YOUR ENERGY PROJECT
OUR EXPERIENCES AND COMPETENCES

Experiences of a German Project Developer in Asia

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EXPERIENCES OF A GERMAN DEVELOPER IN ASIA

AGENDA

- COMPANY OVERVIEW
- REASONS FOR MARKET ENTRY
- EXPERIENCES GAINED
- BIGGEST CHALLENGES
- ADDRESSING THE CHALLENGES
- NECESSARY FUTURE IMPROVEMENTS

EXPERIENCES OF A GERMAN DEVELOPER IN ASIA
COMPANY OVERVIEW

- Regional group of companies with HQ in Großschirma/Saxony
- Full service provider for customized solutions revolving around sustainable, decentralized energy generation and supply
- Nearly 25 years experience in planning, erection and operational service for renewable energy plants
- In 1994 we erected the first wind turbine in the federal state of Saxony, Germany with an installed capacity of 270 kW (most powerful wind turbine in Saxony back then)
- Until today we have erected approx. **500 MW** of wind and solar plants;

  200 additional MW are currently implemented

EXPERIENCES OF A GERMAN DEVELOPER IN ASIA

COMPANY OVERVIEW

150 MW

With an annual installation and dismantling capacity of 150 MW, we are among the most experienced providers in the market

100 Mio.€

Commercialization of wind farms in dimensions of more than 100 Mio. €

Worldwide Processing of Wind and Solar Power Projects, for example, in:

Europe (Germany, Poland and the Czech Republic),
South America (i.e. Uruguay/Wind Farm Peralta 117.5 MW), South Africa and Vietnam

Until today 25 economically independent companies in 8 countries

Sale of complete projects, used plants, replacement components and spare parts

Energy measurement campaigns, engineering of energy efficiency measures and layout of installations for self-consumption

EXPERIENCES OF A GERMAN DEVELOPER IN ASIA
COMPANY OVERVIEW

Wind farm Kryštofovy Hamry, Czech Republic

Wind farm Alsleben, Germany, Saxony-Anhalt

Wind farm Peralta, Uruguay

Wind farm Peralta, Uruguay, concrete factory+ prefabricated tower segments

Pilot station in Vietnam for drinking water abstraction & generation of electric power

Education and training of service personnel on site

EXPERIENCES OF A GERMAN DEVELOPER IN ASIA
COMPANY OVERVIEW

eab New Energy GmbH in Vietnam

- 100% local subsidiary WPV - Wind Power Vietnam LLC establ. in 2009
- currently 3 employees in Ho Chi Minh City
- 4 wind measurement stations have been put in operation since 2010
- 3 large wind farm and 2 decentralized energy supply projects are in the works

German mother company

ven-wind
NEW ENERGY GMBH

German project development company

Vietnamese subsidiary

EXPERIENCES OF A GERMAN DEVELOPER IN ASIA
COMPANY OVERVIEW

eab New Energy GmbH in Vietnam

- Wind Park Mui Dinh/ Ninh Thuan
- Investment Certificate: Oct. 2012
- Technical Planning finished
- 37.6MW
- 16x E92 85m
- Aim: Start ExWorks: Q1/2017

EXPERIENCES OF A GERMAN DEVELOPER IN ASIA
REASONS FOR MARKET ENTRY

1.

