Building an Ecosystem With Small Wind Turbines

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Background

In response to the growing demand in energy, small wind turbines can help individuals generate their own renewable energy.



Results



7 AFFORDABLE AND CLEAN ENERGY

Objective

Develop 3D data of efficient wind turbine blades. Share the data online so that anyone can use the data and build efficient wind turbine blades.

Method

An example of how efficient wind turbine blades are developed, tested, updated on the platform, and

	With the most efficient blade generating 3.4V and a current of 100mA (0.1A), each wind turbine will						
Analysis							
	5 blades	1.2	2.7	3.4			
	4 blades	1.2	2.5	2.8			
	3 blades	0.3	2.0	2.5			

published.

1. Design blades with different numbers of blades (2, 3, 4, and 5).



2. Test efficiency at three wind speeds.

3. Choose the most efficient blade.

4. Share the 3D data online.

generate:

3.4V × 0.1A × 24h = 8.16 Wh

If 2 billion households use this turbine, the total energy produced is:

8.16Wh × 2 billion = 16.32 billion Wh

This is equivalent to the energy produced from approximately 1.6 nuclear power plants.

As the blades are continuously being improved for better efficiency, the energy generation will increase with

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turbine_north_sector.stl	2.2V / 1 update
offshore_wind_report.stl	3.5V / 2 updates
wind_performance_data.stl	1.8V / 1 update
renewable_energy_forecast.stl	4.1V / 3 updates
turbine_efficiency_model.stl	2.7V / 2 updates
wind_farm_location_data.stl	3.2V / 1 update
maintenance_schedule.stl	2.5V / 2 updates
wind_turbine_specs.stl	3.9V / 1 update
energy_output_predictions.stl	2.3V / 3 updates
global_wind_trends.stl	4.4V / 2 updates



time.

2 RESPONSIBLE CONSUMPTION

AND PRODUCTIO

13 CLIMATE

Conclusion

The challenge is to improve the blade shape and materials to achieve even more efficient power generation. I hope this project will be the first step toward the spread of sustainable energy.