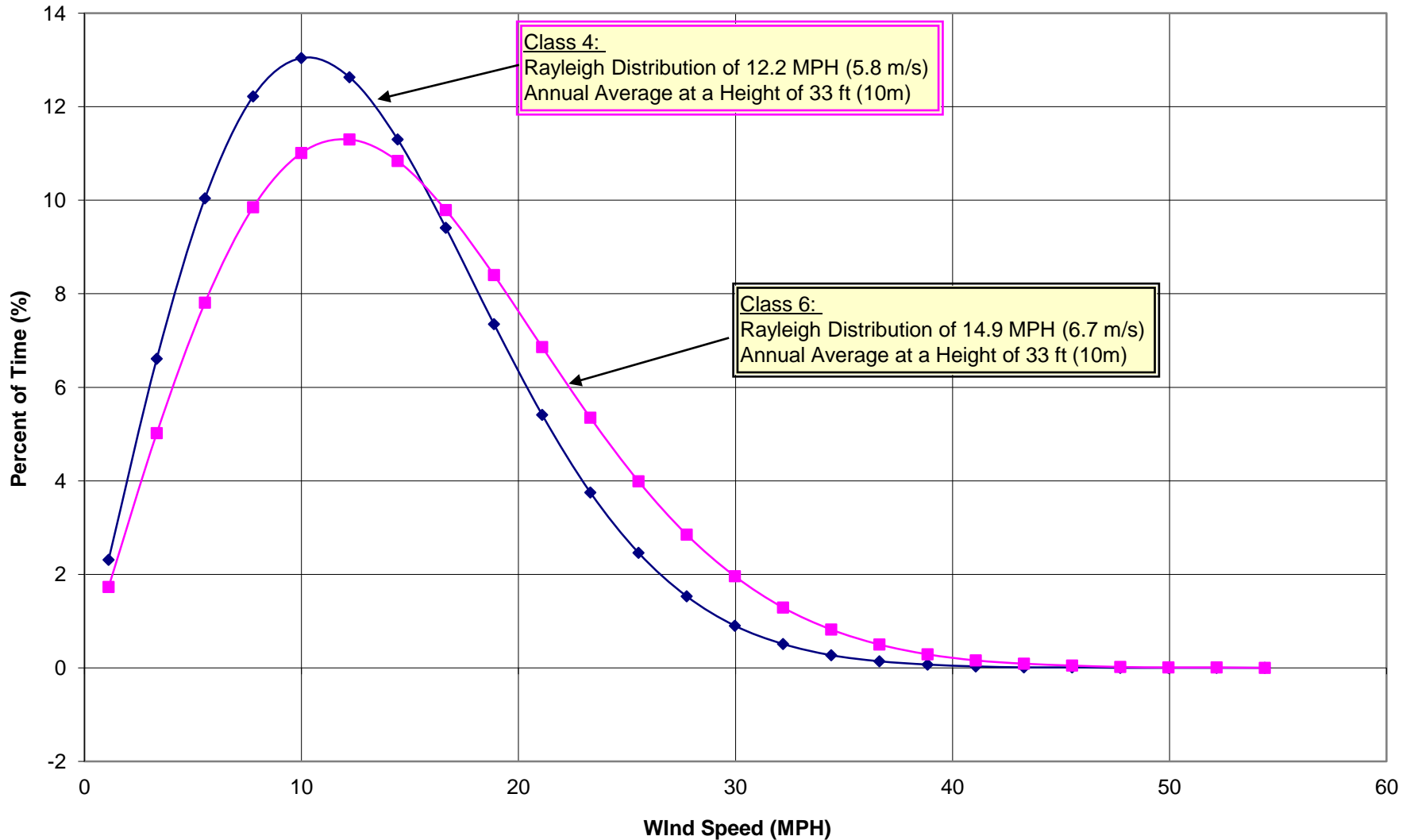


# US Wind Map and Classes

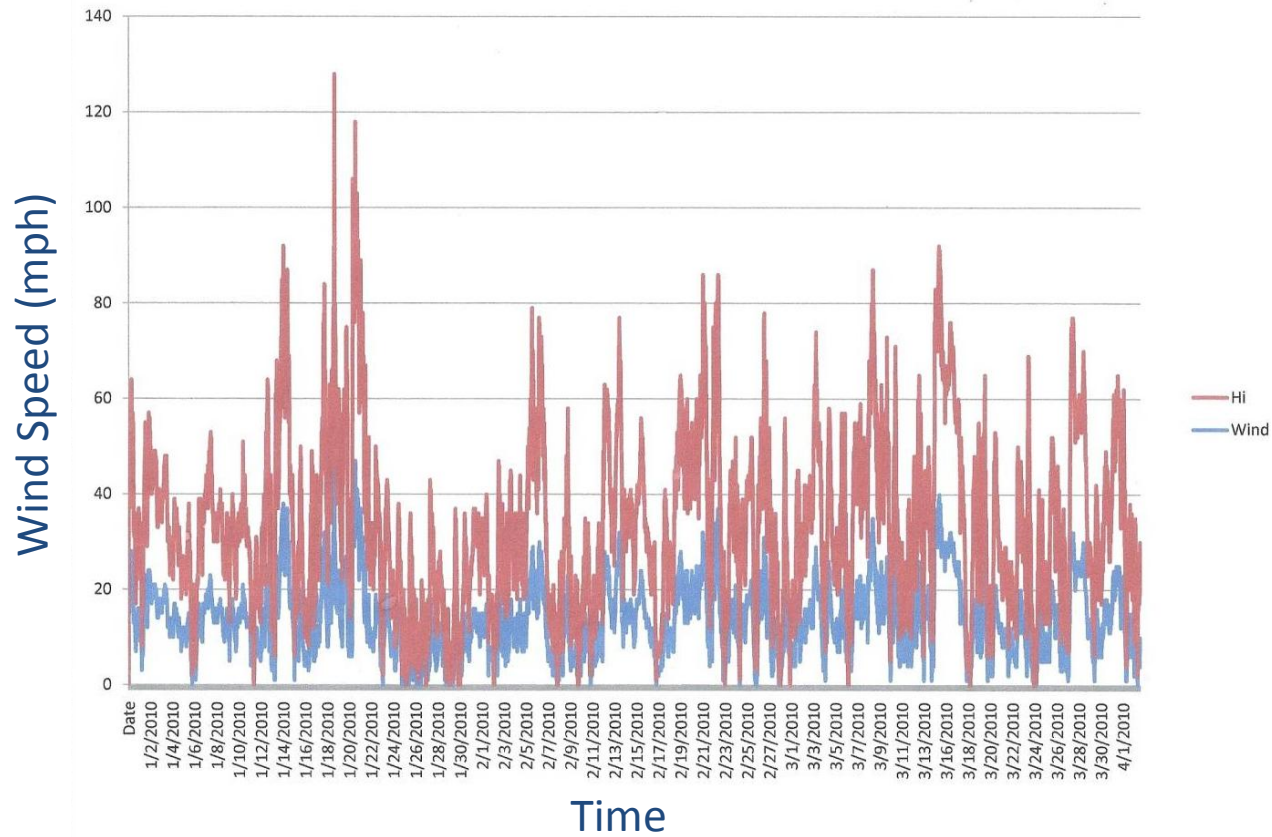


U.S. Annual Wind Power Resource

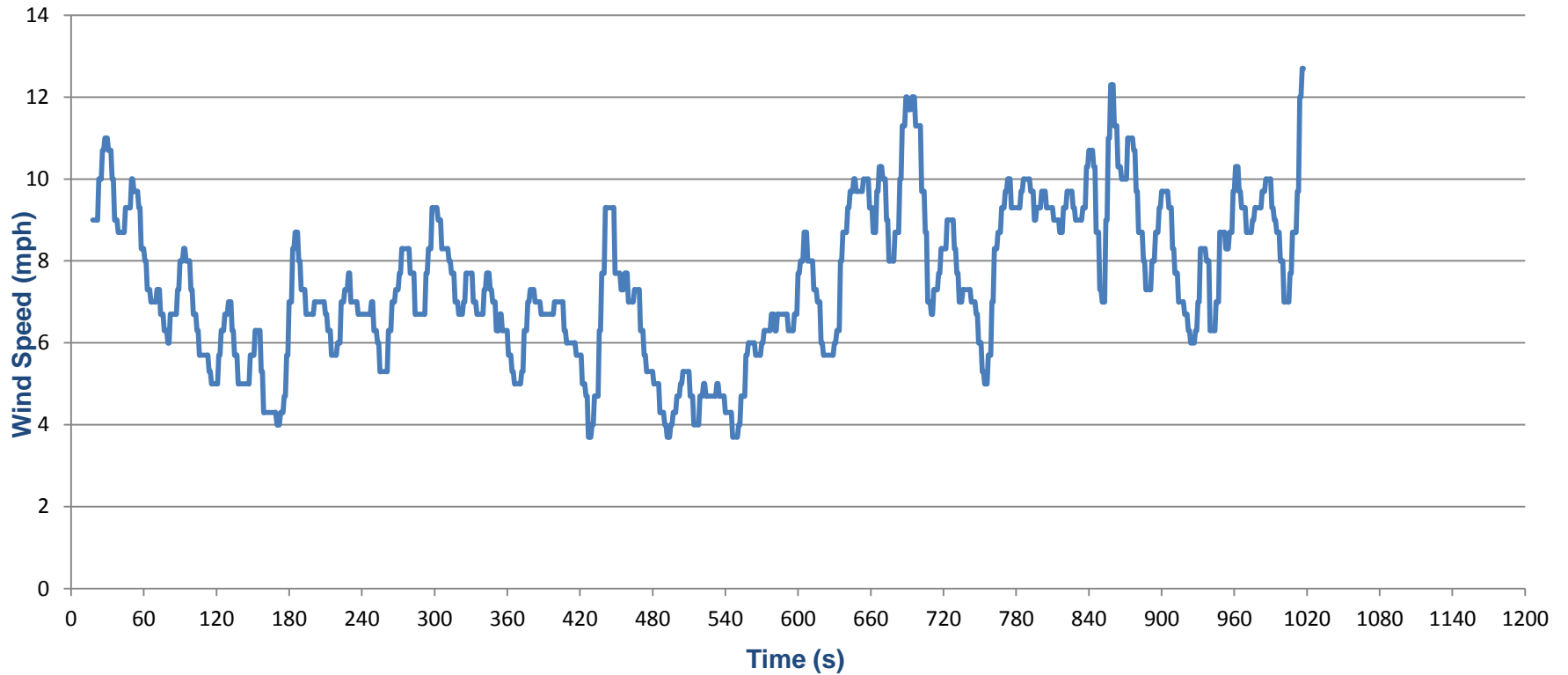
