

Phu Cuong Offshore Wind Farm Project: The First Vietnam Offshore Wind Farm Projects and Challenges facing Developers



Vietnam Wind Power Conference

11 June 2019



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RENEWABLE ENERGY



Neart na Gaoithe

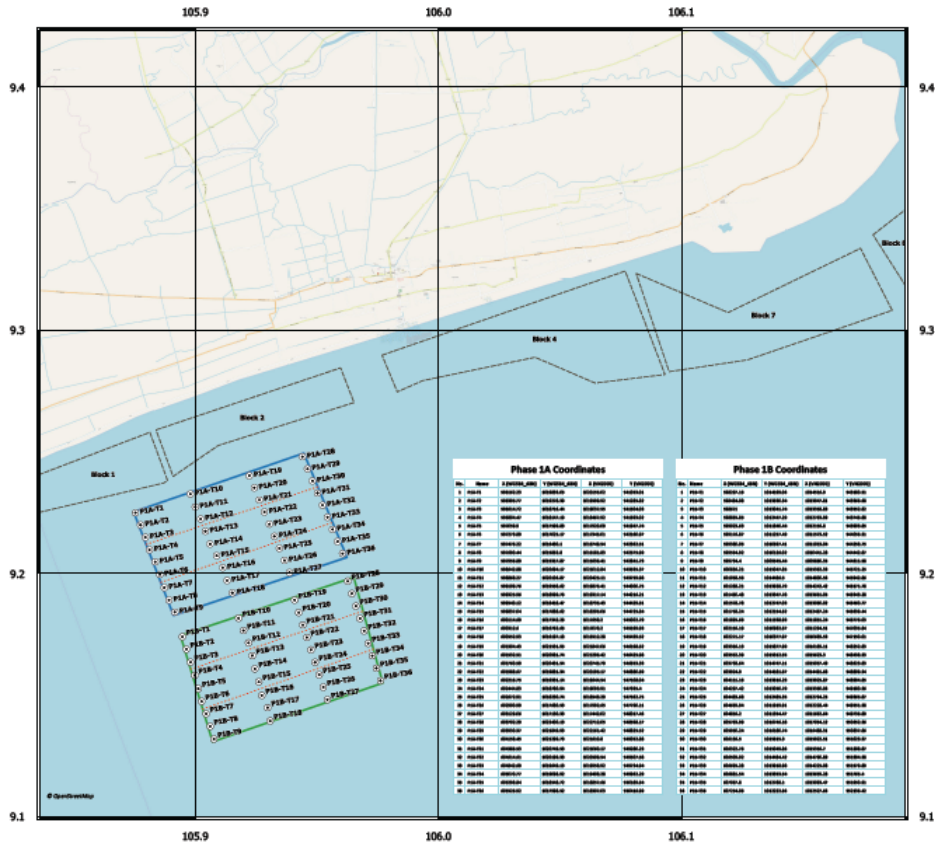
Hornsea

Horizont



800 MW Phu Cuong Soc Trang Offshore Project

- Phu Cuong Group USTDA grant
- Partnership between Mainstream and Phu Cuong Group in 2018



MAINSTREAM RENEWABLE POWER

Project
Phu Cuong - Soc Trang wind farm

Map title

Proposed Project Layout

Version Revision

Map details

Reference: WGS 84
 Created by: Cuc Doan
 Checked by: Bernard Casey
 Scale on A1: 1:50000
 Date: Monday 06 May 2019

