



2016 Wind Power Investment International Conference and Exhibition

Formosa I Wind Power Co., Ltd

Aug 26th, 2016

Lucas Lin / President



Main Issues

1、Introduction

2、Swancor Ind.

3、Development Planning

4、Procurement Planning



Main Business :

Composites



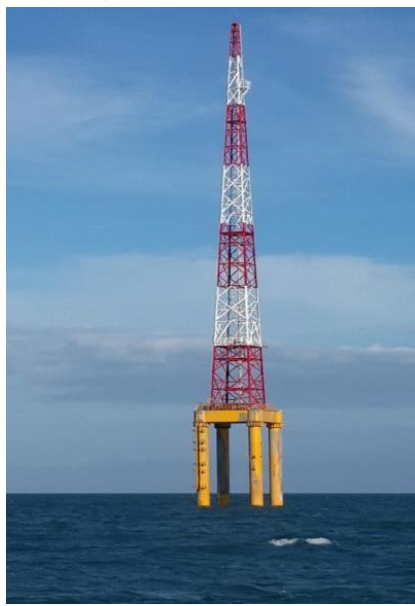
Wind Turbine Blade Resin



Offshore Wind Energy

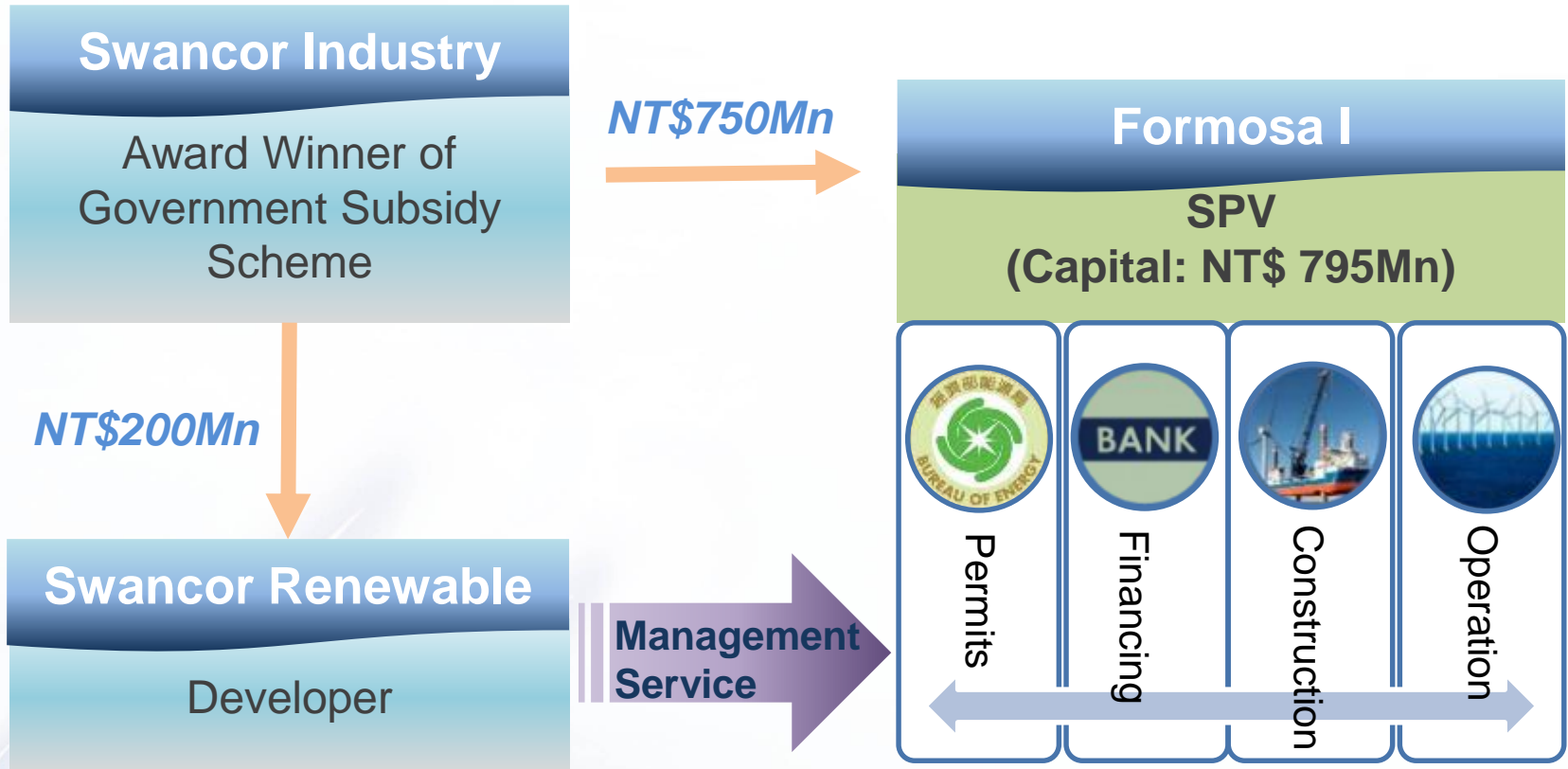


Renewable development





Formosa I Offshore Wind Energy





Schedule

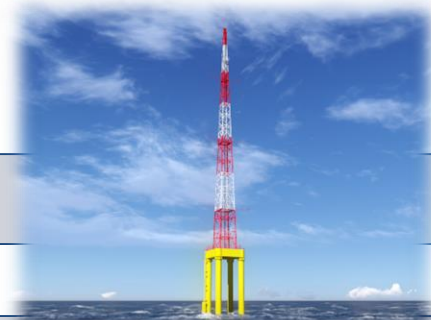
Target :