## Percent of Time at Wind Speed



# Typical Wind Farm Wind Chart

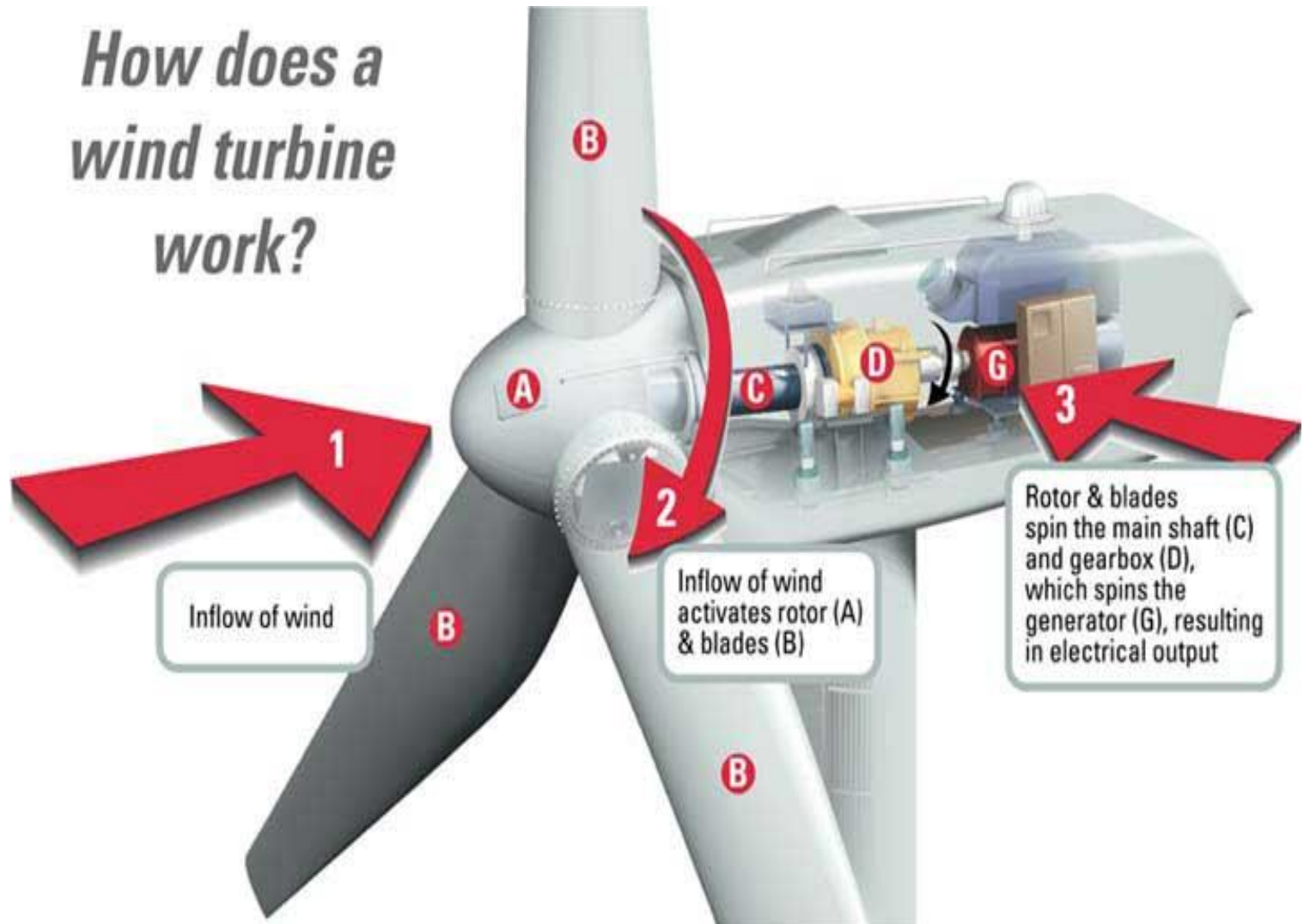


# *Typical Wind Speed Chart*

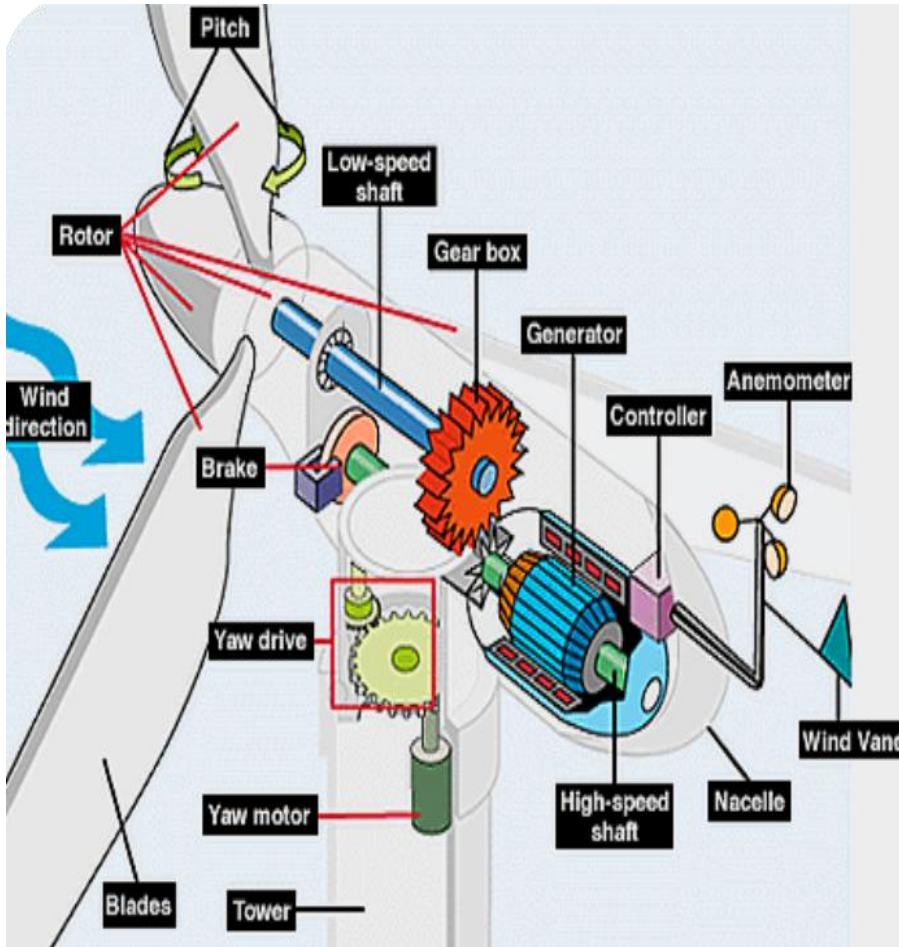