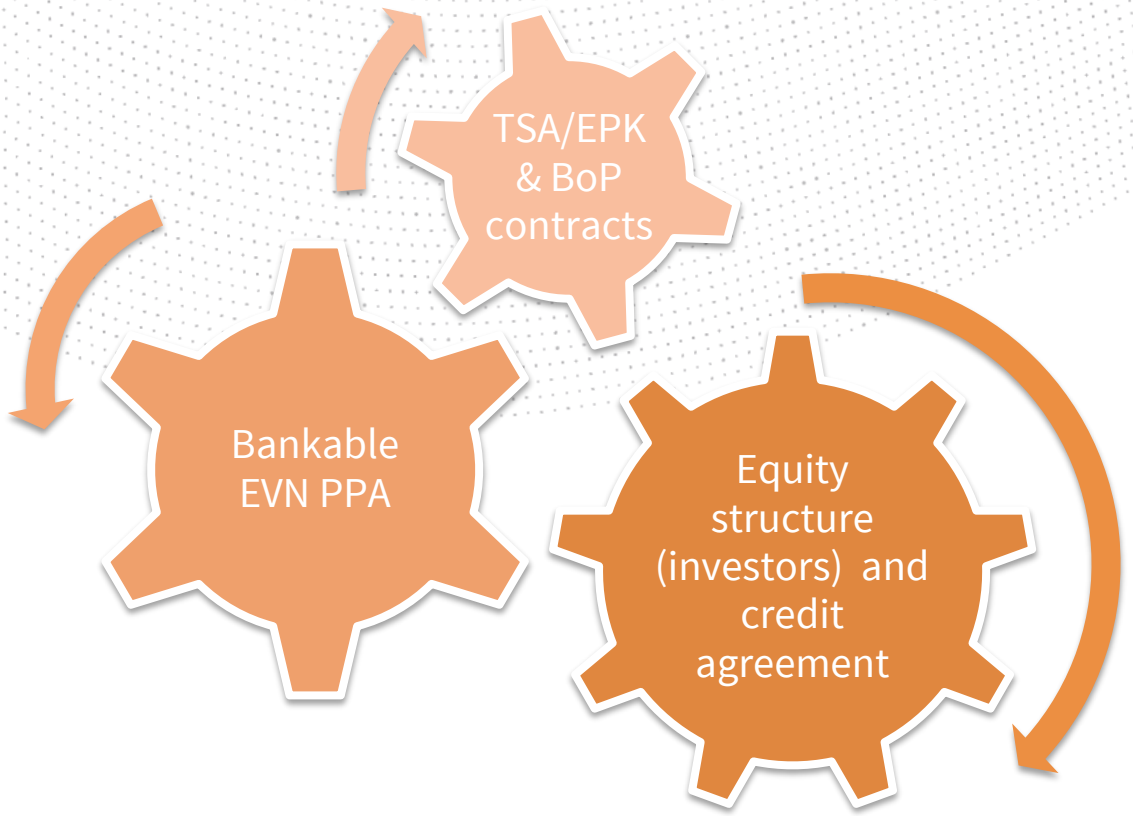
2. **Framework conditions and wind resources:**

- legal framework conditions exist (Decision No. 37/2011 & Circular No. 32/2012), Grid Code existing
- wind energy expansion plan (5000MW until 2030)
- More than 200km² very good wind areas (> 7m/s @ 80m)
- secured framework conditions for investors in the PPP sector

