Envision Energys teknologi og nye innovationscenter i Danmark

Dansk selskab for vindenergi konference 25-26 august 2010

Anders Rebsdorf adm. direktør

**Envision Global Innovation Centre** 

Silkeborg, Denmark

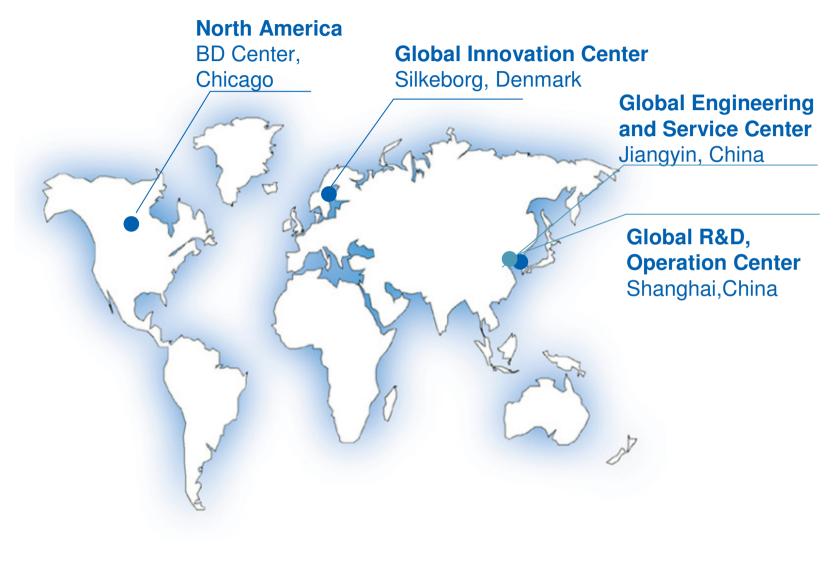


#### Our Mission: "Helping you make renewable energy a sustainable business success"





#### "A Global Smart Company by Global Talents"





- New facility 1.5 hours drive North East of Shanghai
- Production facility finished January 2010 and

Engineering/Service centre July 2010

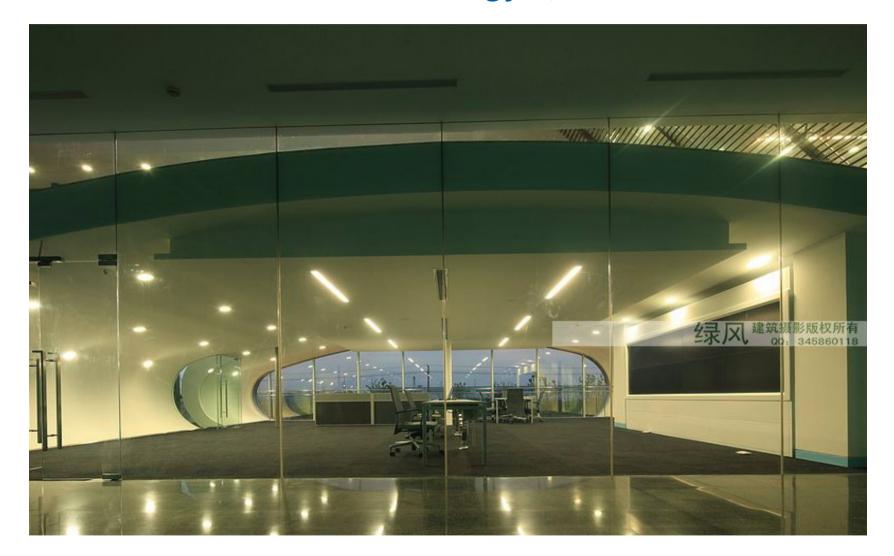
• LM Windpower blade production facilities are just across the road.















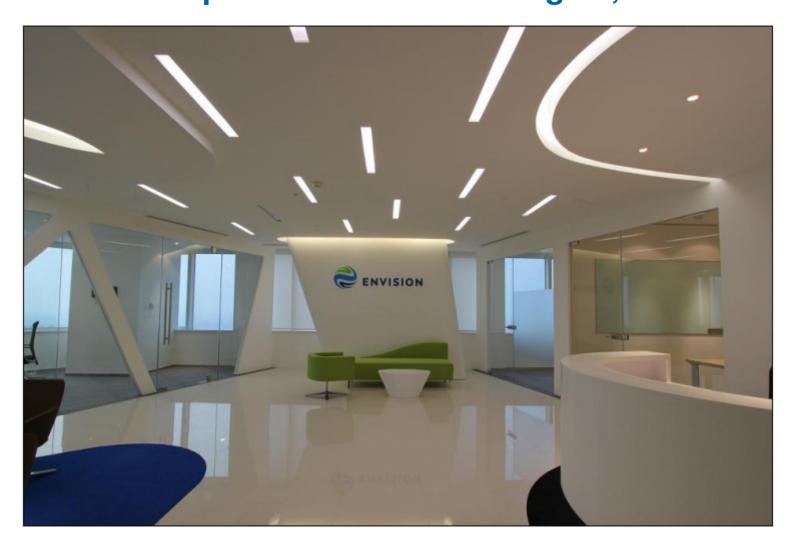


- Moving assembly line the first one in Chinese wind industry
- <u>"Zero defect" approach</u>
- <u>Supply Quality Engineering (SQE) system</u>





