

PECOS WIND POWER

Community-Scale Wind Turbines for Onsite, Low Cost Electricity



U.S. DEPARTMENT OF
ENERGY



NATIONAL RENEWABLE ENERGY LABORATORY



MASSACHUSETTS
CLEAN ENERGY
CENTER



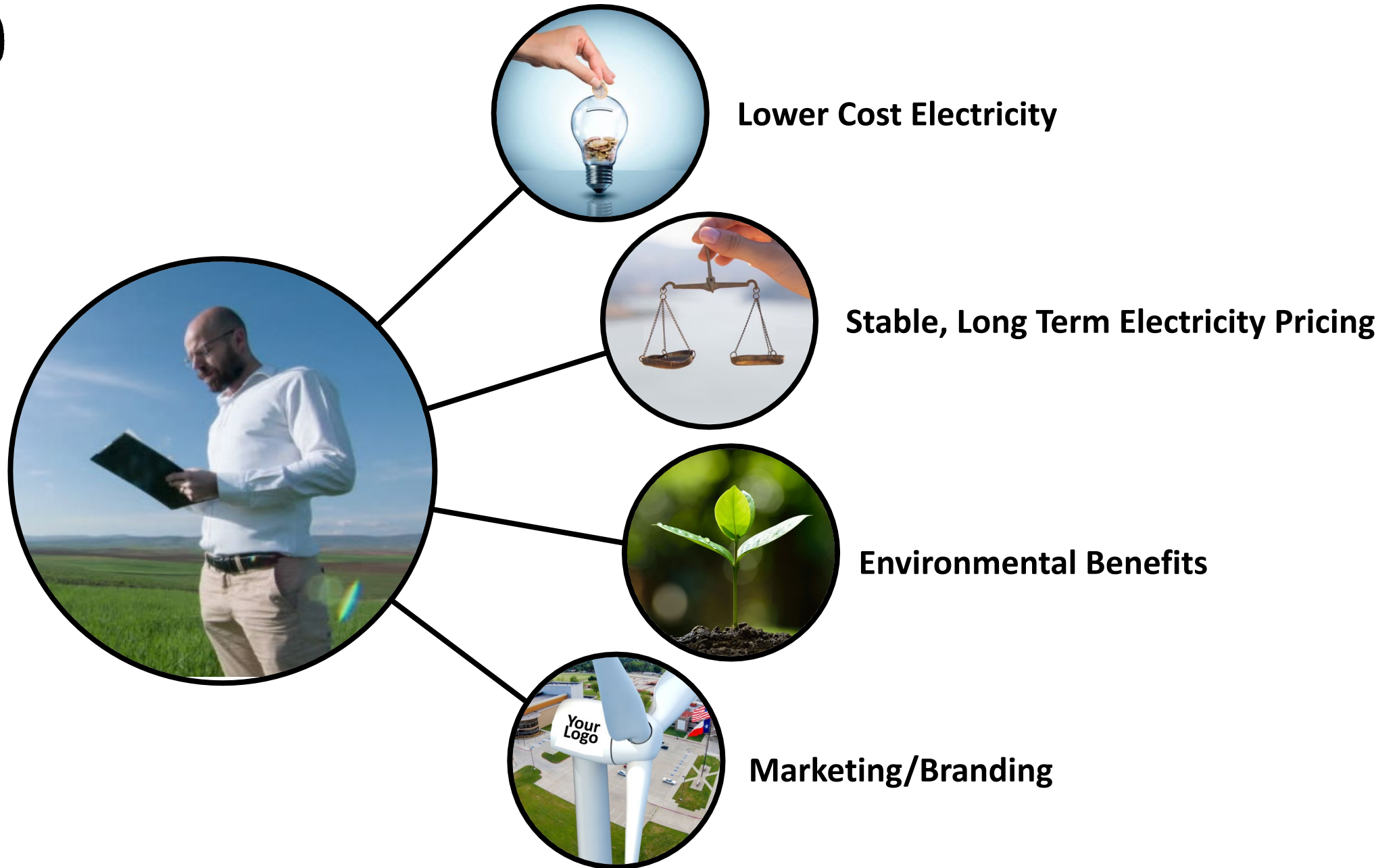
PECOS

About Our Wind Turbine



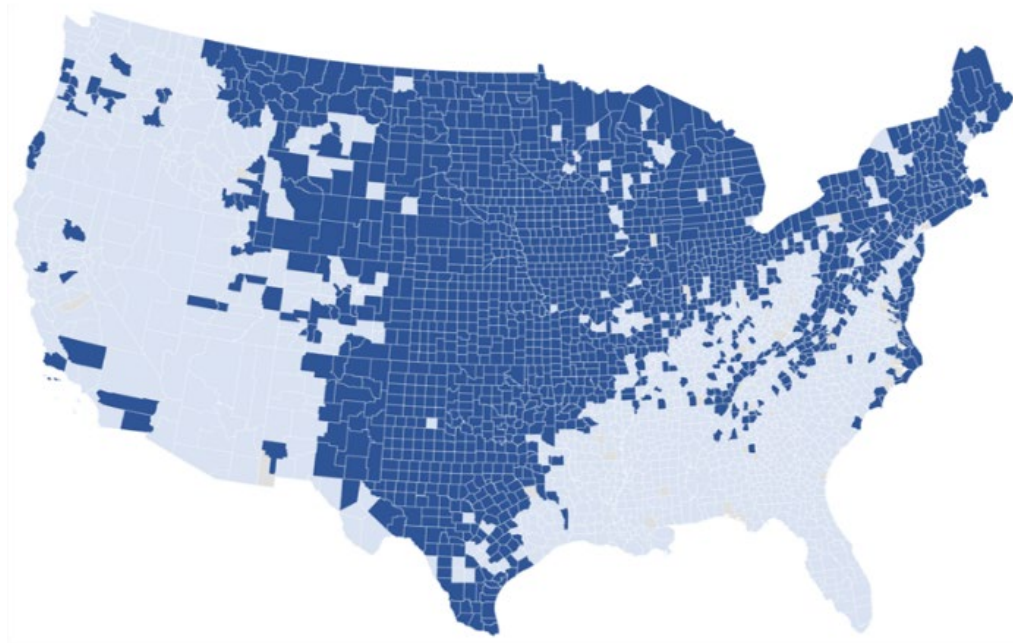