EXPERIENCES OF A GERMAN DEVELOPER IN ASIA
EXPERIENCES GAINED

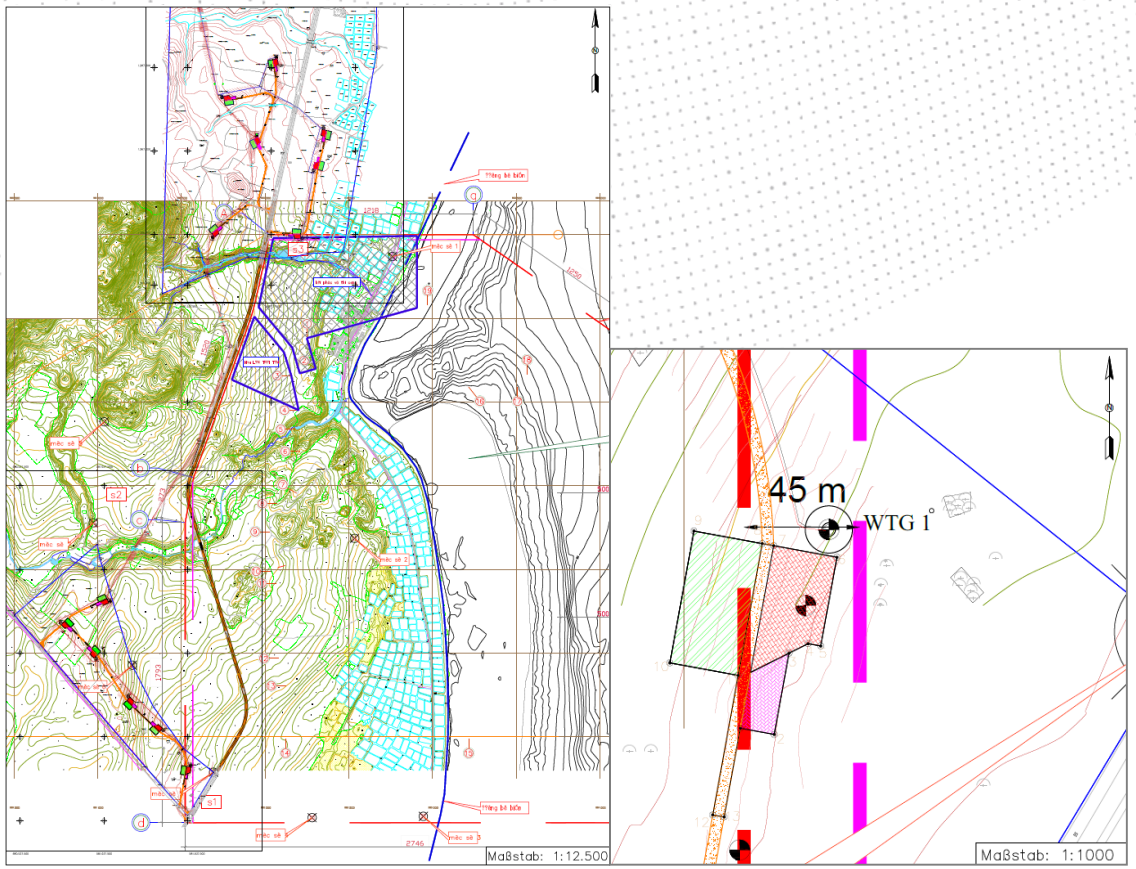
	Germany	Vietnam
project development time:	2-10 years	similar
costs engineering services:	1.250€/MW	2.000€/MW
(Exp. subsoil expertise)		
building costs (BoP) of NIV:	15-20%	similar
expected returns:	6-8%	>15%
PPA precondition for building permit:	no	yes
feed-in tariff:	approx. 88€/MWh	approx. 69€/MWh
regulation soil availability:	under private law	governmental
available hub heights:	S. d. T.	maximum 95m