#### Envision Energy Operation Center - Shanghai, China





# **Overview of Envision Energy**

Management and R&D Team	<ul> <li><u>Senior managers</u> from McKinsey, Barclays Capital, Morgan Stanley, GE, GM and ITT</li> <li><u>~100 in-house R&amp;D employees</u>, including senior technical experts with international experience</li> </ul>
R&D and products	<ul> <li>Fully owns core technology in load &amp; control, FEA, system of pitch &amp; converter</li> <li>Owns technical expertise in blade, gearbox, generator and bearing</li> <li>Global Innovation Centre in Denmark and R&amp;D centre in China</li> <li>Reliable &amp; high-performing turbines backed by world-class components and in-house R&amp;D</li> </ul>
Strategic partnership	<ul> <li><u>Strategic partnership with Longyuan</u> – No. 1 wind farm developer in China &amp; No. 5 in the world</li> <li>Longyuan selects Envision from other international &amp; domestic bidders for many projects</li> </ul>



# **Overview of Envision Energy**

Manufactur- ing capability	<ul> <li><u>Toyota Production System (TPS)</u> - lean system with annual capacity of 1,800 MW /y</li> </ul>
Advanced management system	<ul> <li>Advanced management system applied along whole value chain, including <u>Integrated Product Development (IPD)</u> and <u>Total Risk Management system</u></li> </ul>
Investment	<ul> <li>Largest private owned windturbine manufacturer in China</li> <li>Envision Energy is backed by a global hedge fund</li> <li>Currently, Envision is working with leading investment banks to prepare for the upcoming overseas <u>IPO in 2011</u></li> </ul>



