



# 再生能源離岸風力計畫

- 前言、為響應政府千架海陸風機之再生能源政策方向,永傳能源股份有限公司、世紀鋼鐵結構股份有限公司與台灣國際造船股份有限公司共同發起「福海離岸風力發電計畫」,於2013年1月獲選為「風力發電離岸系統示範獎勵辦法」之最優申請人;並於同年8月份與經濟部簽署示範獎勵契約,正式成為獎勵辦法之受獎勵人。
- 壹、福海風力發電股份有限公司於今年8月份已與國際知名離岸風機供應商Siemens簽署示範機組及示範風場之風機供應合約,並將由世紀網構負責海底基礎鋼構製造,台船負責海事工程,以共同完成台灣第一座離岸風場的建置工作。



#### **Outline**

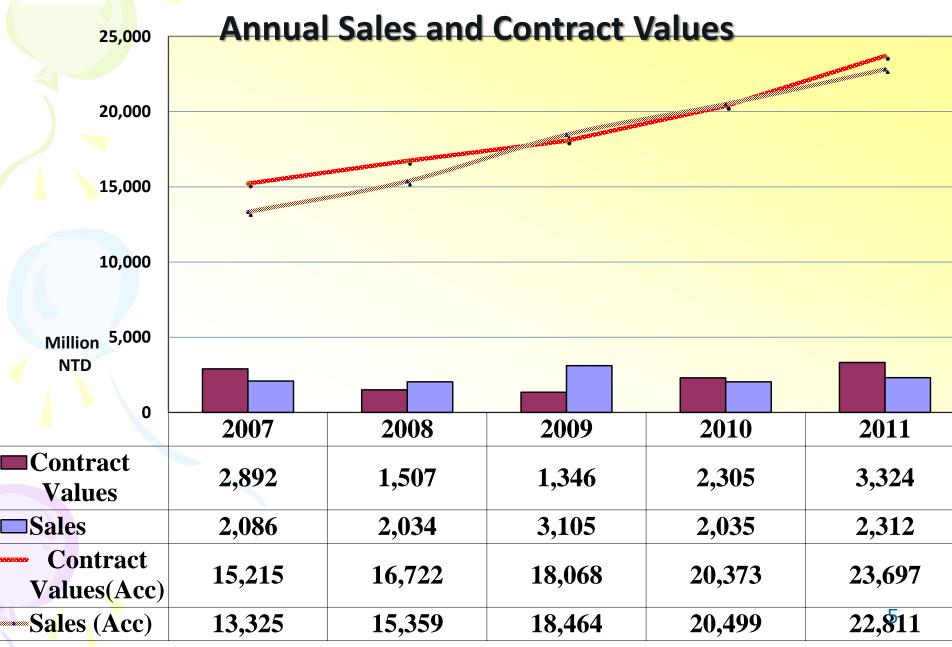
- Company Introduction
- Plant Layout and Expansion Plan
- Newly Purchased Equipment
- Met Mast Fabrication
- Plan for Offshore Wind Turbine Tower Supply



