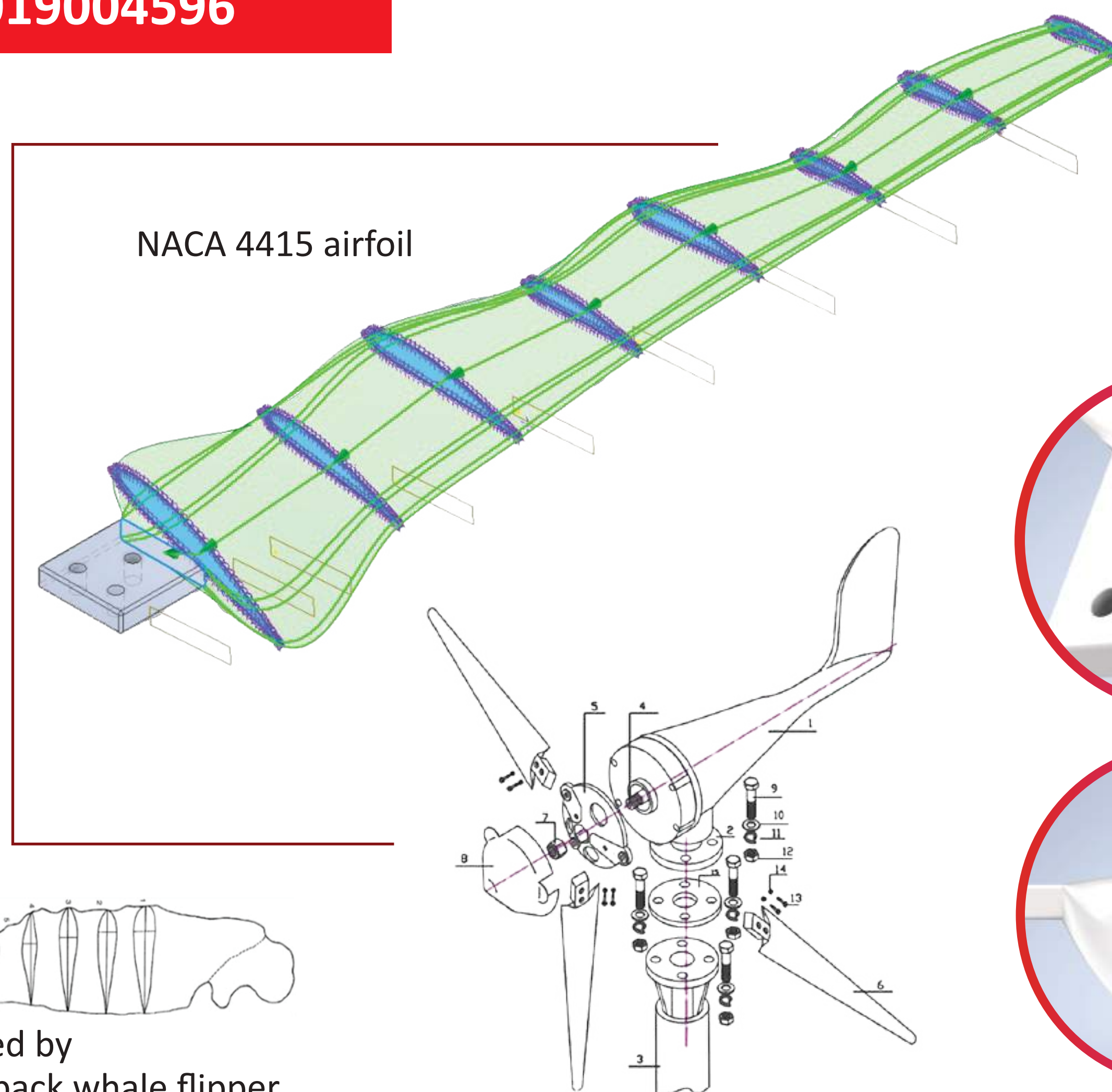


# ULTRA LOW SPEED WIND TURBINE FOR ONSHORE RURAL AREA USAGE

PATENT NO : PI2019004596



Inspired by  
humpback whale flipper



## BRIEF TECHNOLOGY

Wind turbine technology featuring the **Tubercle Leading Edge (TLE)** modified **Horizontal Axis Wind Turbine** blade. This innovative design and wind power system optimize aerodynamic efficiency, making it **ideal for low wind speed conditions**.

## CURRENT ISSUES

Malaysia has become **highly dependent** on charcoal to generate electricity. The electrical demand has increased due to the growth in population, economic development, and other factors. Based on official data, **142 Kampung Orang Asli** remain in darkness, **living their lives without electrical power**.