EXPERIENCES OF A GERMAN DEVELOPER IN ASIA
BIGGEST CHALLENGES



1. Completion approval process
2. Ensuring economic feasibility
3. Securing of financing

EXPERIENCES OF A GERMAN DEVELOPER IN ASIA
BIGGEST CHALLENGES

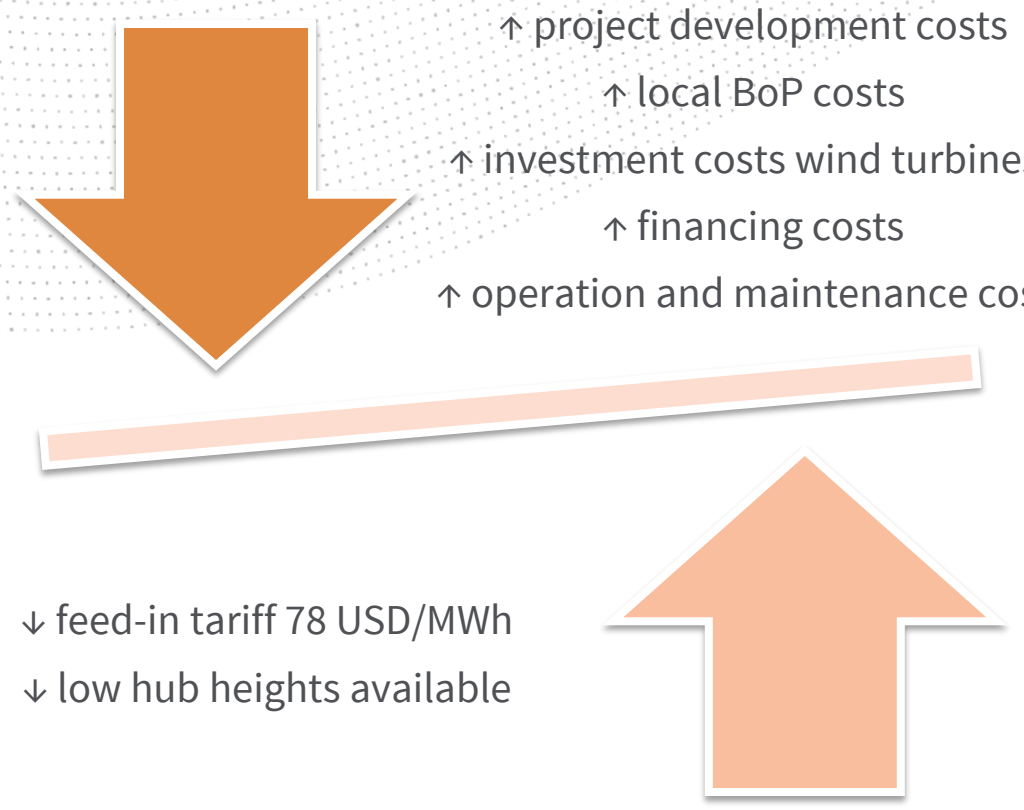


APPROVAL PROCESS

- investment certificate
- environmental permit
- technical design wind farm
- Wind energy assessments
- external grid connection permit
- SCADA/EMS
- Metering System
- **EVN PPA**
- **50y LUR**

EXPERIENCES OF A GERMAN DEVELOPER IN ASIA
BIGGEST CHALLENGES

Economic Feasibility



EXPERIENCES OF A GERMAN DEVELOPER IN ASIA
BIGGEST CHALLENGES

FINANCING

- low investment risk
- bankable PPA

- current SPPA (2012) not bankable, difficult negotiations
- non investment grade / speculative
- feed-in tariff not inflated

→ **high equity requirements, high expected returns, high interest rates for loan capital**

EXPERIENCES OF A GERMAN DEVELOPER IN ASIA
ADDRESSING THE CHALLENGES

- **1. Approval process**
  - management of all approval processes by wpv
  - extensive technical support through German HQ
  - close and good cooperation with the local authorities and institutions

- **2. Economic feasibility**
  - German technology (ENERCON) to increase the value and persistence of the project and a stable energy supply
  - engineering services from local & German companies

EXPERIENCES OF A GERMAN DEVELOPER IN ASIA
ADDRESSING THE CHALLENGES

3. Economic feasibility

- securing increased and inflated feed-in tariff
- use of exchange rate EUR/USD
- Local Content (towers, BoP)

4. Financing

- close cooperation with local investors
- motivating foreign banks to low-interest financing
- assessment and preparation of a bankable PPA, based on internationally common PPAs
- if required: insurance against a payment default

EXPERIENCES OF A GERMAN DEVELOPER IN ASIA
NECESSARY FUTURE IMPROVEMENTS

- Adaptation EVN SPPA of 2012 by an increase and escalation of the Feed-in Tariff (115 USD/MWh to achieve the 1000 MW - wind target)
- Payment guarantee by international donors or insurance companies against EVN payment default

DO YOU HAVE FURTHER QUESTIONS?

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