Twin Rotor Wind Turbine TWind



The Challenge

Many electricity-intensive businesses outside residential areas – such as greenhouses, biogas plants, wastewater treatment facilities and industrial parks – want to power themselves with low-cost, clean electricity.

Major obstacles:

- Traditional wind turbines: too large, too expensive, too bureaucratic
- Space constraints and strict setback regulations
- **High costs and effort** for grid connection, permitting, transportation, installation and maintenance
- Existing solutions are **not designed for flexible**, **on-site consumption**

Wind Turbine Market



RES-T Product development

Existing 30 kW WT





TWind 60 kW WT



WTG established on the market Annual energy yield 45,000kWh

Combination of existing WTGs with new support structure Annual energy yield 100,000 kWh

Goal: Minimization of LCOE for WTGs with a maximum total height of 50 m

TWind as a cost-effective electricity supplier

- Optimum energy yield at locations with a height restriction < 50 m
- Simple and low cost installation/maintenance of the system because it takes place on the ground
- Lowering the rotors as required, e.g. before extreme wind events, allows for reduced loads and increased life time
- Easy transportation to the site thanks to small and lightweight system modules (container transport)



TWind 60 Key data



- Total height < 50 m
- 2 x 30 kW WTG variable-speed synchronous generators with full inverter
- Modular lightweight structure with vibration control and automatic lifting system Patent filed
- (Modular rotor blade design as future option)



Segmentable blade design

Different materials, formed with different technologies glued together by switchable adhesives

TWind 60 Development Status

Done

- Patent filed
- Minimum viable product (2x2 kW)
- Supplier 30 kW WTG
- Rough dimensioning of support structure

To do

- Detailed design
- Cost calculation
- Supplier chain support structure
- Produce prototype
- Turbine certification



The Market Opportunity

Organized energy users with privileged status for generating their own electricity outside municipalities







RES-T Business Model

Licensing for foreign markets

Leasing rate from Customer (RES-T Ownership)

Assembly and sale of the TWind 60 turbine

Sale of 30 kW standard turbine

Services / energy project development for customer









Location





- 130 ha fenced-in area (former military site)
- 17 km road network for autonomous test driving and e-mobility
- Co-working space / canteen / guest house
- Establishment of companies in the field of renewable energies
- Small wind power
- solar power
- Computer center
- Conversion of diesel to electric vehicles
- Training center for service technicians
- Large wind power planning





Time line Business development

- 2025 office on the GreenTec Campus (Enge-Sande)
- 2025 Purchase of a Greef AH 30 + 2 x AH 30 heads for TWind prototype
- 2026 Prototype TWind 60 on GreenTec Campus, sales launch of Greef AH30
- 2027 Construction of series production/assembly TW 60 Sales launch TW 60
- 2028 Development of TW 60 license business for abroad

Business Scenario





Sensitivity analysis



This is us



Hans-Günter Feddersen Management

Commercial training, 20 professional years (at times self-employed) in marketing and sales of various products and (large-scale) projects, 2016-2021 Managing Director Easywind GmbH (6 KW WTG) responsible for marketing



Dipl.-Ing. Frank Richert Management

>30 years of professional experience in the field of wind energy, TU Braunschweig, technical manager Ventis Gmbh, Development of offshore wind projects for GEO, Managing Partner SkyWind GmbH (3.4 MW WTG) responsible for the technology



Christian Wefer

Electrical and mechanical training,

>30 years in the wind energy sector, service & maintenance, installation, qualification and training as well as occupational safety. Until 2000 Managing Director of WEST and BZEE (shareholder)



TWind

by

RES T

Do you want to be part of it?

Competition (D)

BEST WATT	SOLUTIONS 4 ENERGY	PSU Energiesysteme GmbH		
10 kW	30 kW	3 kW		
45 KW		-		
80 kW		20 kW		







Businessplan Szenario

Purchase/assembly/sale 30 kW basic WTG and TWind 60 kW

		2025	2026	2027	2020	2020	
F	mendment	2025	2026	2027	2028	2029	Summe
Quantity TW	60	0	0	10	50	80	140
Sales / TW	3%	- €	- €	215.000€	221.450 €	228.094 €	
Purchasing /	2%	250.000 €	- €	160.000 €	163.200 €	166.464 €	
Service reven	3%		- €	3.000 €	3.090 €	3.183€	
Service costs	2%		- €	1.500 €	1.530 €	1.561 €	
Number of AF	1 30		10	20	20	20	70
Sales, All Ju	3%		100.000 €	103.000€	106.090€	109.273 €	
Purchasing /	3% 2%		100.000 € 75.000 €	103.000 € 76.500 €	106.090 € 78.030 €	109.273 € 79.591 €	
Purchasing / A	3% 2% 3%		100.000 € 75.000 € 1.400 €	103.000 € 76.500 € 1.442 €	106.090 € 78.030 € 1.485 €	109.273 € 79.591 € 1.530 €	
Sales / All So Purchasing / A Service reven Service costs	3% 2% 3% 2%		100.000 € 75.000 € 1.400 € 700 €	103.000 € 76.500 € 1.442 € 714 €	106.090 € 78.030 € 1.485 € 728 €	109.273 € 79.591 € 1.530 € 743 €	
Sales / All So Purchasing / A Service reven Service costs Assembly perso	3% 2% 3% 2% onnel	1	100.000 € 75.000 € 1.400 € 700 € 3	103.000 € 76.500 € 1.442 € 714 € 5	106.090 € 78.030 € 1.485 € 728 € 12	109.273 € 79.591 € 1.530 € 743 € 17	
Sales / All So Purchasing / A Service reven Service costs Assembly person	3% 2% 3% 2% onnel nel	1	100.000 € 75.000 € 1.400 € 700 € 3 1	103.000 € 76.500 € 1.442 € 714 € 5 2	106.090 € 78.030 € 1.485 € 728 € 12 5	109.273 € 79.591 € 1.530 € 743 € 17 12	