Pecos Wind Power manufactures and installs the PW85 wind turbine, an 85kW community-scale distributed wind turbine.

- Onsite Power for Rural Businesses, Farms, Schools, Municipalities
- 85kW Rated Power (equivalent to 20-30 homes worth of power)
- 1/3 Height of Utility-Scale Wind Turbines
- Low Noise Emissions
- Made in America

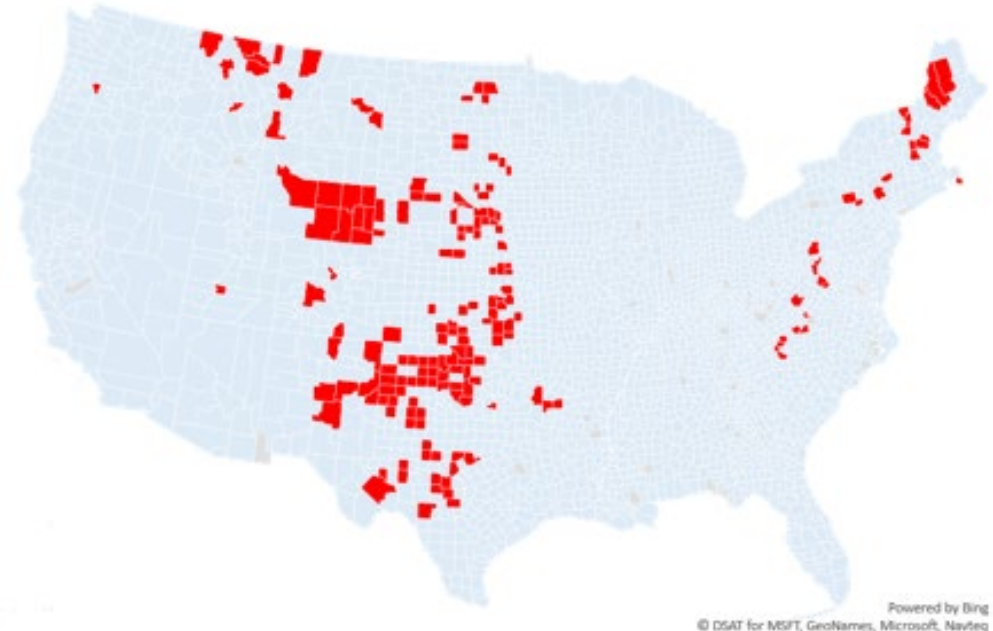


PECOS What Makes Us Different?