## *How does a wind turbine work?*



## The Future of Wind Technology

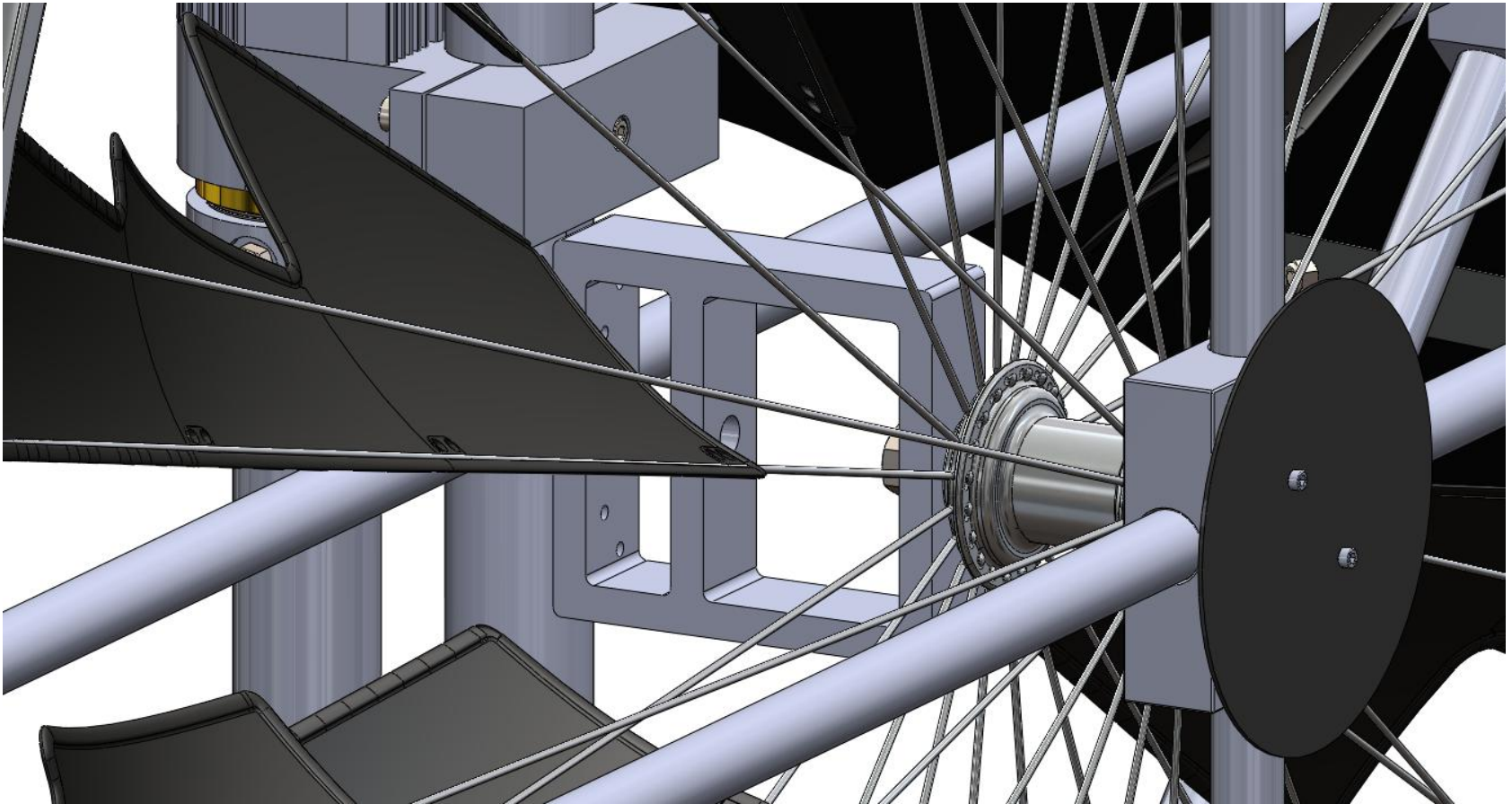


**Traditional Wind Turbines**



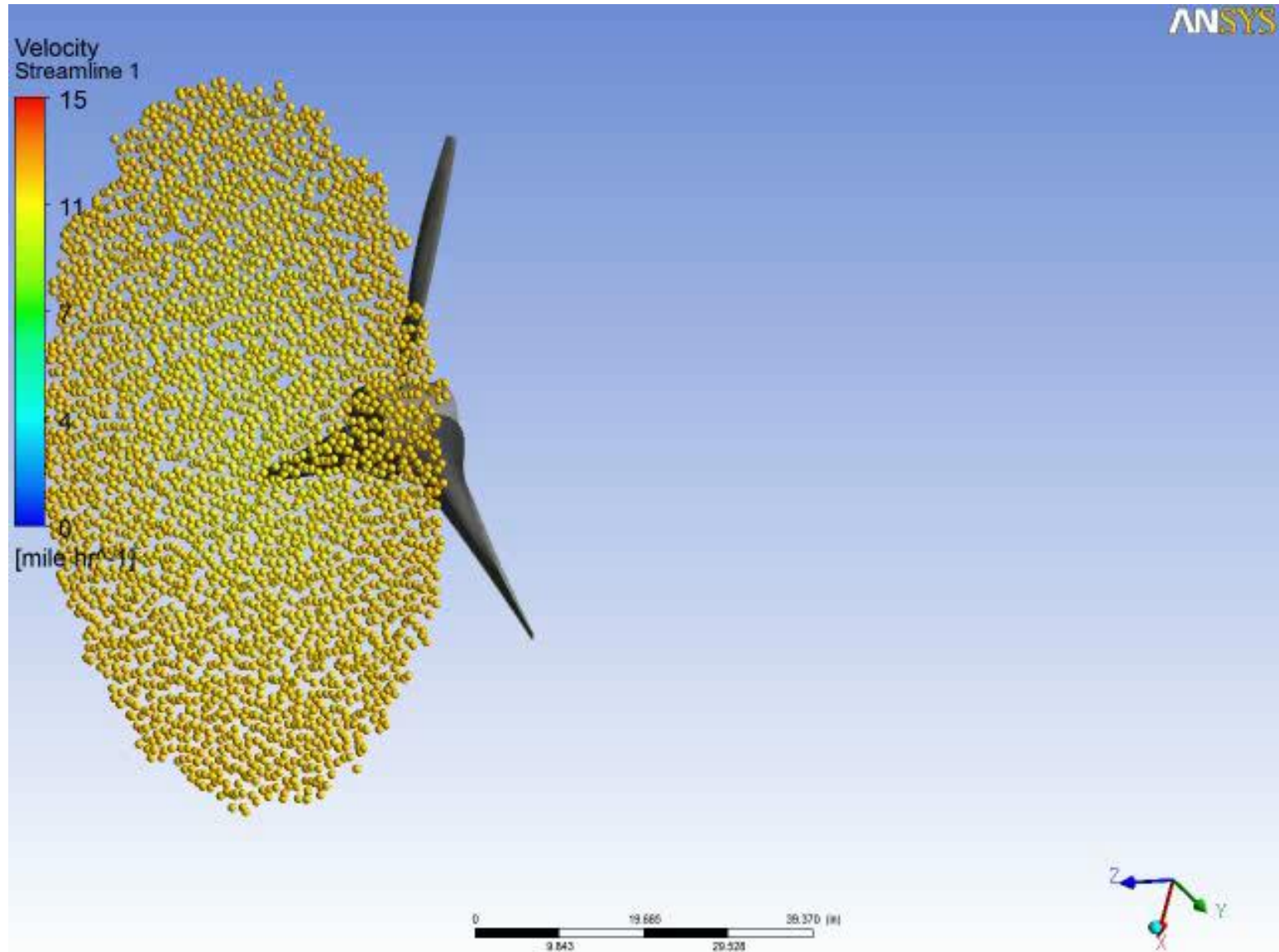
