



Zephyros wind turbines

a renewable energy opportunity

Zürich, October 28th, 2003

2MW gearless wind turbine

PRODUCT:

- ✦ As few moving parts as possible; *no gearbox, no cooling, permanent magnet generator*
- ✦ Special hoist for installation in remote areas
- ✦ Production-ready; 1 operational and 8 more sold

BENEFITS:

- ✦ Reliability + lower costs of operation
- ✦ Installation in remote areas, offshore application
- ✦ High grid power quality ✍ avoid penalties!

FUTURE R&D:

- ✦ Optimisation of rotor diameter

IP POSITION:

- ✦ 2 patents + >100 man-years of experience

PARTNERS:

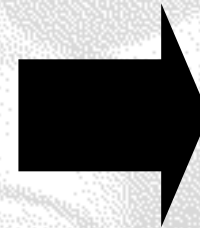
- ✦ **ABB**: R&D + Supplier relationship
- ✦ Dutch government + research institutes



2MW wind turbine: no gearbox

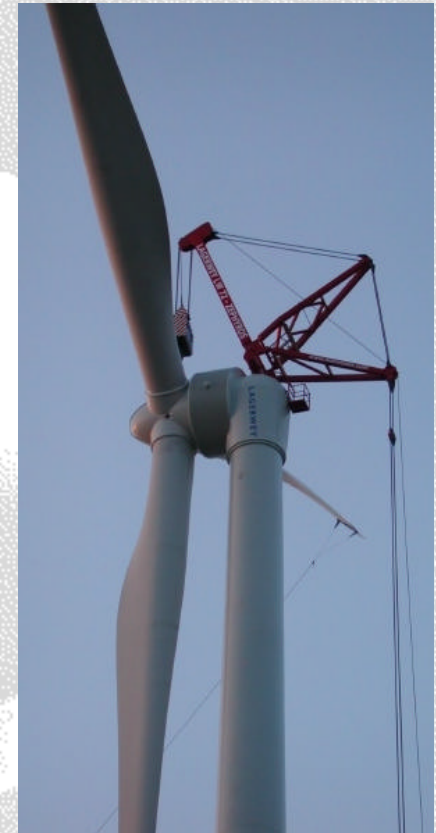


Conventional gearbox design (95% of all turbines)



Gearless design (Zephyros & Enercon)

Special hoisting device



Wind: strongly growing market

MARKET:

- ✚ Wind market 2002: ± \$7bn
- ✚ Past 5 years: CAGR >30%; Until 2012: CAGR 10-20%
- ✚ Factors: Kyoto, oil price, political climate
- ✚ Trends: Larger size, offshore, gearless

COMPETITION:

- ✚ 95% 'conventional' turbine manufacturers
- ✚ Enercon only commercial gearless turbine; fastest growing player!
- ✚ New entrants choose for Zephyros technology, but are 2 yrs behind

CLIENTS:

- ✚ Utilities, farmers, wind park developers

TARGETS:

- ✚ High-wind locations (>7.5 m/s)

CHANNELS:

- ✚ Western Europe: Sales ✚ assembly ✚ commissioning ✚ service
- ✚ Rest of world: Franchise/license model: 2 partners signed

Zephyros in value chain

1. Wind turbine design
2. Certification (GL/DNV)
3. Wind turbine sales
4. Manufacturing components
5. Wind turbine assembly
6. After sales / service
7. Electricity production
8. Electricity sales




 **Focus on 'pure' wind turbine knowledge**

- in W- Europe: design, sales production, maintenance (1, 3, 5, 6)
- rest of World: license model (1 + support organisation)

 **Break-even: Second half 2005**

 **Cash need: €3M until break-even**

 **Rev's + EBIT**

	2004	2005	2006	2007
- Turbine sales	€15.5M	€28.5M	€43.5M	€65.3M
- Franchisees	€ 1.3M	€ 2.8M	€ 5.0M	€ 7.2M
- EBIT	€ -0.4M	€ 1.4M	€ 4.8M	€ 8.0M

People in Zephyros

Management team

- ✚ Bart van Neerbos; director
engineer, experienced in leading technology companies
- ✚ Sjef Peeraer; sales + business development
engineer, MBA (INSEAD)
- ✚ Cees Versteegh; R&D
engineer, 25 years of experience in wind industry
- ✚ Hadewych Cels; finance + operations
MSc, MBA (Harvard Business School)

Operational staff

- ✚ 1 sales engineer
- ✚ 2 project managers
- ✚ 3 R&D engineers
- ✚ From beginning 2004 ↗ 4-5 more engineers + experienced salesman

Board of directors + advisory council: to be established

Funds required

SHAREHOLDERS

☛ Triodos Ventures (NL): 55% shareholder

+ LOAN PROV.:

☛ Renerco (D): 45% shareholder + provider of LT deferred loan

☛ SEV (B): Provider of long-term deferred loan

FUNDS REQ.:

TOTAL €5M REQUESTED:

☛ € 1.5M upon signing ✍

☛ € 1.5M at sales of > 10 turbines ✍

☛ € 2M as bank guarantee ✍

USE OF FUNDS:

commercialisation costs

series production

warranty obligations

TIMING:

☛ Round should be closed beginning 2004

STATUS:

☛ 1st commitments (Triodos, 1 license partner and Dutch gvrnmnt)

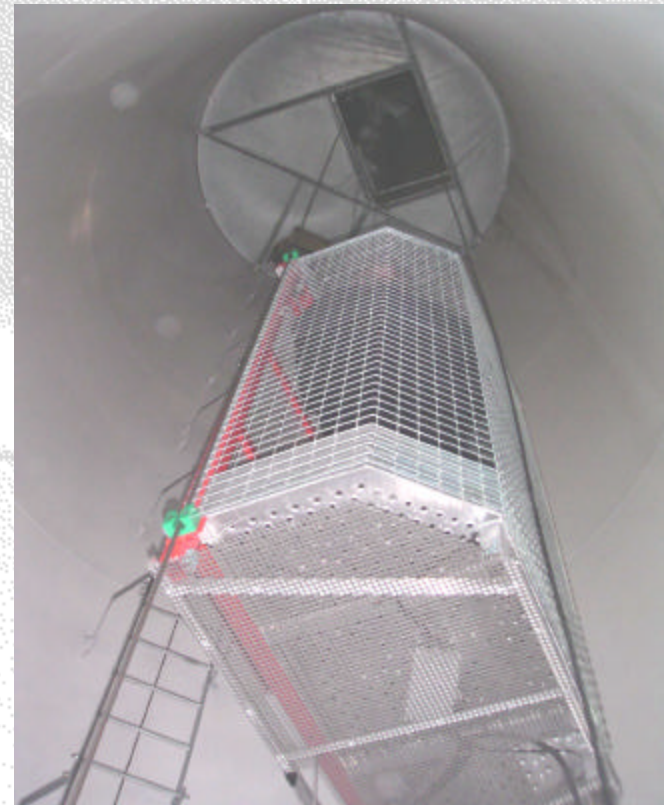
☛ Lead investor sought

EXIT:

☛ Trade sale end 2005, beginning 2006

End

Let's go up!



Elevator inside the Z72