# **Our Partners**

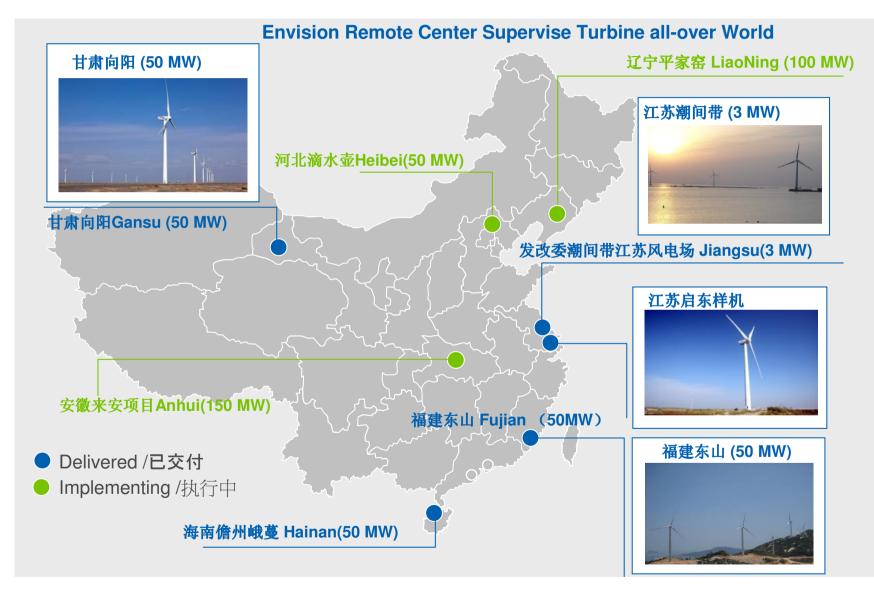


# **Envision 1.5 MW Turbine Specifications**

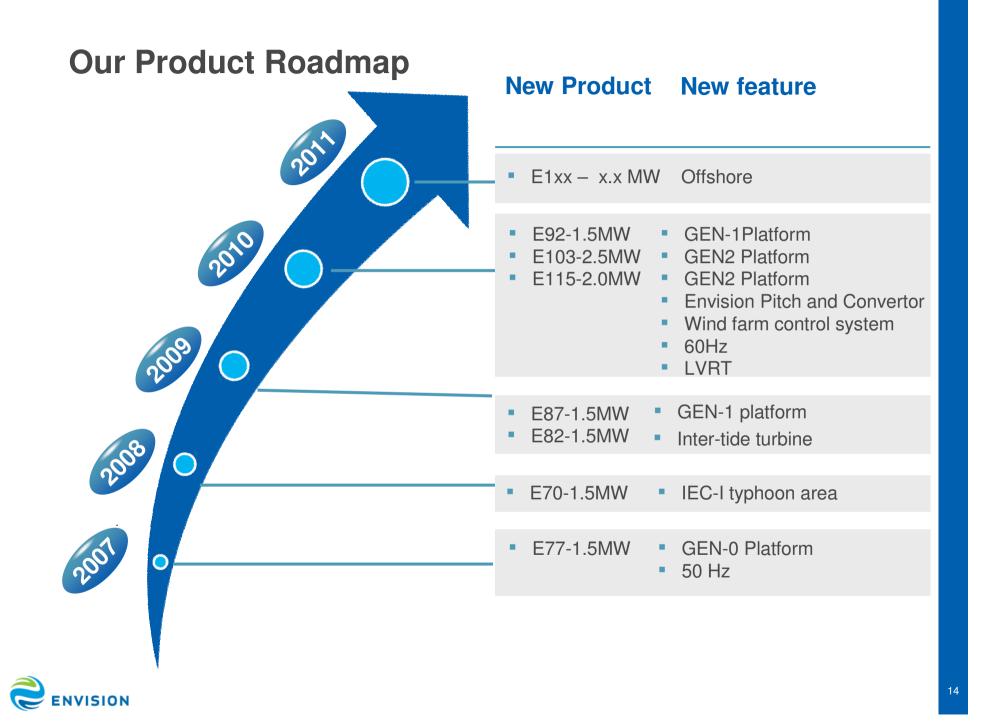
Turbine:	E70/15	E77/15	E82/15	E87/15
Wind Class	IEC la	IEC IIa	IEC IIIa	IEC IIIb
Cut-out Wind	25 m/s	25 m/s	22 m/s	20 m/s
Diameter	70.6 m	77.5 m	82.2 m	86.4 m
Generator	Double-fed	Double-fed	Double-fed	Double-fed
Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50 Hz
Voltage	690 V	690 V	690 V	690 V
Rated Power	1540 kW	1540 kW	1540 kW	1540 kW
Hub Height	65 m	65/70/80 m	65/70/80 m	70/80 m



# 500 MW Installation by 2010



















Established in 2008

Strategy and Management ready in 2010

At present contracted17 highly experienced engineers, with more than 15 years wind experience in average

Expect to be more than 20 in 2010





# **Deal with:**

- •New offshore product
- •Concepts
- •Patents (IPR)
- •High level support
- •Design
- Test and Verification
- Optimization
- •Research
- •Regional suppliers / customers

# Whats important

- •Safety
- •Energy and availability
- •Time to market
- Customized variants
- Easy logistics
- Easy installation
- •Reduce CAPEX
- Reduce OPEX
- Control risks



# Cooperation

Envision Energy (Denmark) is a core member of Danish Wind Industry Association

We will cooperate with :

- •Energy companies
- •Suppliers
- •Universities
- •Consultants

and...



# Will You find Envision WTG in DK / Europe ?

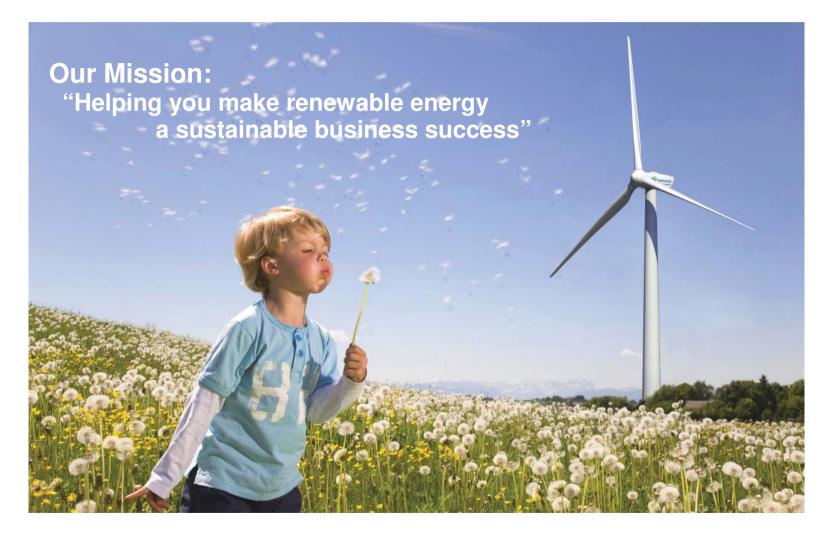
Yes, in time Envision Energy will be a global player

Financially we are strong, and technologically we are stable and independent, and service wise we will adapt and our mindset is focused into values as: *Integrity Innovation for excellence Strong Willpower Self reflection* 



### **Envision Energy**

#### Thank you for your attention



www.envisioncn.com