Result scenario

		2025	2026	2027	2028	2029
	Sales revenue	0€	900.000€	3.928.420 €	12.285.078 €	19.208.753 €
ſ	Total costs	592.840 €	1.590.300 €	4.260.520 €	11.665.777 €	17.780.288 €
	Number of employees	4	9	14	26	38
L	rumover per employee	しも	100.000 €	200.001€	472.003€	3 03.493 €
	Costs per employee	148.210 €	176.700€	304.323€	448.684 €	467.902 €
Г						
	Operating result	-592.840 €	-690.300 €	-332.100 €	619.300 €	1.428.465 €
	Return on sales	0%	0%	-8,5%	5,0%	7,4%
Г						
	cash flow	-592.840 €	-686.050 €	-324.350 €	627.100 €	1.439.115 €
F						
	Capital requirement	592.840 €	733.050 €	356.350 €	-595.100 €	-1.407.115 €
	Accumulated capital requirement	592.840 €	1.325.890 €	1.682.240 €	1.087.140 €	-319.975€

Estimated sales price TWind 60



Finanzielle Parameter			Kosten Ersparnis Umsatzerlös		
Allgemein			Anfangsinvestitionen		
Anpassungsrate Brennstoffkosten		5%	Anfangskosten 89,6%	€	216.000
Inflationsrate	%	3%	BOS 8,3%	€	20.000
Diskontsatz	%	3,5%	Genehmigung 2,1%	€	5.000
Wiederanlagesatz	%	4%	Coconto Anfongoinuartitionan 100%	6	241.000
Projektlebensdauer	а	20	Gesamte Anlangsinvestitionen 100%	£	241.000
Finanzierung			Jährliche Cash-Flow - Jahr 1		
Finanzielle Anreize und Zuschüsse	€	0	Jährliche Kosten und Schuldenzahlungen		
Verschuldungsrate	%	70%	Rücklagen	€	1.000
Schulden	€	168.700	Betriebs- u. Instandhaltungskosten (Einsparung)	€	3.000
Eigenkapital	€	72.300	Schuldenzahlungen - 10 jahre	€	21.320
Sollzinssatz	%	4,5%	Cosamta iähdicha Kastan	6	25 220
Verschuldungszeitraum	а	10	Gesamte Janniche Kösten	e	23.320
Schuldenzahlungen	€/a	21.320	Jährliche Ersparnisse und Einkünfte		
E-h-m-h-m-h-m-			Einnahmen aus dem Stromexport	€	24.178
Einkommenssteueranalyse			Einkünfte durch THG-Minderung	€	0
			Andere Einnahmen (Kosten)	€	0
			Einkünfte durch saubere Energieerzeugung	€	0
			Jahressumme der Ersparnisse und Einkünfte	€	24.178
Ishelisha Finkrinfta			Netto-Cashflow pro Jahr - Jahr 1	6	-1 1/3
Einnahmen aus dem Stromexport			Hetto Casinow pro sain - sain 1	e	1.145
Elektrizitätsexport ans	kWh 🔻	105.120	Rentahilität		
Preis für Exportstrom	€/kWh ▼	0,23	Interner Zinsfuß vor Steuern - Eigenkapital	%	15,4%
Einnahmen aus dem Stromexport	€	24.178	Modifizierter interner Zinsfuß vor Steuern - Eigenkapital	%	11,5%
Anpassungsrate Elektrizitätsexport	%	5%	Interner Zinsfuß vor Steuern - Aktiva	%	5,4%
Einkünfte durch THC Mindening			Modifizierter interner Zinsfuß vor Steuern - Aktiva	%	5%
Bruttoverringerung an THG-Emissionen	tCO_/a	42			
brattoverningerung an mo-chrissionen	(CO ₂ /d	42	Einfache Amortisationszeit	а	11,9
Bruttoverringerung an THG-Emissionen - 20 jahre	tCO.	830	Eigenkapitalrendite	а	10,4
Finkünfte durch THG-Minderung	£	0.55	Barwert	€	238.679
			Jährliche Einsparung über Lebenszyklus	€/a	16.794
Andere Einnahmen (Kosten)			······································		
Einkünfte durch saubere Energieerzeugung (SE)			Nutzen-Kosten-Verhältnis		4,3
······································			Kapitaldienstfähigkeit		1
			THG-Minderungskosten	€/tCO ₂	-415
			Energieerzeugungskosten	€/kWh ▼	0,218