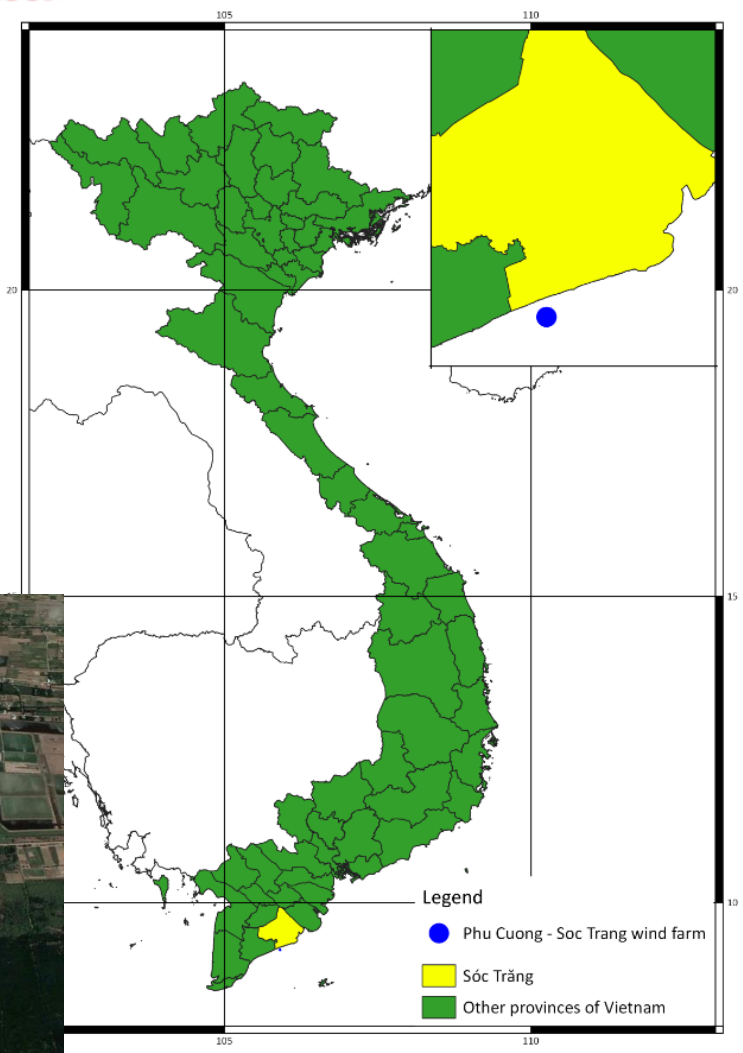
Legend

- Turbine location
- Phase 1A
- Phase 1B
- Cluster division according to PDP Application

0 1 2 4 6 km

Credits

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Project Development to Date (1)



- **Wind Measurement Campaign**

- 4 years wind data from onshore met mast
- LIDAR Platform Installed by HTL in August 2018 in Block 4
- Lidar unit was placed adjacent to onshore met mast in November 2018
- Lidar unit placed on the offshore platform in December 2018 and currently measuring.
- Second LIDAR to be placed in Phase 1A area in Q2 2019

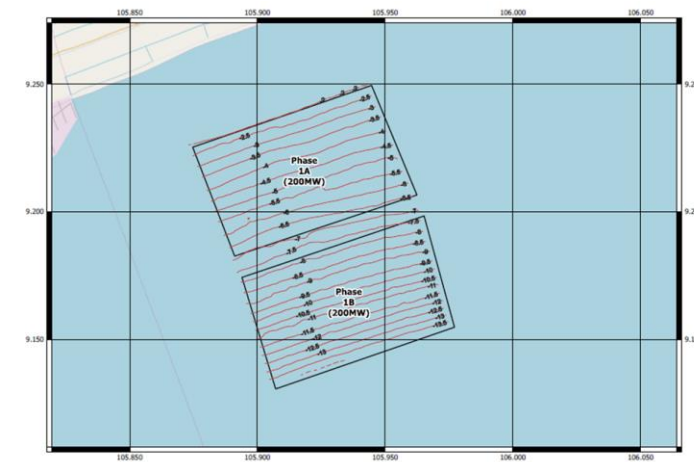


Project Development to Date (2)



- **Metocean Campaign**

- Collaboration between eCoast (New Zealand) and University of Science, VNU Ho Chi Minh City.
- Bathymetry Survey of started in September 2018 now completed.
- Wave height and current speed instruments placed on the sea-bed. Data recovery in October 2018 and December 2018.
- Instrument loss from sea-bed due to trawling activities – replacement leading to delays in data acquisition



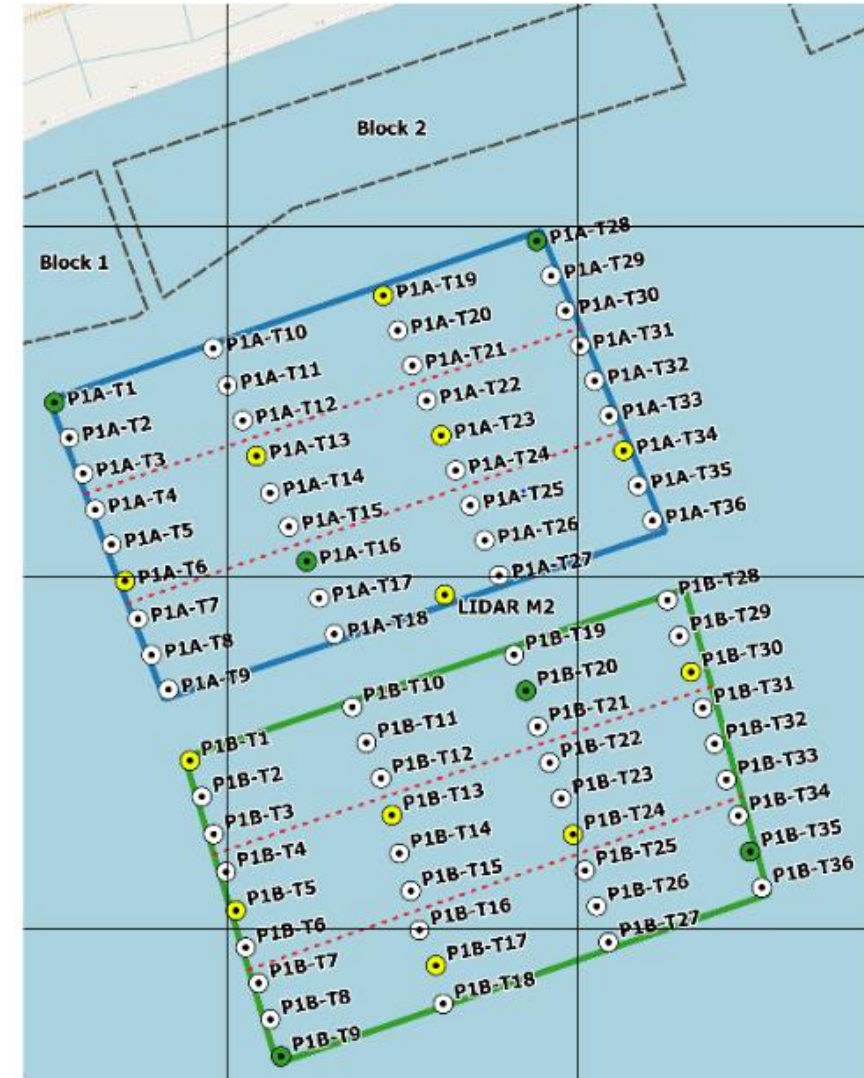
Development Progress to Date (3)