**WindTronics Wind Turbine**

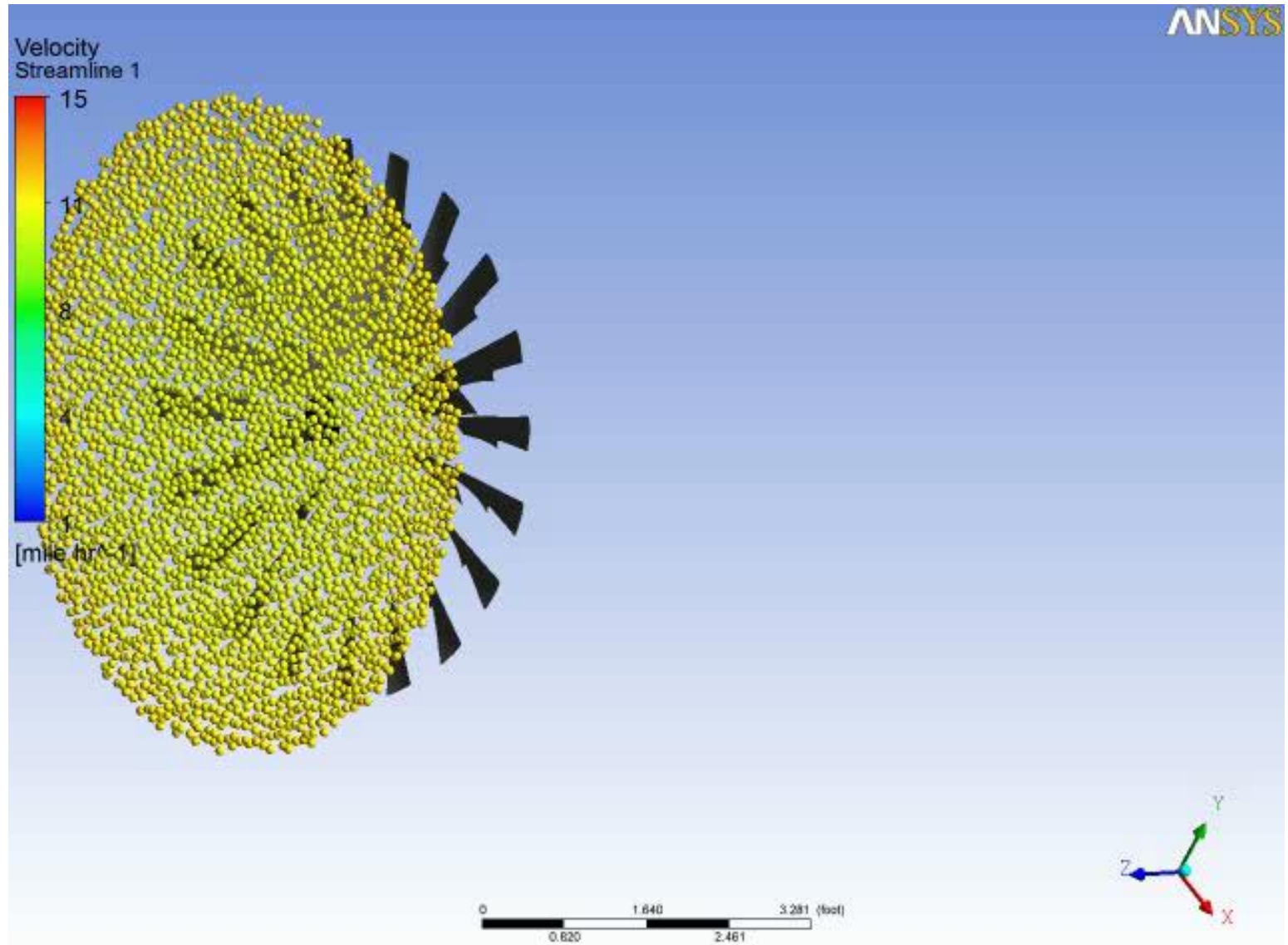
## The Future of Wind Technology: No Gears



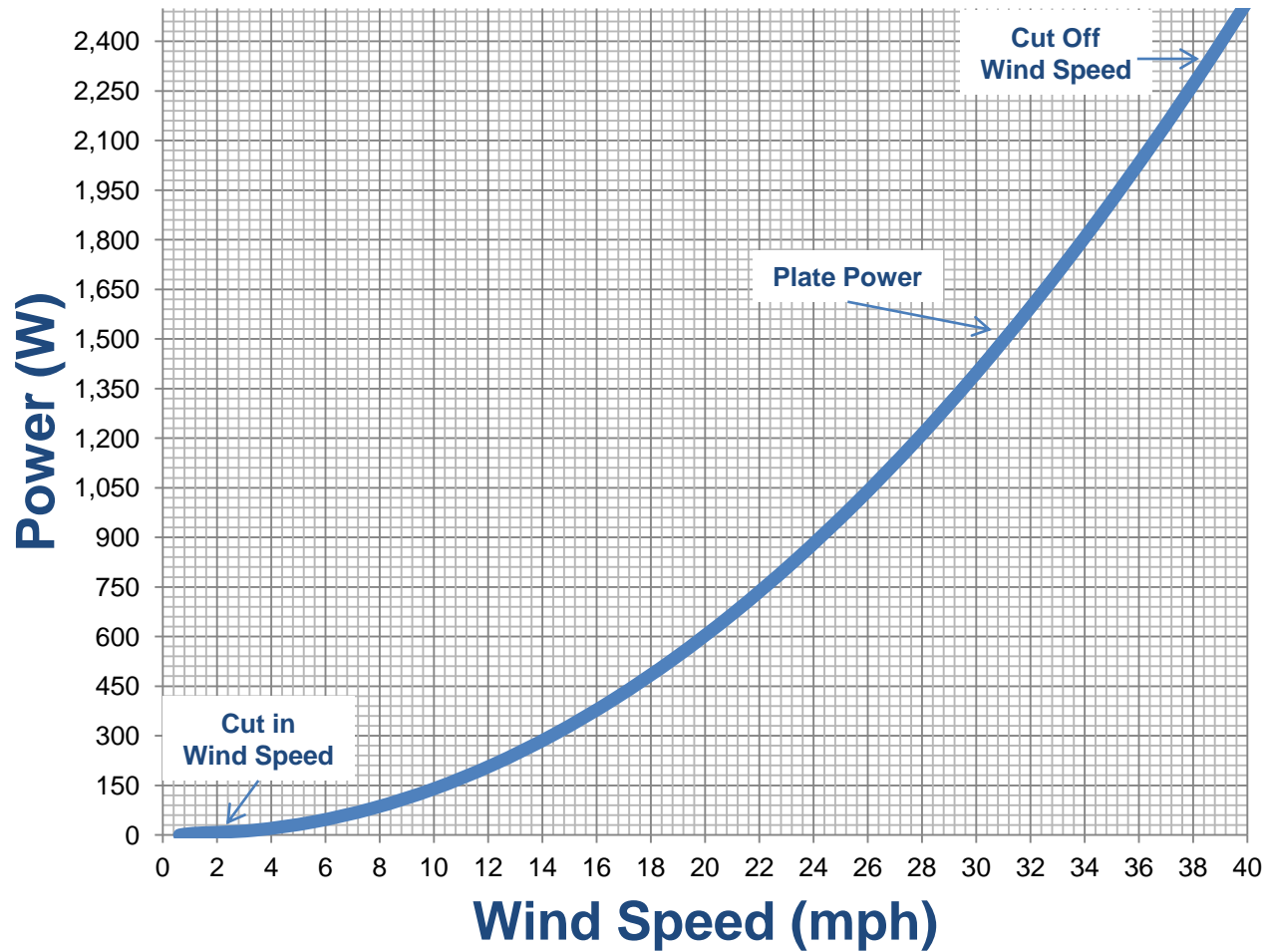
# The Future of Wind Technology: Blade Tip Power System



