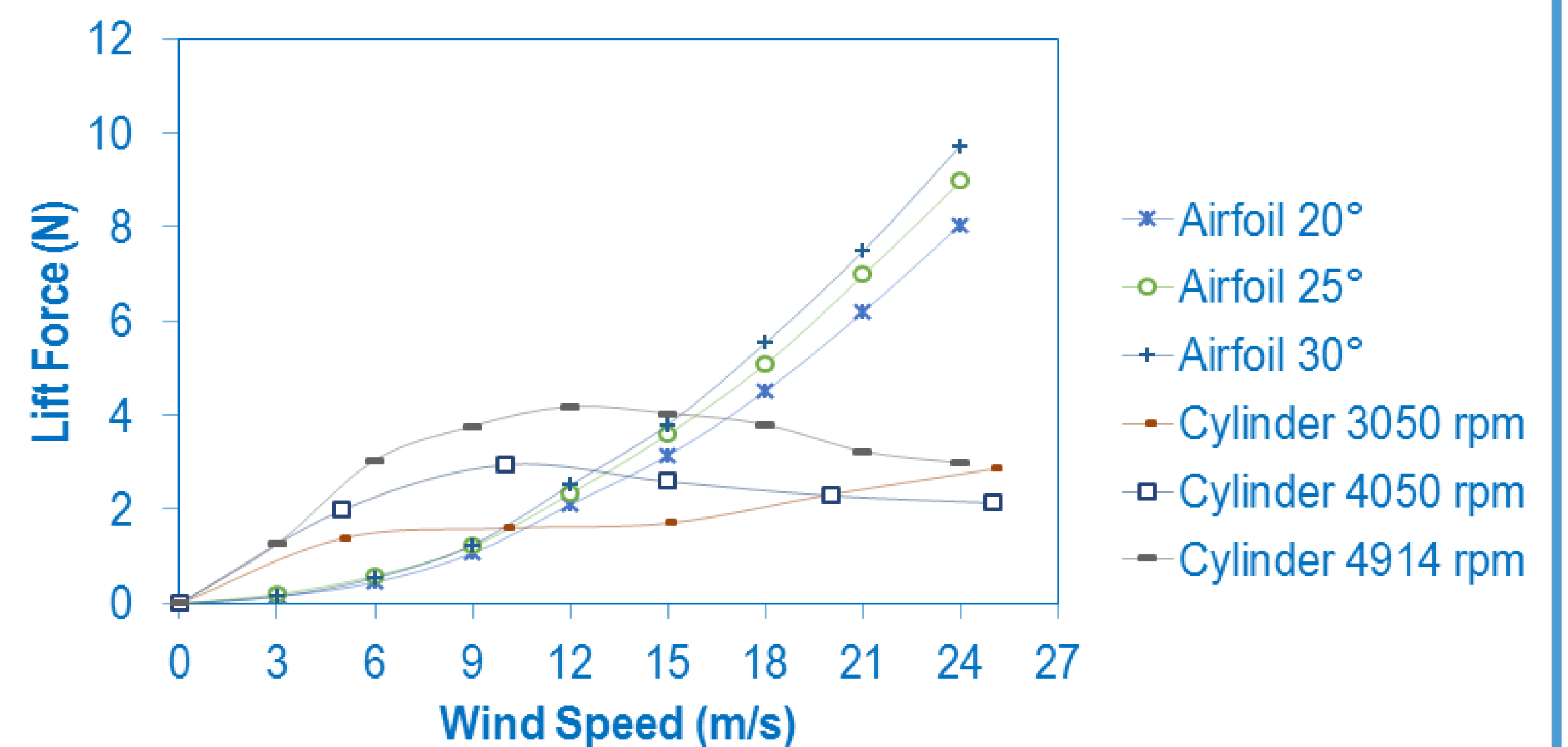


Magnus Wind Turbine: An Alternative Green Energy Harvesting System

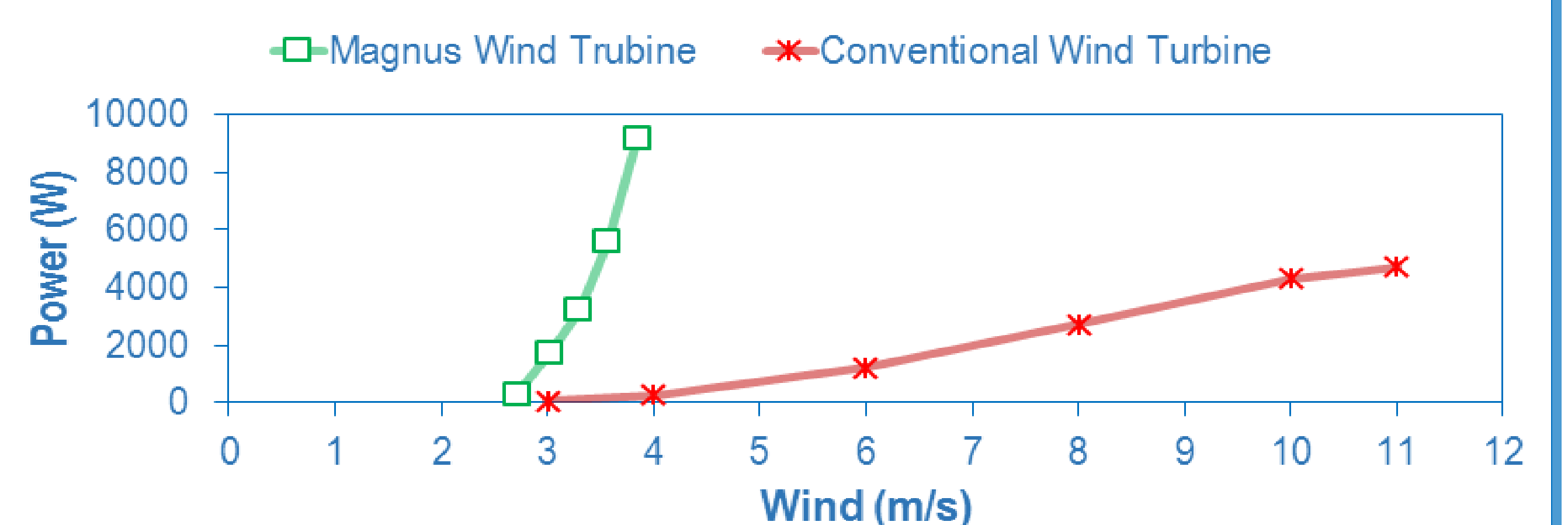
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Cylinder Smooth Surface VS Airfoil NACA 4418 With Similar Aspect Ratio



Rotating Cylinder VS Airfoil Shaped Horizontal Axis Wind Turbine



INTRODUCTION OF TECHNOLOGY

Current state of world's technology is going toward renewal and sustainable energy. Wind is one of the green energy sources that continues to naturally replenish. However, Malaysia is one of the countries that has natural low wind speed of average 2 m/s, where current conventional wind turbine requires 10 m/s to operate at optimum. Thus, to overcome this problem, an innovative wind energy technology is invented by utilizing Magnus effect phenomenon. This phenomenon utilizes the pressure difference between the incoming wind that flows in the same direction of the rotating cylinder produces low pressure area and wind flow on the opposite direction of rotating cylinder produces high pressure area.

INVENTION

The technology aims to provide a useful alternative to known devices for wind turbine or the like. This cutting-edge innovation by utilizing rotating cylinder to extract energy from the wind is known as Magnus Wind Turbine (MWT). It is silent, durable, and reliable green energy technology. It can operate in low and extreme wind speed conditions.

Patents no: **PI 2015000286**.

ADVANTAGES

- Green energy and renewable resource,
- Designed to operate under low wind speed condition for countries like Malaysia,
- Can be utilized during extreme wind speed condition,
- High power generation from the high torque rotors,
- Reduce noise pollution with slow rotating rotors,
- High durability blades with circle-shaped design,
- New gear system known as Front-gear system to add initial torque to the rotors,
- Novel surface roughness effect to increase torque performance.

MARKET POTENTIAL

- The potential beneficiaries of the project is that it can produce alternative energy from low wind speed condition like Malaysia average wind speed of 2 m/s and thus improve the country energy supply.
- Increase job in the area of MWT build as it linkage with domestic research institute and industries.
- Pioneer in new type wind turbine on the wind energy industries in Malaysia.



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