## INVENTIVENESS & NOVELTY



### Advanced Wind Turbine Blade Design

Aerodynamically efficient due to the presence of tubercles at the leading edge of the blade.



### Higher Energy Storage

Produce higher energy storage at low wind speed. Suitable for areas with relatively mild and consistent winds.



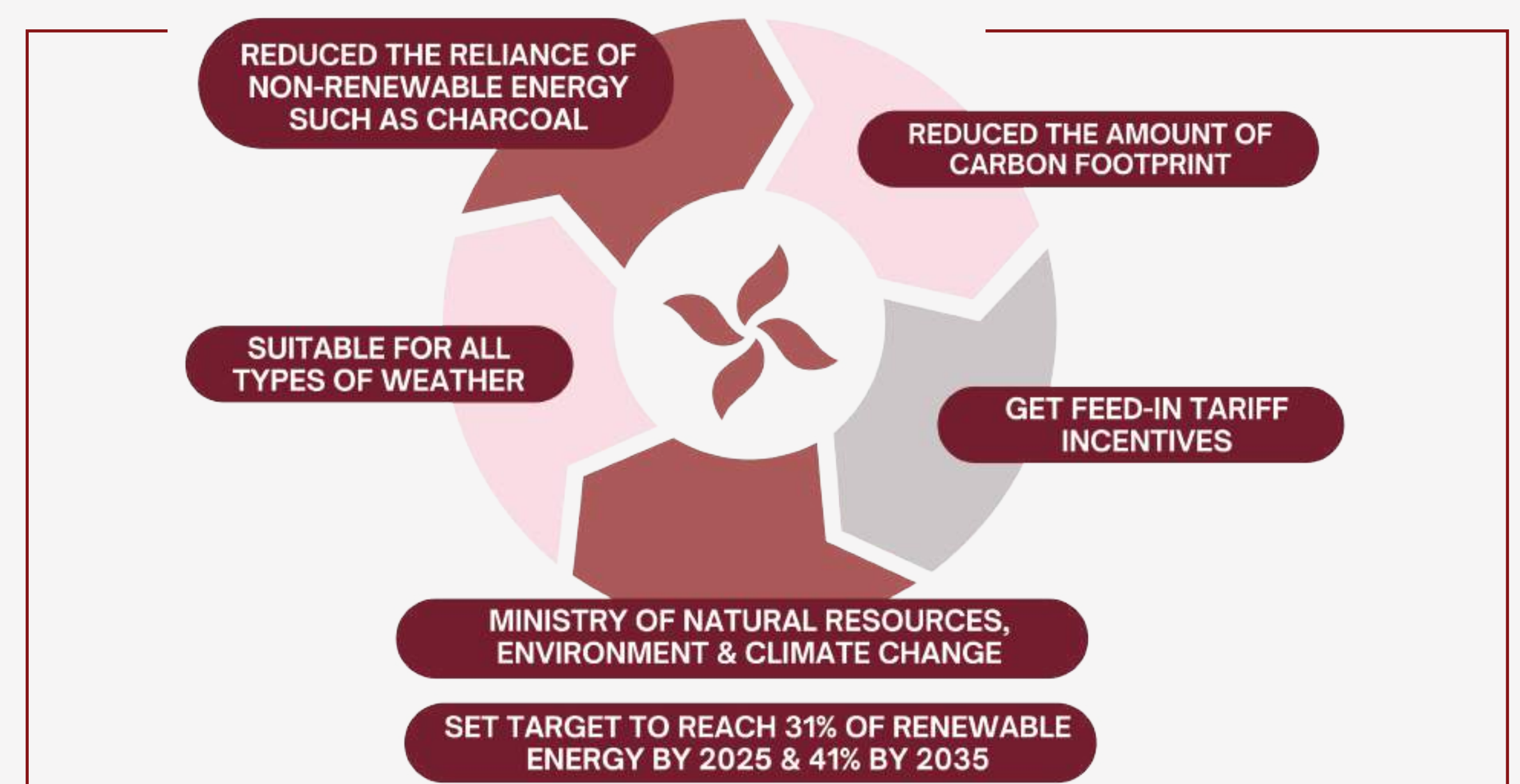
### Longevity

Carbon fiber offers high strength-to-weight ratio & superior mechanical properties.

## USEFULNESS & APPLICATION

Expanding the provision of basic rural infrastructure & quality basic services increase the coverage of electricity supply using **Ultra Low Speed Wind Power System**.

## IMPACT OF THE PRODUCT



## MARKET POTENTIAL



TRL : 5 – VALIDATION IN REAL ENVIRONMENT



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