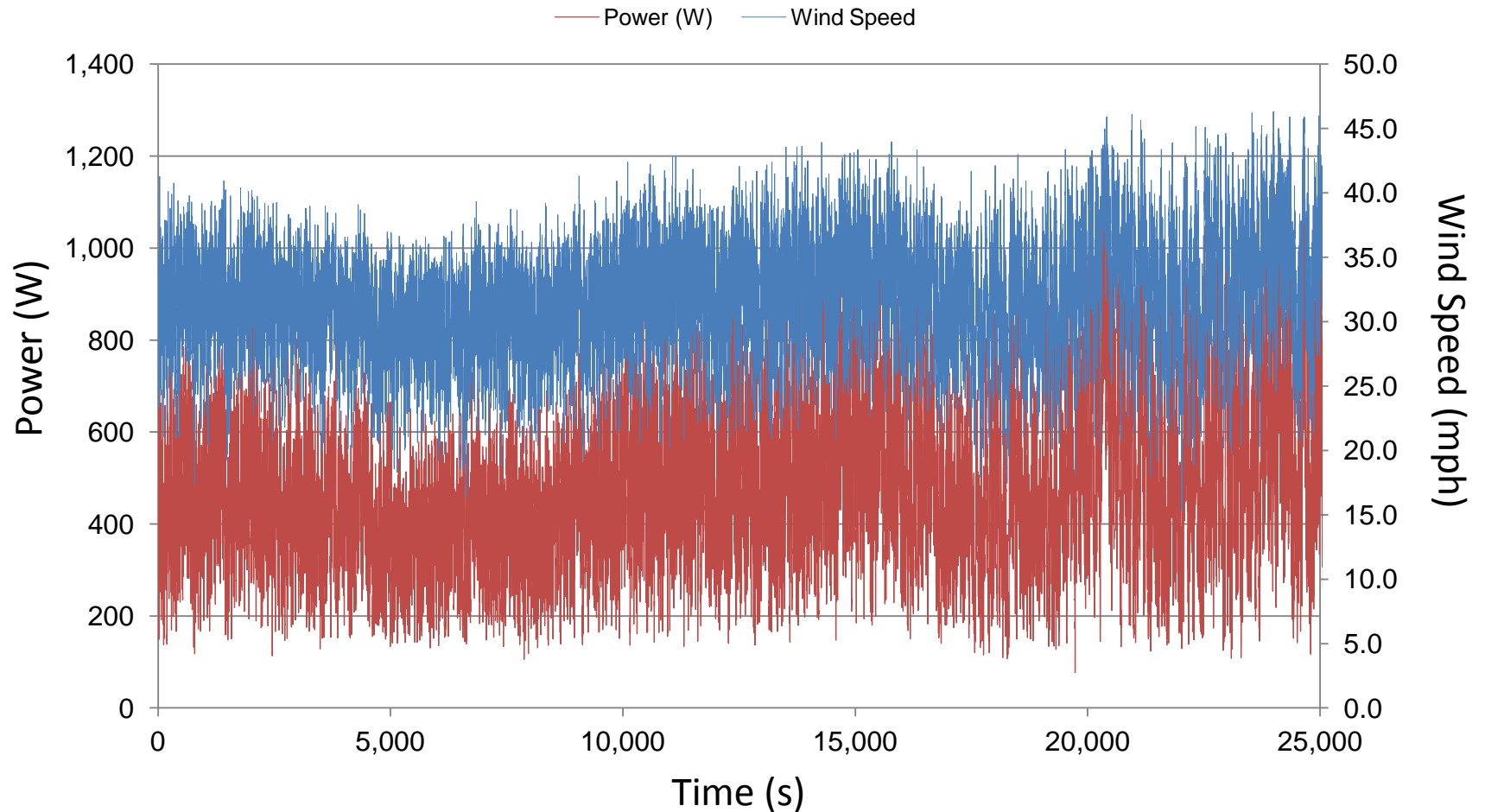




# WindTronics WT6500 Power Curve

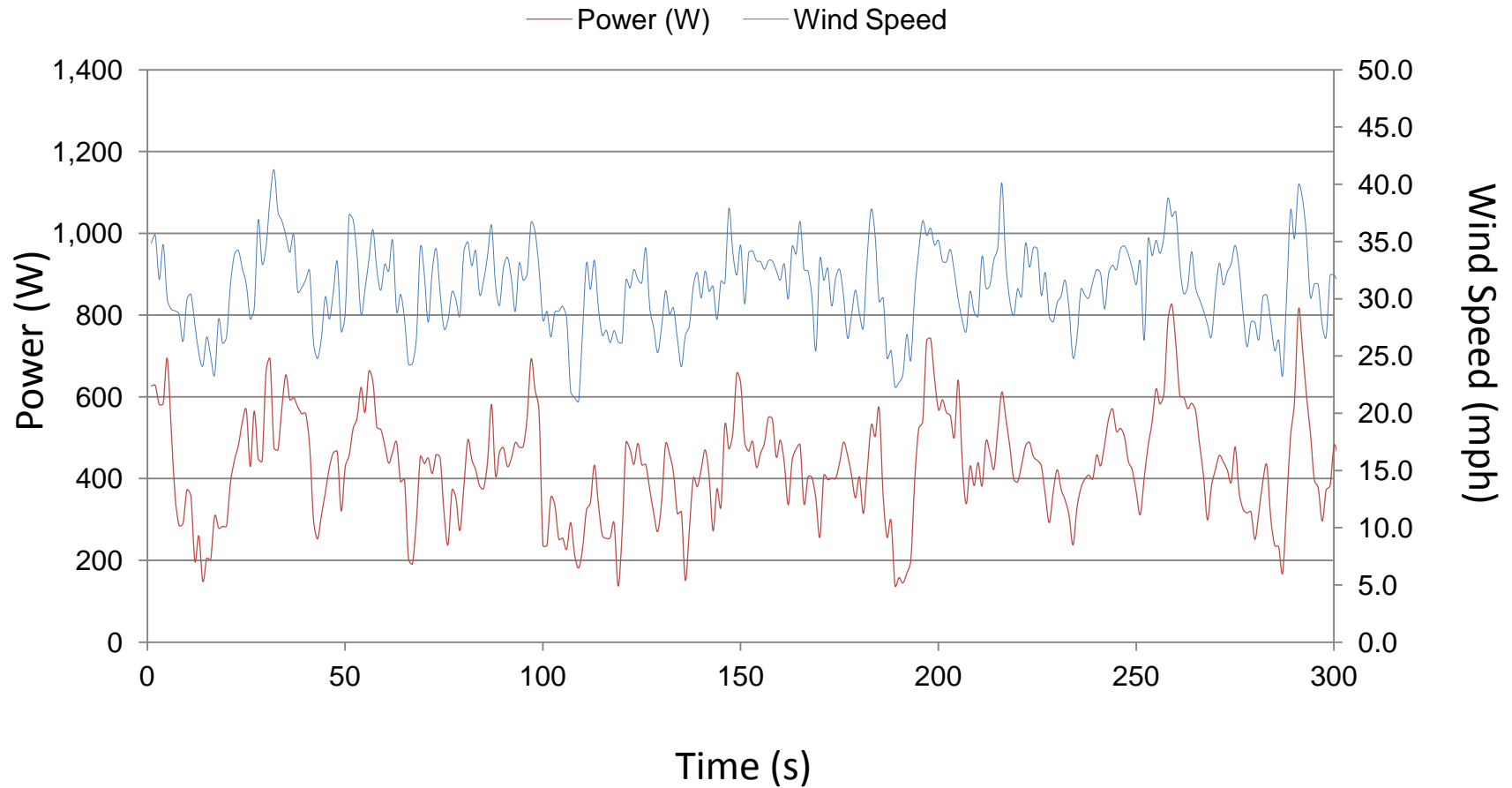


# Turbine Power vs. Wind Speed

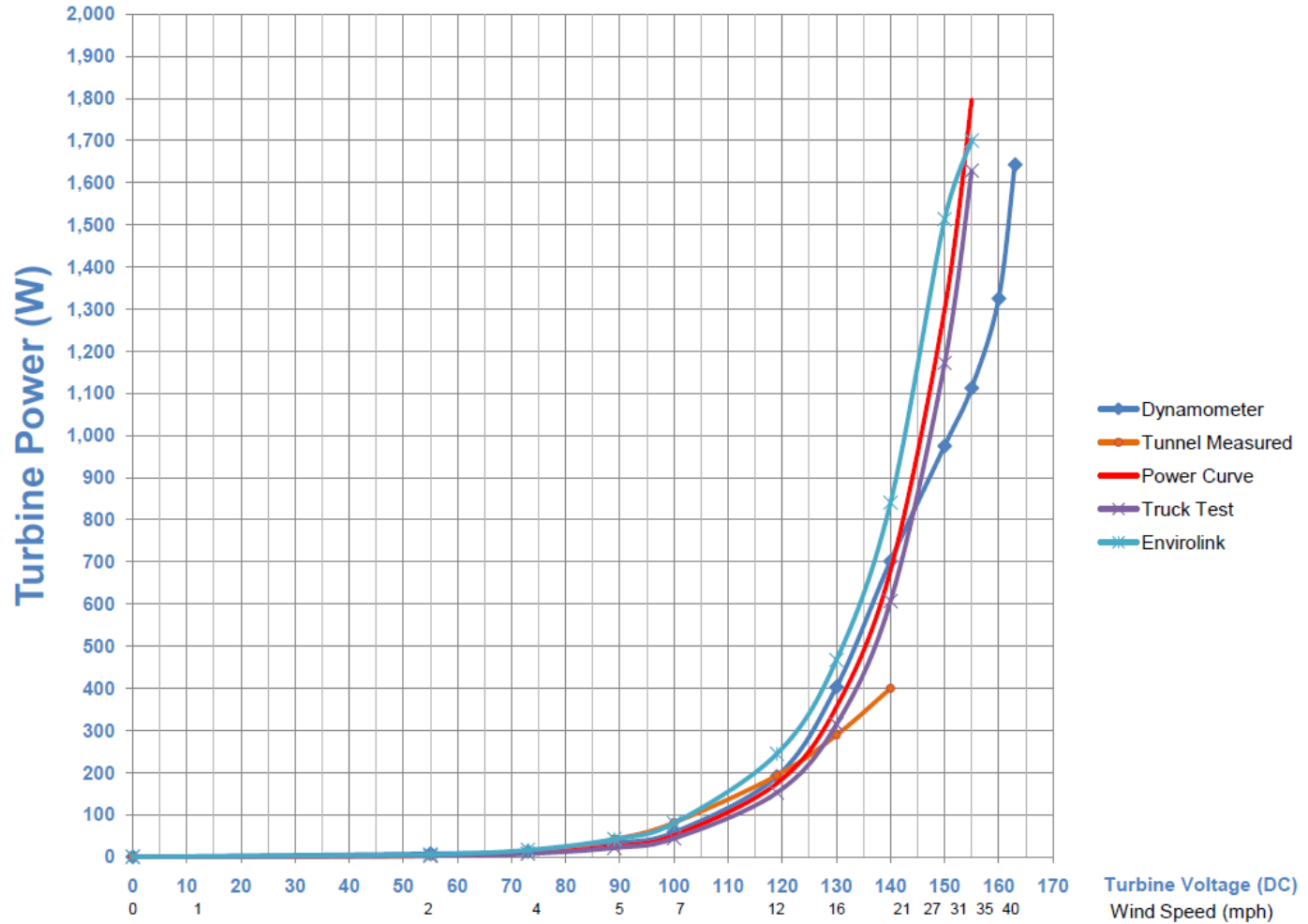




## Turbine Power vs. Wind Speed



# Turbine Power Curve Comparisons



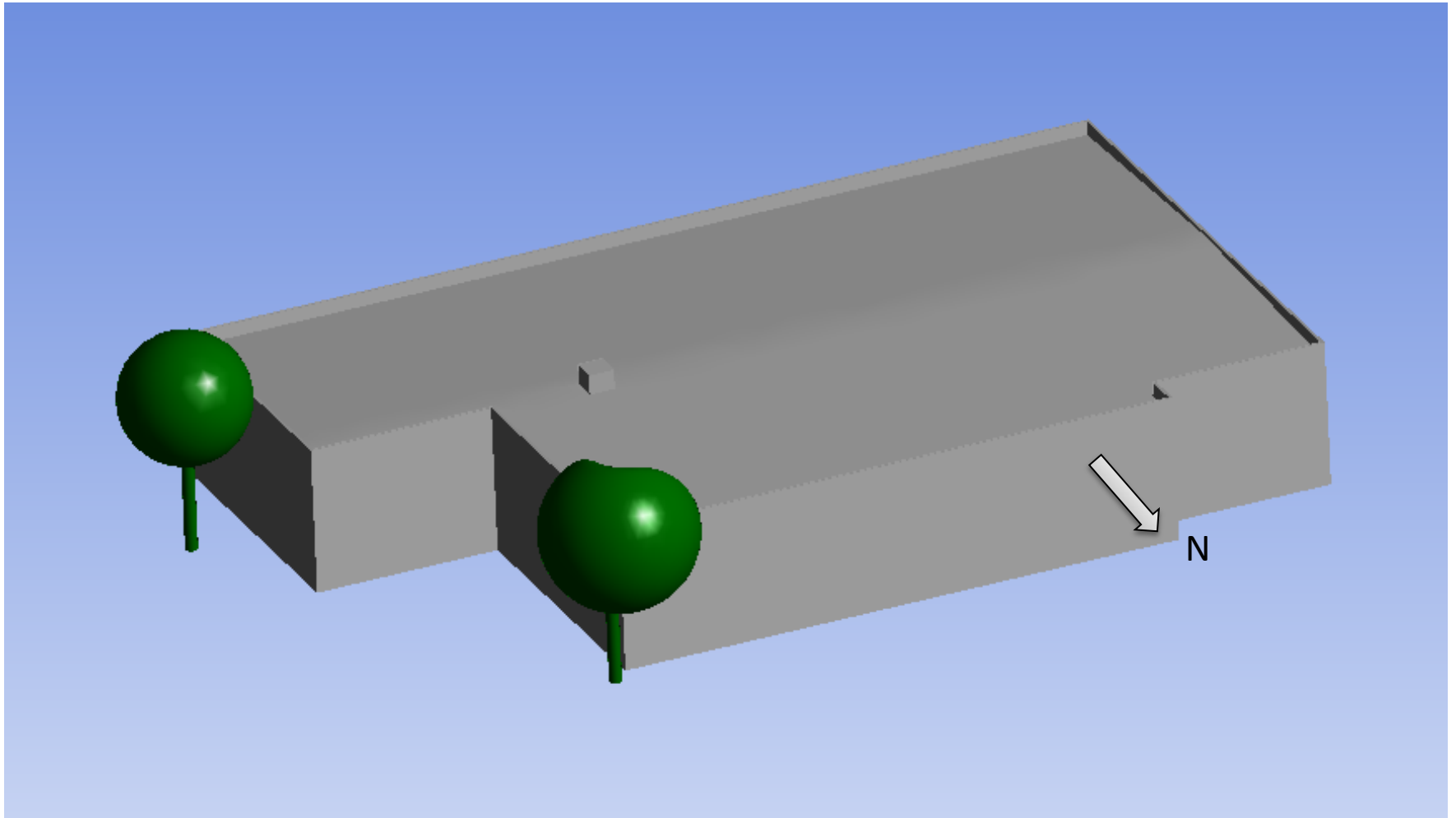
