

RBE – Rotor Blade Extension

A competitive advantage

www.rotorbladeextension.com

Introduction:

Rotor Blade Extension project born with the need of improving the energy production on Energiekontor.

Energiekontor challenge was how to improve the energy production on own wind farms using a cost efficient solution.

In 2009, fk-wind, from the Hochschule Bremerhaven, presented, to Energiekontor, a solution for increasing the rotor diameter with an extension of the blade.

Since November 2009, Energiekontor has operated a prototype of a wind turbine equipped with a rotor blade extension, Bonus 1.0MW, in the Debstedt wind farm, north of Bremerhaven, Germany.

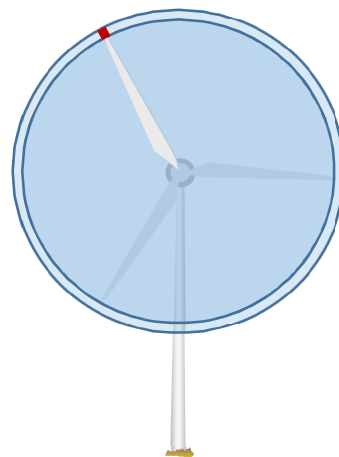
In 2011, Energiekontor request a new prototype design, to fk-wind, for a turbine Bonus 1.3MW2. That prototype is now installed, since April/2014, on an Energiekontor wind farm, in Portugal.

Rotor Blade Extension is an extension to the original blade allowing an increase of the rotor area and therefore an increase of production.

The Concept:

Power Curve:

$$P = \frac{\rho}{2} \cdot v^3 \cdot C_p \cdot A_{\text{rotor}}$$



Rotor Blade Extension development follows a standardize procedure of engineering research along with certified and experienced manufacturers and installation companies. A quality process is establish for an all complete development, including a certification from renowned entity in Europe.

Certification:

A certification process is done by DEWI OCC that follows the entire project & design process until the end of the monitoring phase.

Production:

RBE production is done by a certified manufacturer company, with experience on RBE production.



Installation:

RBE installation is done by a certified installation company, with experience on RBE installation already.

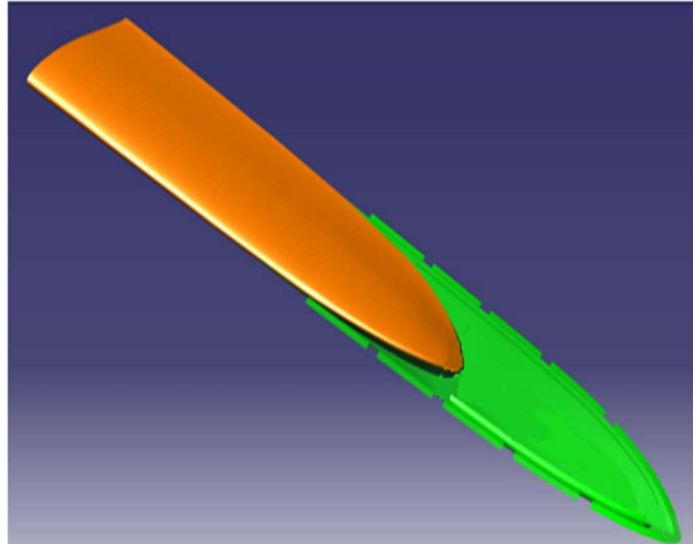
The installation process is done on a hanging blade, with adequate tools, specially created to ensure a high quality on the attachment and project parameters.



Products available:

- RBE Bonus 54, LM26.1
Length 2,0 m
Extension of the blade 1,0 m
Modified diameter 56 m
Increase swept rotor area 7,6 %
Weight per blade 30 kg

- RBE Bonus 62, LM29
Length 3.0 m
Extension of the blade 1,5 m
Modified diameter 65 m
Increase swept rotor area 8,6%
Weight per blade 45Kg



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