Total 32 sets of WTG with total capacity 128MW

Met Mast construction completed – Aug 2015

2 sets of WTG construction completed (8MW) –2016

30 sets of WTG construction completed (120MW) –2019





Procurement Strategy

- ◆ The principle of Bid – Multi EPC
- ◆ Project Finance
- ◆ Insurable & Bankable

EPCI

- E:Engineering
- P:Procurement
- C:Construction
- I:Installation

Package

- WTG package
- Foundation package
- Sea cable
- E.E. onshore



Contractor

Contractors and Consultant in Phase I



Onshore

Offshore



- Supply and Construction of Substation and Onshore Cable
- Grid Connection



- Supply of WTGs and Towers
- Installation of WTGs and Towers



- Supply of FDN and TP
- Installation of FDN and TP



- Operation of the Jack-up Vessel



- Supply of Sea Cable
- Installation of Sea Cable



Procurement Planning

Foundation :

FDN(EPCI)

➤ **Description:**

- A. The type of fabrication: monopile (MP)
- B. Qty:30 sets
- C. The main material:
 - a) All steel grades : **EN 10025**
 - b) Secondary steel :S355 J2+N or J2 AR acc.
- D. Weight: 600~1000 ton
- E. Length: 60~65m
- F. Diameter: 5.5~6.5m

➤ **Potential supplier:**

- A. Priority target: Local manufacturers
 - B. The capability of supplier: **installation +storage + Warranty + transportation**
- Local Content Preferred

➤ **Insurance**

➤ **Bankable**

➤ **Warranty: 5 years**

➤ **Project Certificate**

➤ **MWS Approval**

➤ **ETD of contract ready: Mar, 2017**





Procurement Planning

PHASE II Schedule-FDN (EPCI)

Year	2016										2017		
Month	3	4	5	6	7	8	9	10	11	12	1	2	3
FDN													
FEED Sign	█												
Issue RFP		█											
Conceptual Design					█								
Issue ITT							█						
Tender Proposal								█					
Short List									█				
Contract Negotiation										█	█	█	
Contract Ready												█	
Contract Finalized													█



Procurement Planning

Wind Turbine:

WTG

●TSA

- A. Type certification of the Rotor Nacelle Assembly in PHASE II : IEC class I
- B. Scope of work : Vessel + Installation + WTG
- C. Tower: intent to invite local manufacturers to involve the Project
- D. Machines tools, and vessel :shall consider the depth and capability of the crane, rigging machine and jack up of the vessel
- E. MWS Approval
- F. Insurance
- G. Warranty :5 years
- H. Bankable
- I. ETD of contract ready: Mar, 2017

●SAA

- A. O&M
- B. Guarantee : over 5 years → power curve



Procurement Planning

PHASE II Schedule-WTG

Year	2016											2017		
Month	3	4	5	6	7	8	9	10	11	12	1	2	3	
WTG														
Issue RFP														
Short List														
Contract Negotiation														
Contract Ready														
Contract Finalized														





Procurement Planning(8)

Sea Cable :

Sub Seacable

● Construction Item:

Cable 、 Cable Accessories 、 Cable Delivery 、 Cable Protection Material 、 Survey prior to before and after construction 、 Landing Point Burying Row of Tubes 、 Cable Laying and Bury 、 Site test.

● Lay out Planning of sub seacable:

A. The capacity of power transmission for Each 33kV ELPE insulated submarine cable can hold generating capacity of 2 to 10 sets of WTG

B. The Wind Farm (PHASE I & PHASE II) is going to dispose 4 sets of submarine cable

C. Cable Laying: All the personal in the ship shall have the approval by the government before work

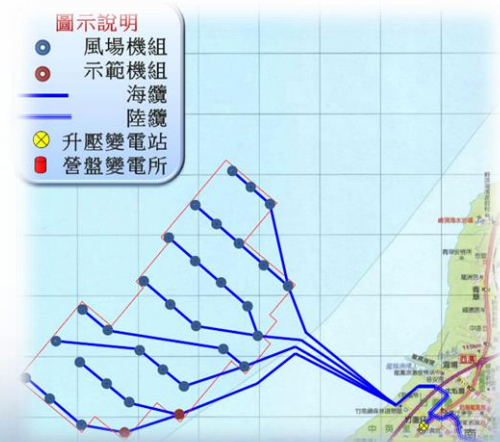
D. The depth of cable burial: Bury the cable to 2m depth as plan

● Insurable

● Bankable

● Warranty: 5 years

● ETD of contract ready: Mar, 2017





Procurement Planning

PHASE II Schedule-Sea cable

Year	2016						2017				
Month	5	6	7	8	9	10	11	12	1	2	3
Sea cable											
Issue RFP											
Issue ITT											
Response by Potential supplier											
Short List											
Contract Negotiation											
Contract Ready											
Contract Finalized											



Procurement Planning

On Shore Substation:

E.E. On shore

- Substation

The building not only consider to transfer 33kV to 22.8kV, but also reserve the space of 161 kV in Phase II

- Insurance
- Bankable
- Warranty: 5 years
- ETD of contract ready: Feb, 2017
- Photo and explanation of structure for 161KV substation:





Procurement Planning(11)

PHASE II Schedule-E.E. Onshore

Year	2016			2017		
Month	10	11	12	1	2	3
E.E. onshore						
Issue ITT						
Response by potential supplier						
Short List						
Contract Negotiation						
Contract Ready						
Contract Finalized						



**The
End**