## IEC 61400 Tower Installation



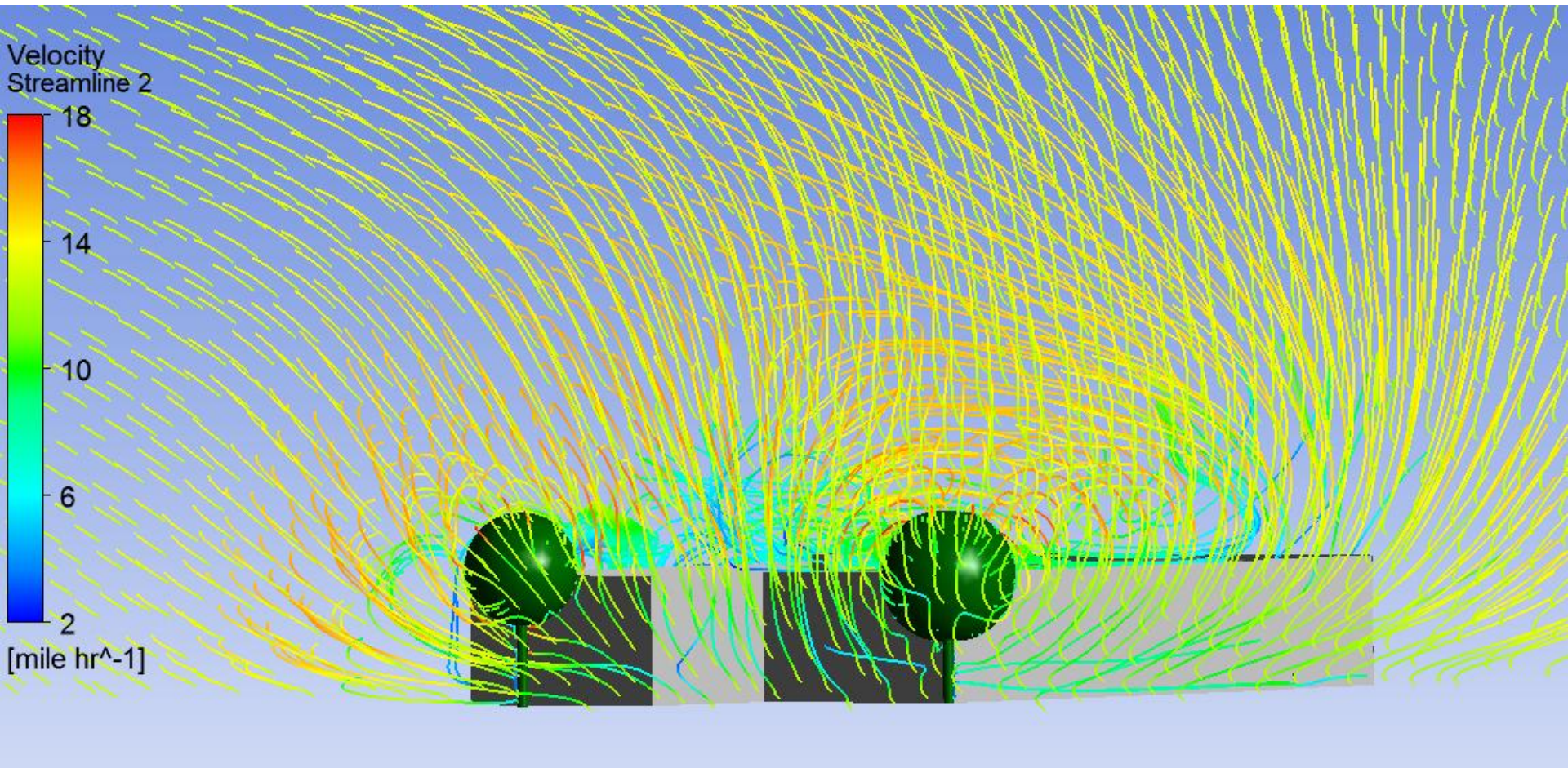
## IEC 61400 One Day Result

IEC 61400 Data Summary							
		Wind Speed			Turbine		
Date	Period (hr)	Min (mph)	Max (mph)	Average (mph)	Max Power (W)	Ave. Power (W)	Total Energy (kWh)