Our turbine is the only turbine optimized for low wind speeds. We can go where others can't.



Market for Pecos Wind Power
(counties with wind speeds >5m/s)



Market for Incumbent Distributed Wind Turbines
(counties with wind speeds >6m/s)

PECOS Turbine Size/Visuals

Our turbine tip height is 171ft, often not visible to neighbors above tree lines and buildings



Rendering of the PW85 next to a water tower

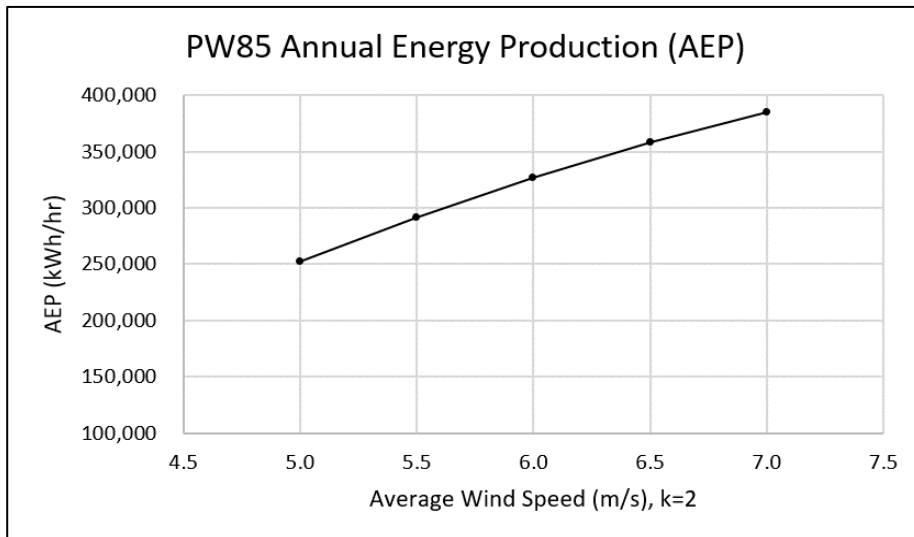
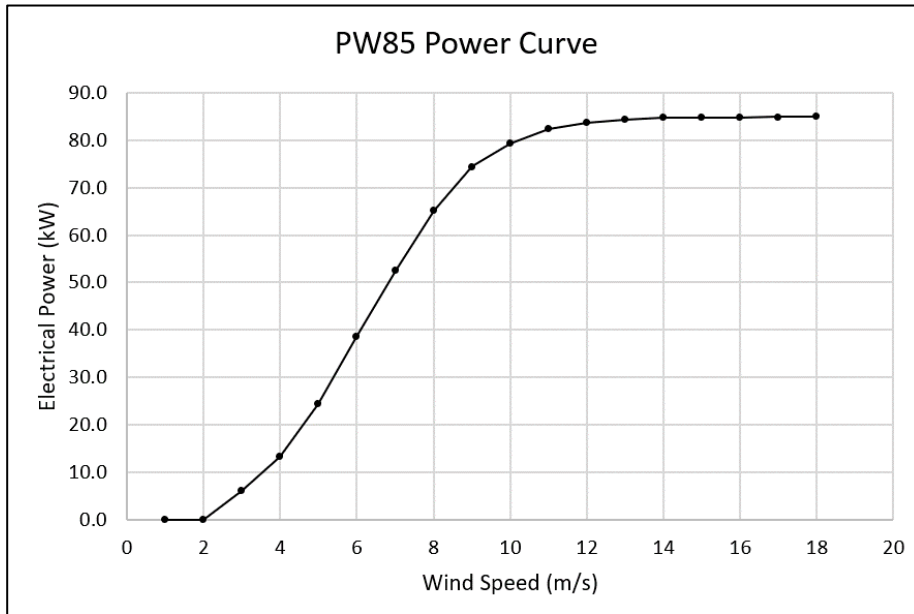


