Case Study: NorthWind Bangui Bay
33 MW Wind Farm
Bangui Bay, Ilocos Norte, Philippines

ATTY. POCH AMBROSIO
Corporate Secretary
NORTHWIND POWER DEVELOPMENT CORPORATION
nwind@mozcom.com

Third Quantum Leap in Wind Workshop
What will it take to accelerate wind development in Asia and the Pacific?
4 – 5 June 2012, ADB Headquarters, Manila, Philippines
Agenda

• Background of the project
• Planning & Development Phase
• Construction & Commissioning
• Operations
• What Lies Ahead
1. Background of Project

- Response to Ilocos Norte’s need for additional power
- Local Government did not want fossil fuel plant
- Initially conceived to supply 40% of power of Ilocos Norte under bilateral contract with local electric cooperative
- Developed from 2000, timeline dependent on securing PSA from Electric Coop
- Conceived by Founders Niels Jacobsen and Chito Dumlao
- Former diesel operators, now RE advocates
- Belief in wind regime in Ilocos Norte as wind corridor
1b Planning & Development Phase

- Bangui Bay, Ilocos Norte
- 33MW (Phase I 24.75MW, Phase II 8.25MW)
- Contract with local electric cooperative
  - Discount to INEC’s delivered cost of electricity (i.e., generation + transmission)
- DANIDA & PhilExim Support
  - Commercial Lenders: ABN-Amro and Nordea Bank
  - DANIDA Subsidy
  - PhilExim: Loan Guarantee
2. Wind Resource Assessment

- Wind measurement phase:
  - 40 meter NRG measuring towers
  - 2 years
  - Assessment by Tripod DK: Consultant of DANIDA
  - Average Energy Production: 25% capacity factor, approx. 70 GWh year

- Issues
  - No long-term correlation
  - No extreme weather
4. **Key Financial Data**

- **Total Project Cost:** PhP2.6 Billion
- **Total Debt:** US$42.2 Million
  - Commercial Lenders
  - 10 years
- **Incentives:**
  - Carbon credits
  - VAT and Duty-free importation
  - 6 year Income Tax Holiday
- **Owners**
  - 50% Project Founders
  - 50% Other Investors: Ayala Corporation as of March 2011
5. Project Siting Issues

- Visual Effect: Unique layout following contour of Bangui Bay
- Land: 25 Year foreshore lease from DENR
- No Wild life Issues
- Noise: Deserted beach location, sound mixes with ocean
- No Airspace obstruction
- No telecommunications interference
- Neighbor Issues: None, deserted beach prior to construction
- Constructability issues: Beach lent itself to ease of construction
- Logistics: Port, roads, bridges available for both turbine and construction equipment
5b. Project Contracts

• EPC contractor selection: FIDIC Silver Book

• NEG-Micon NM82 1.65MW
  o Winning bidder in open competitive bid between Vestas and NEG-Micon; later merged with Vestas

• 5 year Warranty Service & Maintenance Contract (2003)
• Guaranteed 97% Availability
  o Automatic Extension of S&M Contract for failure to meet Availability Guarantee

• Separate Substation and 57 km 69 kV Transmission Line
5b. Construction & Commissioning

• Construction: 14 months
  o EPC signing in November 2003
  o Financial Closing in March 2004
  o Groundbreaking in April 2004
  o Projected COD of December 2004
  o Weather window not observed, resulted in significant delay for contractor
5c. Operations

Phase I
• June 2005
• ESA approved by Energy Regulatory Commission
• 15 x 1.65 Vestas V82
• 24.75MW

Phase II
• August 2008
• 5 additional Vestas V82
• 8.25MW
5c. Operations

Period of Regulatory Change in Power Industry

• EPIRA passed in June 2001
• Privatization of NPC anticipated; NPC Rate as benchmark could be phased out
• 2007: Time-of-Use implemented in NPC rates
• 2008: NPC ordered to refund over-collection of forex portion
• Resulted in reduction of rates and cause of dispute with off-taker
5c. Operations

Period of Regulatory Change in Power Industry

• March 2010: Under NPC privatization, NPC benchmark rate to INEC terminated
• NorthWind & INEC sought negotiate new rate for ERC approval, could not agree
• September 2009: Mutual pre-termination
• All NorthWind sales to WESM
• Filed for Inclusion under the FIT, for ERC approval
6. Benefits & Rewards

- Pioneering Effort
- Helped Shape Policy and Regulations Towards Wind Farms
- Support from Gov’t
- Proved the technical feasibility of a wind farm in the Philippines (and need for stable tariff, i.e., FIT)

- Historical Significance
- First Wind Farm in Philippines and Southeast Asia
- Tourist Attraction, icon of province
- Development of Ilocos Norte
6b. Issues

- Dealings with local electric cooperative (same with any other generator)
- No stability in tariff
- Difficulty with further developments (no other wind farms have been built)
6e. Acceleration of Wind Development

What Government can do?

• Firm policy and direction with respect to RE Law
• Installation target beyond 1st 3 years: Glide path to NREP target
• FIT for wind and other emerging RE technology, plus mechanisms
• RPS Rules
• Transmission support: Looping of Northern Luzon
THANK YOU.