12/6/11	24	10	51	28	1,481	343	8

# Site Assessment Computational Fluid Dynamics Modeling

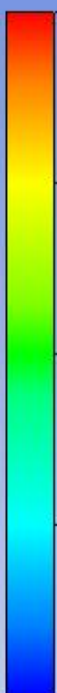


# Site Assessment Computational Fluid Dynamics Modeling



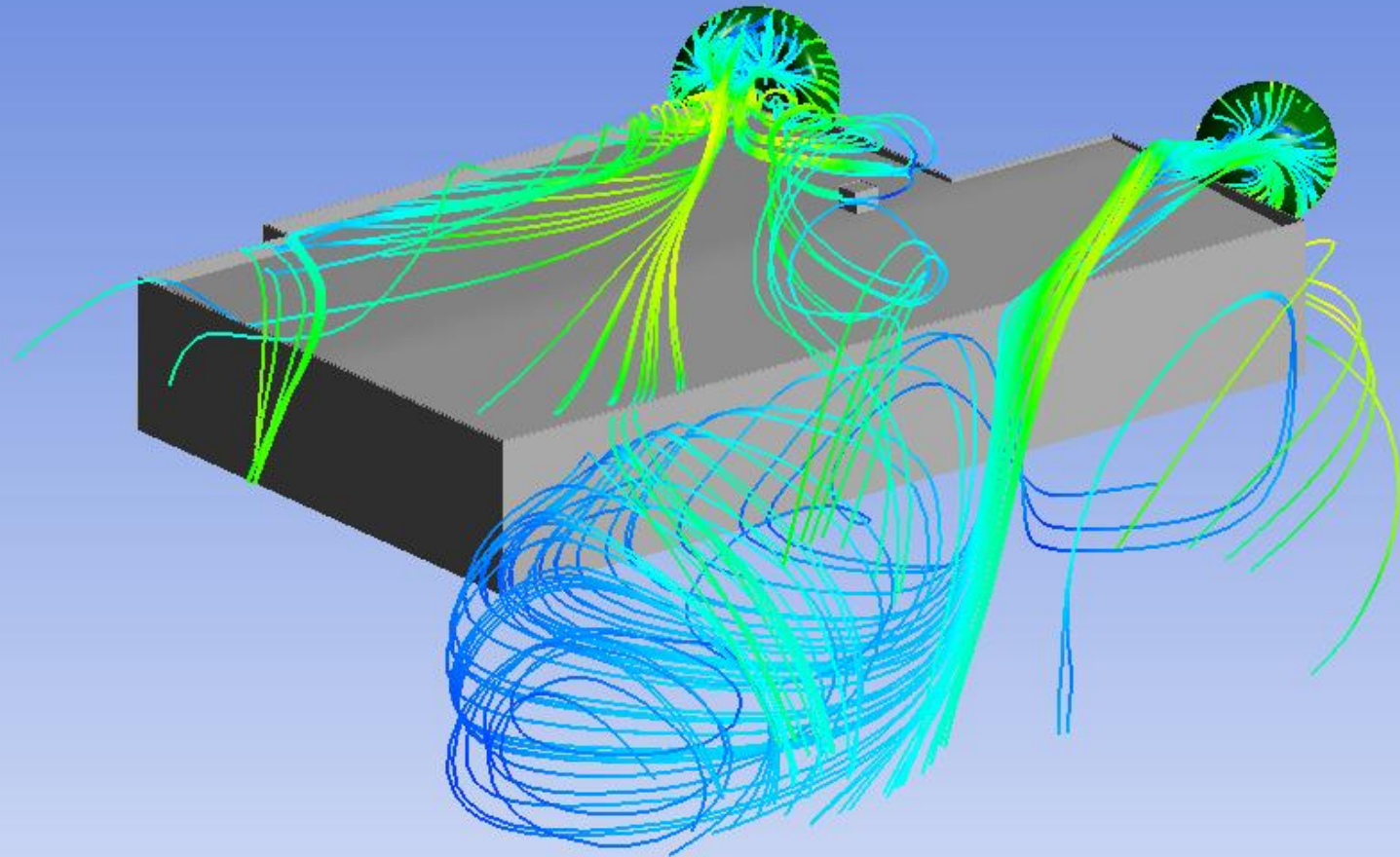
# Site Assessment Computational Fluid Dynamics Modeling