Rendering of the PW85 at an educational facility



Rendering of the PW85 at an industrial facility

PECOS Turbine Technical Specifications



Turbine Configuration Overview

Turbine Name:	Pecos PW85
Design Wind Conditions (IEC61400):	S (Vave=6m/s, Ve50=52.5m/s, Iref=0.20)
Rated Electrical Power:	85kW, 3 Phase, 480VAC, 60Hz
Specific Power:	120W/m ²
Rotor:	30m diameter, 3 bladed, upwind
Hub Height:	37m
Tower Type:	Tip-up monopole. External climb.
Yaw:	Active yaw, cable unwind
Power Regulation:	Variable speed, pitch regulated
Drivetrain:	Induction Generator + Gearbox
Lifetime:	20 year life with servicing at 1 month and every odd year
Maximum Cp:	0.46
AEP@6m/s:	327 MWh
Cut-in:	3m/s
Cut-out:	18m/s
Noise:	< 50 dBa at 50m from turbine base
Primary Braking System:	Generator braking / aero braking
Secondary Braking System:	Caliper disk brake on high speed shaft
Rated Wind Speed:	9m/s
Availability:	98%
Certification:	ANSI/ACP 101-1 202X

Environmental Design Conditions

Corrosion Protection:	C3 internally, C5M externally per ISO12944-2
Temperature:	Normal operation between -20 C and +45 C at 1500m altitude
Air Density:	1.225 kg/m ³
Altitude:	Normal operation up to 1500m above sea level
UV:	External components must withstand 1400W/m ² irradiance
Humidity:	Suitable for humid environments
Lightning:	In accordance with IEC61400 requirements
Snow/Rain/Ice:	Suitable for conditions with snow, rain, and ice



Is Your Location Suitable For Our Wind Turbine?

STEP 1

Do you have sufficient electricity demand?

- Are you a businesses, farm, school, utility, or municipality with a monthly electric load of at least 25,000kWh? Do you have 3-phase electrical interconnection to your utility? If so, continue!
- If you're a landowner looking to sell power to your utility, you may be eligible if you satisfy all other requirements on this page. Feel free to contact us!

STEP 2

Do you have enough wind?

- If you have annual average wind speeds of at least 4.75m/s at 30m elevation, you may be a candidate for onsite wind power!
- Check your location's wind speed for free using [UL's Windnavigator](#) (14 day free trial).
- Feel free to ask us to check your wind speeds for you.

STEP 3

Do you have enough space?

- We aim for setback from occupied buildings of at least 170'.
- We prefer to have the predominant wind direction free of obstacles over 30' tall for 500'.
- These requirements are somewhat flexible. We would be happy to review satellite imagery of your site!

STEP 4

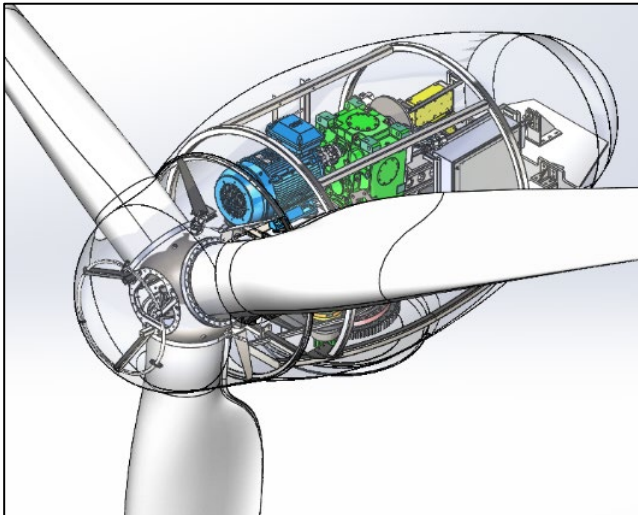
Contact Us!

- If you think you satisfy all (or most) of the requirements above, let us know!
- We'll do a free preliminary technical feasibility study to confirm all the above.
- Please contact Josh Groleau, josh@pecoswindpower.com, 207-745-2231

PECOS Installation, Operation, and Maintenance



Pecos Wind Power will install a steel/concrete foundation below grade to anchor the turbine. Once completed, the physical footprint of the turbine is only about 8ft by 8ft.



Pecos Wind Power will remotely monitor the turbine and perform all operation and maintenance (O&M). O&M will typically be performed on a 12-24 month service interval.

PECOS

Contact Us



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