# **Company History**

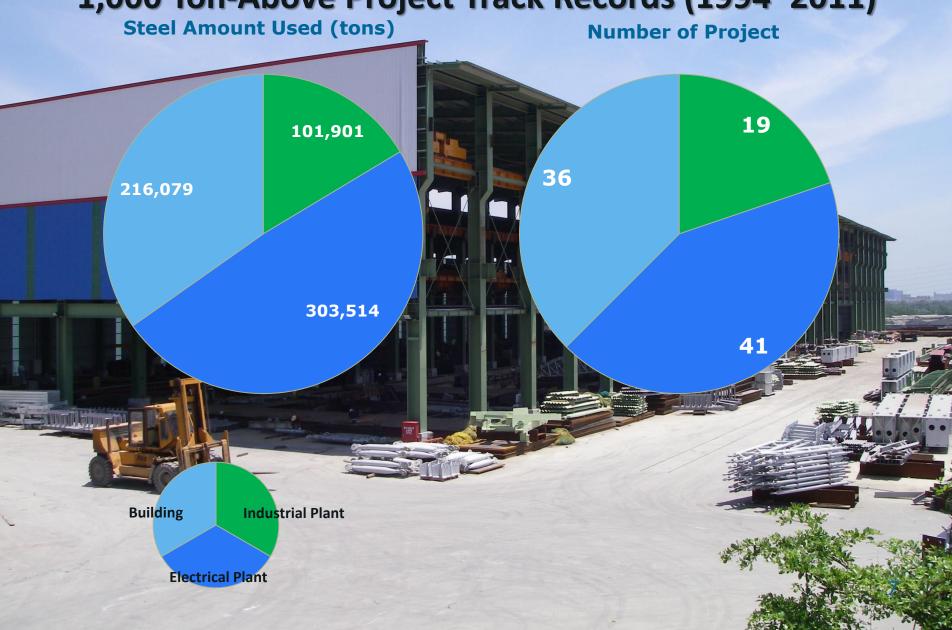
Time	Important Milestone		
1987 Oct	Company established		
19 <mark>8</mark> 8 Sept	Kuan-In Plant completed, starting to fabricate all kinds of profile steel.		
1998 Apr	Signed steel structure contract with Acer Display Technology, the first LCD plant in Taiwan.		
2003 Oct	One of the largest steel structure engineering in Taiwan: "Nangang station CL305"		
20 <mark>0</mark> 7 May	Jinhu new plant office: began construction		
2008 Mar	Mar12th: listed on stock exchange		
2013 Aug	Sign the contract with BoE together with TGC and CSBC to set up the Fuhai Offshore Wind Farm		
2014 Apr	Secure the Taipei Harbor lands for expansion		
2014 Aug	Offshore met mast fabrication completion		







# 1,000 Ton-Above Project Track Records (1994~2011)







# Grant Scheme Contract Signing Ceremony with MoEA on 2013/8/19

世紀鋼鐵結構股份有限公司

Syndication Loan Contract
Signing Ceremony on
2014/7/3

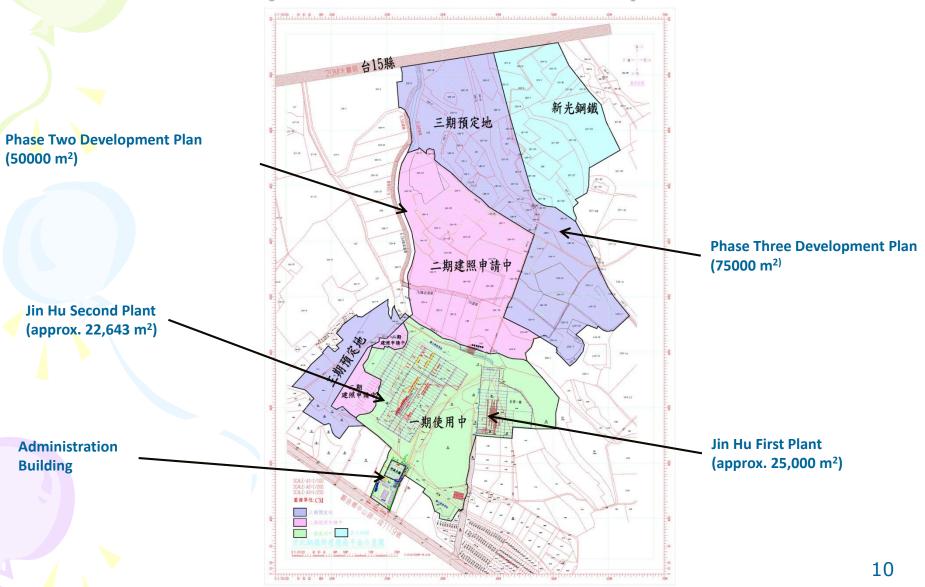


# **Operation Status**

Plants	Taoyuan Plant II	10,000 m <sup>2</sup>	Steel plate cutting, beam and column connection
	Taoyuan Plant I	4,500 m <sup>2</sup>	Girder, beam, sandblast and paint
	Taoyuan Storage Area	45,000 m <sup>2</sup>	Materials and products storage
	Yunlin Plant	40,000 m <sup>2</sup>	Manufacture steel bridge and other steel products
	Taoyuan Plant III ~ V Extension	>120,000 m <sup>2</sup>	Manufacture steel column and steel bridge
Employee numbers	Full-time	250 people	Include foreign workers
	Part-time	70 people	Adjustable
	In-house contractors	200 people	Fabrication in plant
Annual Production	Approx. 100,000 tonnes		