Velocity  
Streamline 3

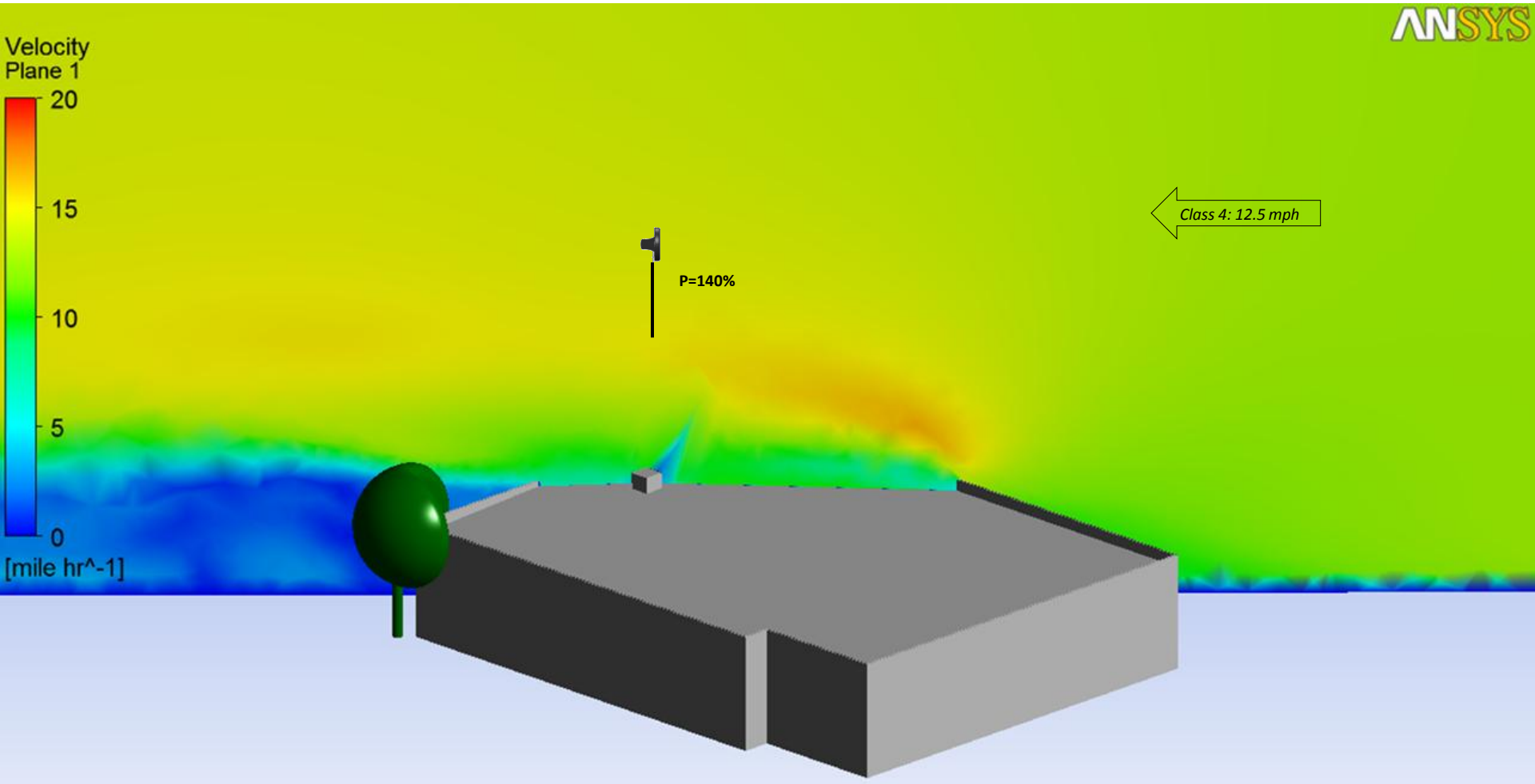


20  
15  
10  
5  
0

[mile hr<sup>-1</sup>]

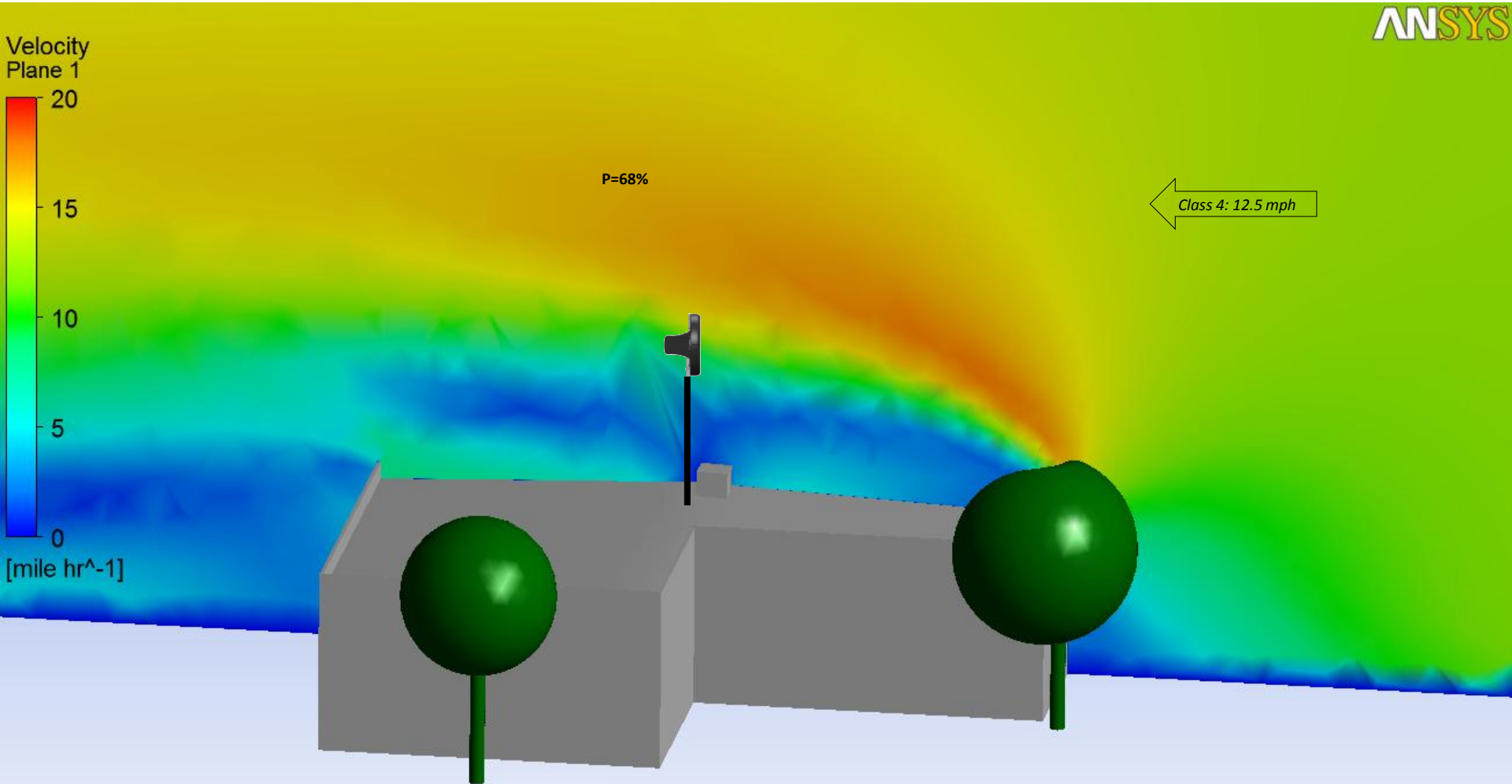


# Site Assessment Computational Fluid Dynamics Modeling





# Site Assessment Computational Fluid Dynamics Modeling



## Birds Resting on the WindTronics Turbine!

















