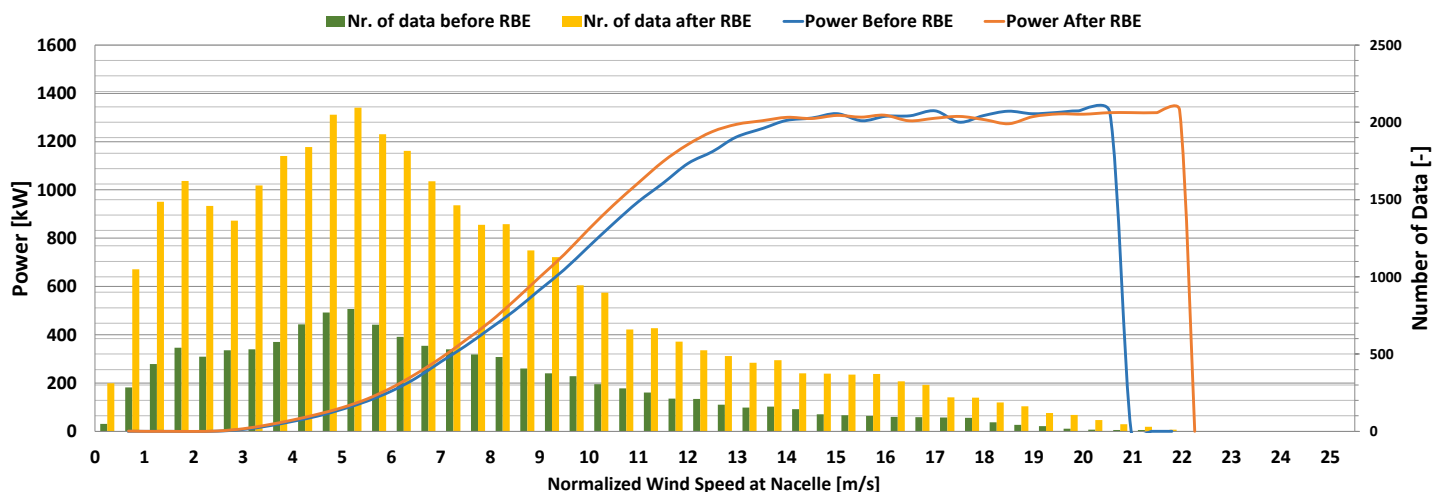|	
Wind Farm	Penedo Ruivo
Country	PT
Turbine (WTG)	3
Altitude of Site [m]	1 100
Period before/after installation	17/03/2015-24/06/2015 17/07/2015-30/04/2016
Reference Density [kg/m^3]	1,225

Turbine Type	Bonus 1.3
Blade Type	LM 29.0

The following information pertains to the prediction of the Annual Energy Production increase obtained due to the installation of the RBE element on the turbine. The following information takes into account the IEC 61400-12-2 standard, and all calculations were performed under the process indicated in this standard. All information was obtained from the SCADA system in which the nacelle anemometer readings were retrieved.

	Wind Distribution	Before RBE installation		After RBE installation		AEP - Measured - Difference [%]	AEP - Extrapolated - Difference [%]
		AEP Measured without RBE [MWh]	AEP Extrapolated without RBE [MWh]	AEP - Measured with RBE [MWh]	AEP - Extrapolated with RBE [MWh]		
Rayleigh Distribution	V= 4 m/s	900	900	972	972	8,03%	8,03%
	V= 5 m/s	1 739	1 740	1 866	1 866	7,27%	7,27%
	V = 6 m/s	2 752	2 763	2 931	2 942	6,53%	6,49%
	V = 7 m/s	3 772	3 844	3 989	4 059	5,75%	5,60%
	V = 8 m/s	4 646	4 884	4 882	5 115	5,08%	4,73%
	V = 9 m/s	5 284	5 818	5 524	6 049	-	3,98%
	V = 10 m/s	5 672	6 605	5 907	6 827	-	3,36%
	V = 11 m/s	5 843	7 225	6 067	7 432	-	2,87%
	Technical Availability	94,84%		93,55%			
AEP [MWh] Average Local Distribution (Weibull distribution)		3 339	3 346	3 556	3 563	**6,50%**	**6,48%**

The following graphics indicate the power curve obtained from the aforementioned data, as well as the power coefficient curve related to both before and after the installation timeframe of the RBE.

Power Curve - Measured

Power Coefficient