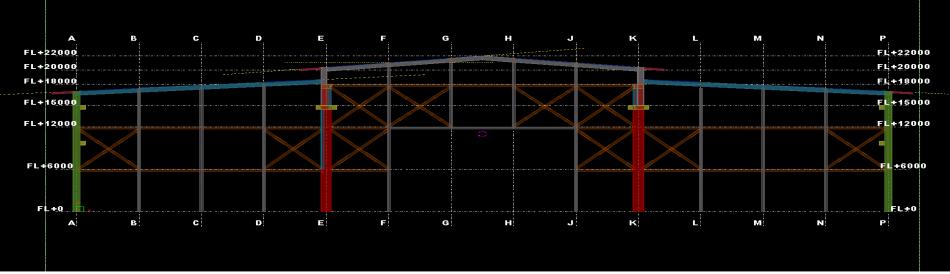


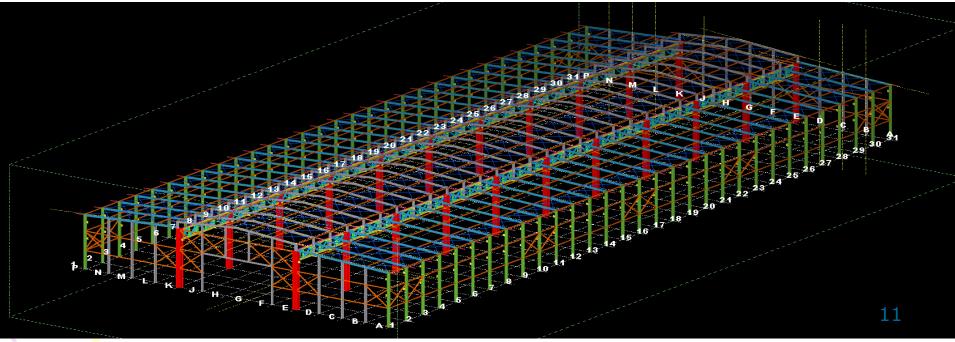
## **Plant Layout and Future Development Plan**





## **Phase Two Development Plan**







#### 臺灣港務股份有限公司 基隆港務分公司臺北港營運處

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Taipei Port Branch Office,Port of Keelung

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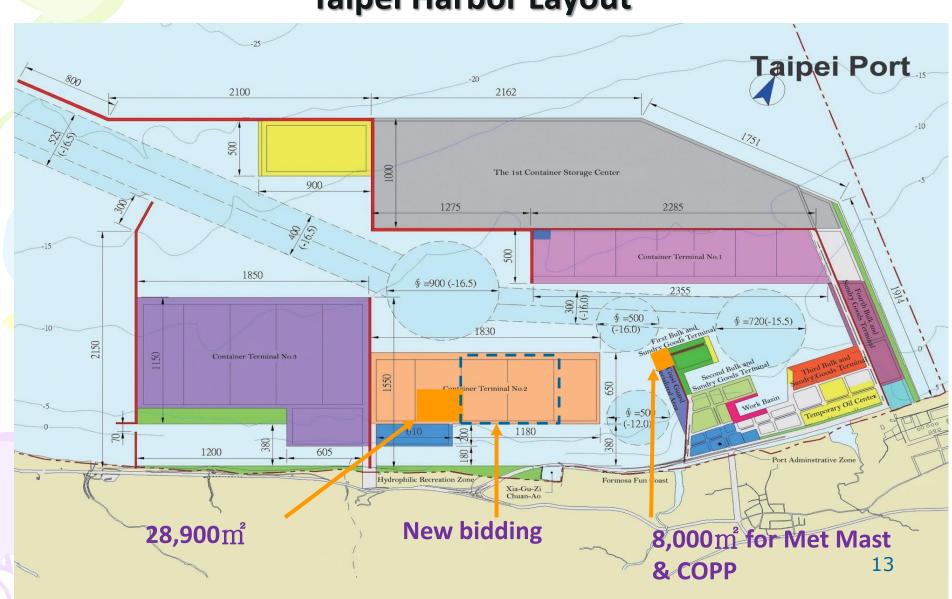
http://www.tpport.gov.tw

