



WINDWISE PROJECT PRESENTATION

WIND TURBINES “MADE IN NAMIBIA”

NOVEMBER 2023

1. ABOUT WINDWISE

HISTORY AND EXPERIENCE



TACKE
WINDTECHNIK



RSB
CONSULT

KENERSYS



windwise

1989

Today



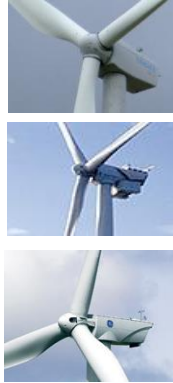
The WINDWISE team - more than 300 years of cumulated experience in the wind industry

- **Design + development** of multi-MW wind turbines and components
- **Industrialization:** set-up of manufacturing facilities, supply chain and quality assurance
- **Technical operation and maintenance** of the wind turbines

EXCELLENT EXPERTISE + BIG INTERNATIONAL NETWORK

1. ABOUT WINDWISE

REFERENCES TECHNOLOGY



GE 1.5 (s, sl, xle)

GE 3.2, GE 3.6s

GE 2.5



2B ENERGY 6MW



K82, K100, K110, K120



maxcap series

The windwise team members

- have been in leading technology positions in big international companies
- have designed crucial elements of very innovative technology
- have had responsibility for complete design, production, quality assurance and operation in mid-size company
- *have ownership of an innovative technology for modern optimized product*

LONG-TERM AND BROAD EXPERIENCE IN TECHNOLOGY

1. ABOUT WINDWISE

REFERENCES PRODUCTION SET-UP



Complete construction and site management



GE Wind Noblejas (Spain)



Kenersys Europe, Wismar (Germany)

Planning and construction support



GE Wind Shenyang (China)