# 臺北港 PORT OF TAIPEI



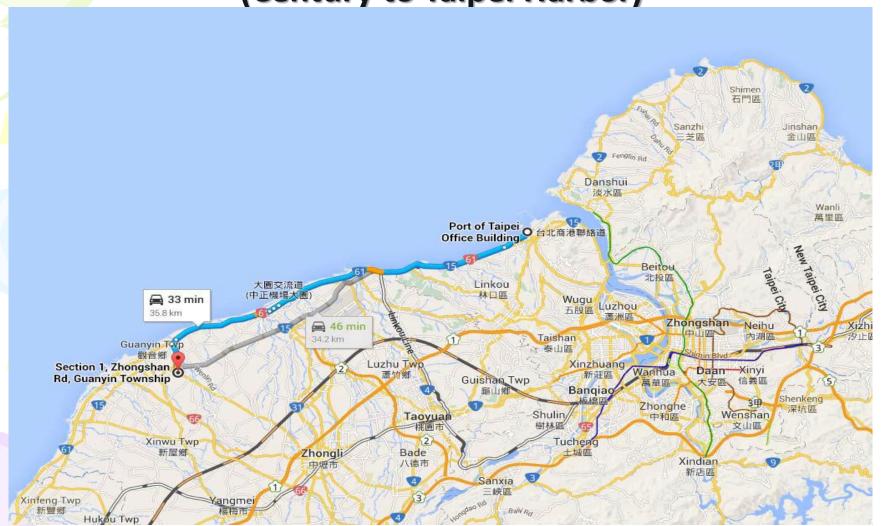


**Taipei Harbor Layout** 





Inland Transportation Route (Century to Taipei Harbor)





#### **Newly Purchased Equipment**

#### **Automatic welding - Column & Booms and seamers**







2016/9/6



## **Newly Purchased Equipment**

#### **120/200T** Rotators for welding supports













#### **Newly Purchased Equipment**

#### **FACCIN-Plate Roller (150mm)**

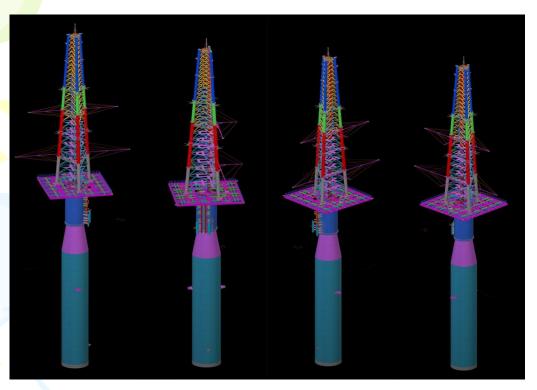




2016/<mark>9</mark>/6



# **Met Mast Design**



Tower	68m Lattice Structure
	Length:68 m
Pile	Diameter:4.2m
Pile	Thickness:50mm
	Weight: 340 T





# Met Mast Fabrication (Pile and Platform)











# Met Mast Fabrication (Pile and Tower)











# Pile Transportation (From Century to Taipei Harbor)







2016/9/6



# Pile Assembly at Taipei Harbor









2016/9/6



# Platform and Transition Piece Assembly at Taipei Harbor





# Platform and Transition Piece Assembly at Taipei Harbor









# **Met Mast Assembly at Taipei Harbor**







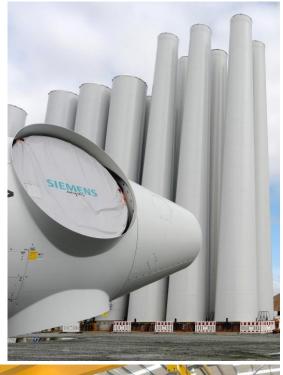




### **Next Step – WTG Tower Fabrication**

- Welding Fabrication Capacity;
- QA & EHSE system;
- Enclosed Warehouse for Painting and Sand Ballasting;
- Feasible Production Line;
- Transportation Solution.









#### Planned Timeline for WTG Tower Fabrication

2014

Met Mast Fabrication Experience

Work with TGC and GWP to Bring in Government Supports (MIRDC and ICP)

**Qualified Personnel Training** 

WPQS, PQR & WPS Validation

**Enhance QA System and Documentation** 

**Enhance EHSE System and Documentation** 

**New Factory and Production Line Planning** 

2015

**New Equipment Purchase** 

New Factories Set Up (including Painting and Sand Ballasting Warehouse)

Fulfill SCM Qualification Requirement

Supply Offshore Wind Turbine Towers to SCM

2016



# Thank You