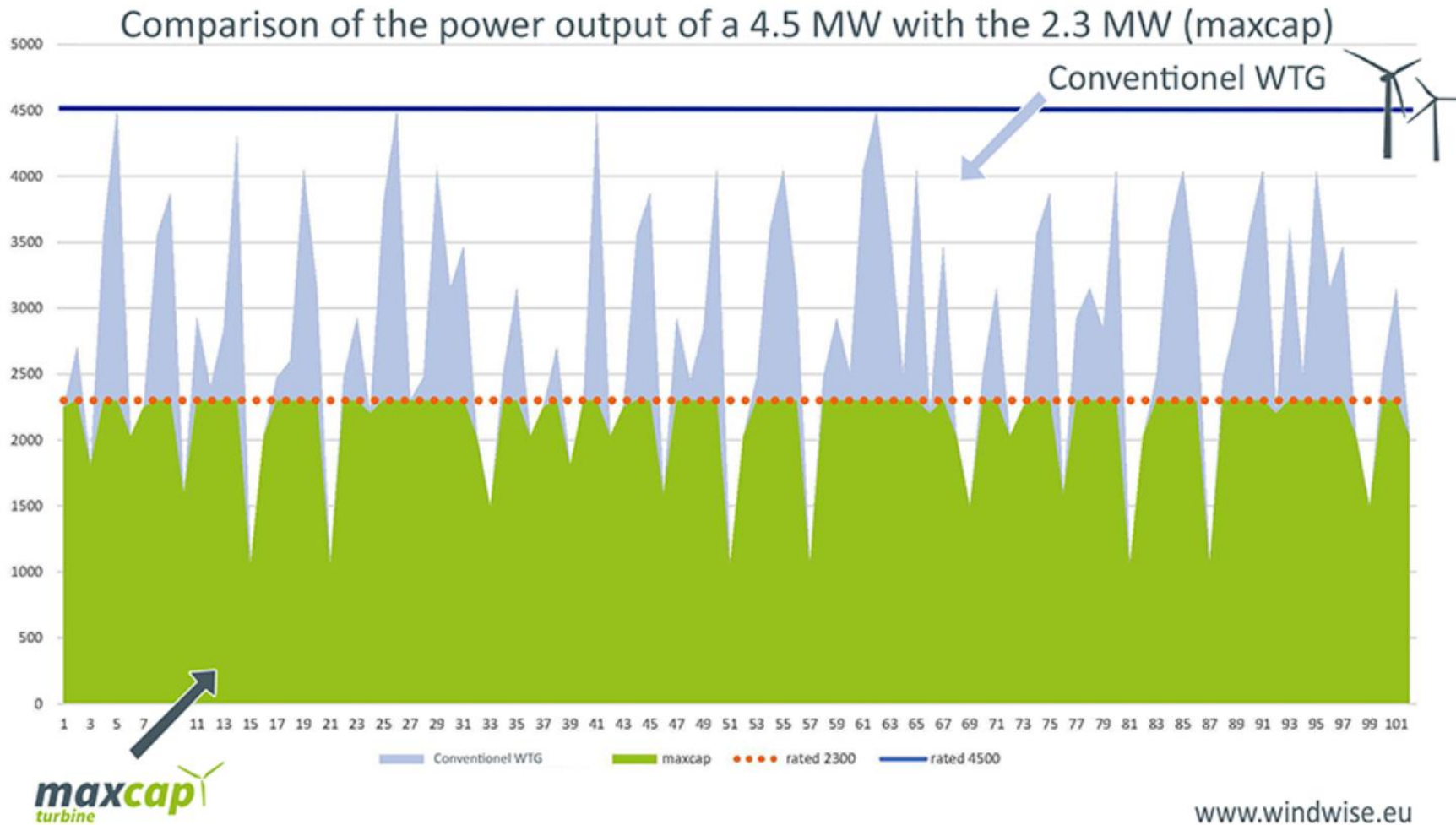


Kenersys India, Baramati (India)

WORLD-WIDE REFERENCES FOR SET-UP OF PRODUCTION FACILITIES

2. THE MAXCAP TECHNOLOGY

ADVANTAGES: NO POWER PEAKS, STABLE POWER OUTPUT



WIND TURBINES ARE DEFINED BY **LCoE** AND **CAPACITY FACTOR** !

2. THE MAXCAP TECHNOLOGY



WINDWISE PLATFORM PORTFOLIO FOR HIGH CAPACITY

	141-2.3	160-4.0
Rotor diameter	141m	160m
Tubular steel tower HH	108m - 126m	120m - 140m
Rated power	2.3MW	4.0MW
Life-time	25 years	25 years

3. THE NAMIBIA PROJECT

WHAT DOES NAMIBIA NEED?

- Access to **Technology**
- **Industry** to manufacture the technology
- **Ownership** of this industry
- **Jobs** in this industry like manufacturing, management etc.

3. THE NAMIBIA PROJECT

NAMIBIAN ACCESS TO TECHNOLOGY

- windwise would like to help Namibia to set up a **national wind turbine manufacturing industry**
- windwise will enter a partnership and give access to **100% of all intellectual property** including drawings, specifications, wiring diagram and software
- Namibia should become technologically as soon as possible independent of large global companies. Wind energy is the **perfect start**, since:
 - No big investment
 - Can be implemented in very short time
 - and then be upscaled also quickly

NAMIBIAN ACCESS TO OWNERSHIP

- windwise together with VHinvest Namibia are creating a company that manufactures wind turbines
- This company will be with **51% in the possession of Namibian companies or funds**
- Namibians will be not only in low qualified positions, but also **shop managers, commission engineers and other management positions**
- **Training** for the first 10 Namibians is scheduled to start early **next year in Germany**
 - After the training phase, the students shall **assemble the first 2 pilot turbines** in Q2/2024
 - After the assembly, the whole team and the turbine will arrive in Namibia and install the **first turbines in Namibia assembled by Namibians**
- After the installation, the turbines need to be monitored and maintained
- The team of the first 10 Namibians will be hired by the manufacturing company as first employees

3. THE NAMIBIA PROJECT



Setting-up of a local Namibian industry for renewable power solutions

Phase 1 (2023/2024): Pilot Projects

- Installation of **2 pilot wind turbines in Namibia**
- **Training of local staff** (white and blue collar) in cooperation with well-known German research institutes and training academies. This will take place in parallel to the assembly of the 2 pilot WTG in Germany for getting familiar with this technology.
- **Foundation of a local company** by VH Invest, windwise and Namibian investors/ shareholders owning > 50%.
- Construction of a preliminary **workshop** solution for assembly of a turbine pre-series and relevant repair and maintenance activities.

Phase 2 (2024 ff): Production Ramp-up

- Development of commercial projects for renewable power solutions in Namibia and neighboring countries for comprehensive projects:
 - **Green baseload:** combining wind turbines, solar panels and batteries
 - **Desalination:** 1 wind turbine produces 10.000.000 liters of desalinated water per day, off-grid
 - **Rural electrification**
 - **Green Hydrogen**

Phase 3 (2026 ff): Bringing the component suppliers to Namibia

- Nationalizing the component production:
 - **Power electronics**
 - **Tower**
 - **Blades**

THING NEEDS TO HAPPEN **STEP BY STEP**, CRITICAL IS THE **BUILD UP OF WORKFORCE**

3. THE NAMIBIA PROJECT



MADE IN NAMIBIA...SOON IN NAMIBIA