- **Geotechnical Investigation Campaign**

- Detail Geotechnical Investigation commenced in May 2019 by Fugro, preceded by UXO Survey by Lung Lo.

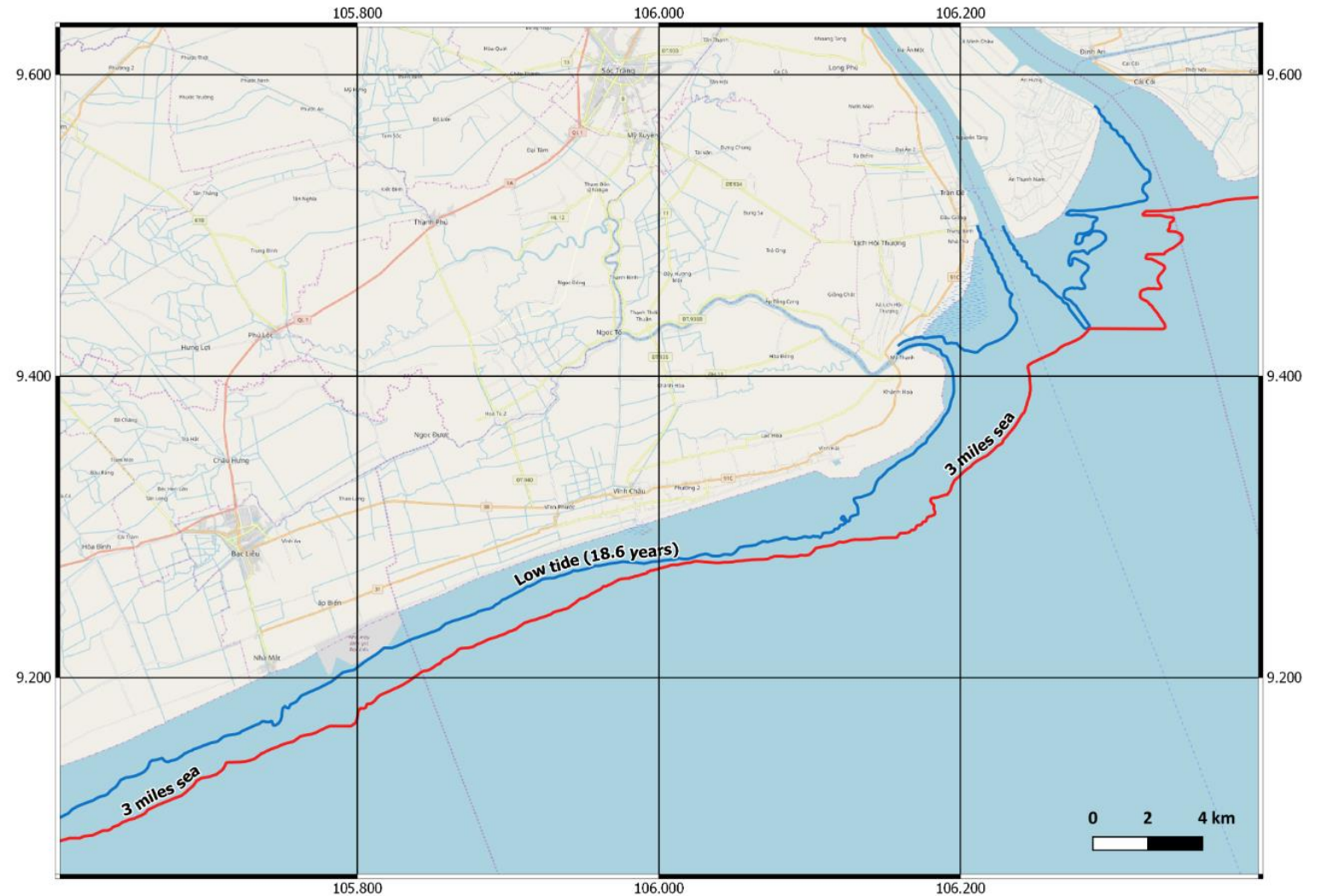
- Significant weather downtime



LESSON 1: Offshore Development needs more time than onshore

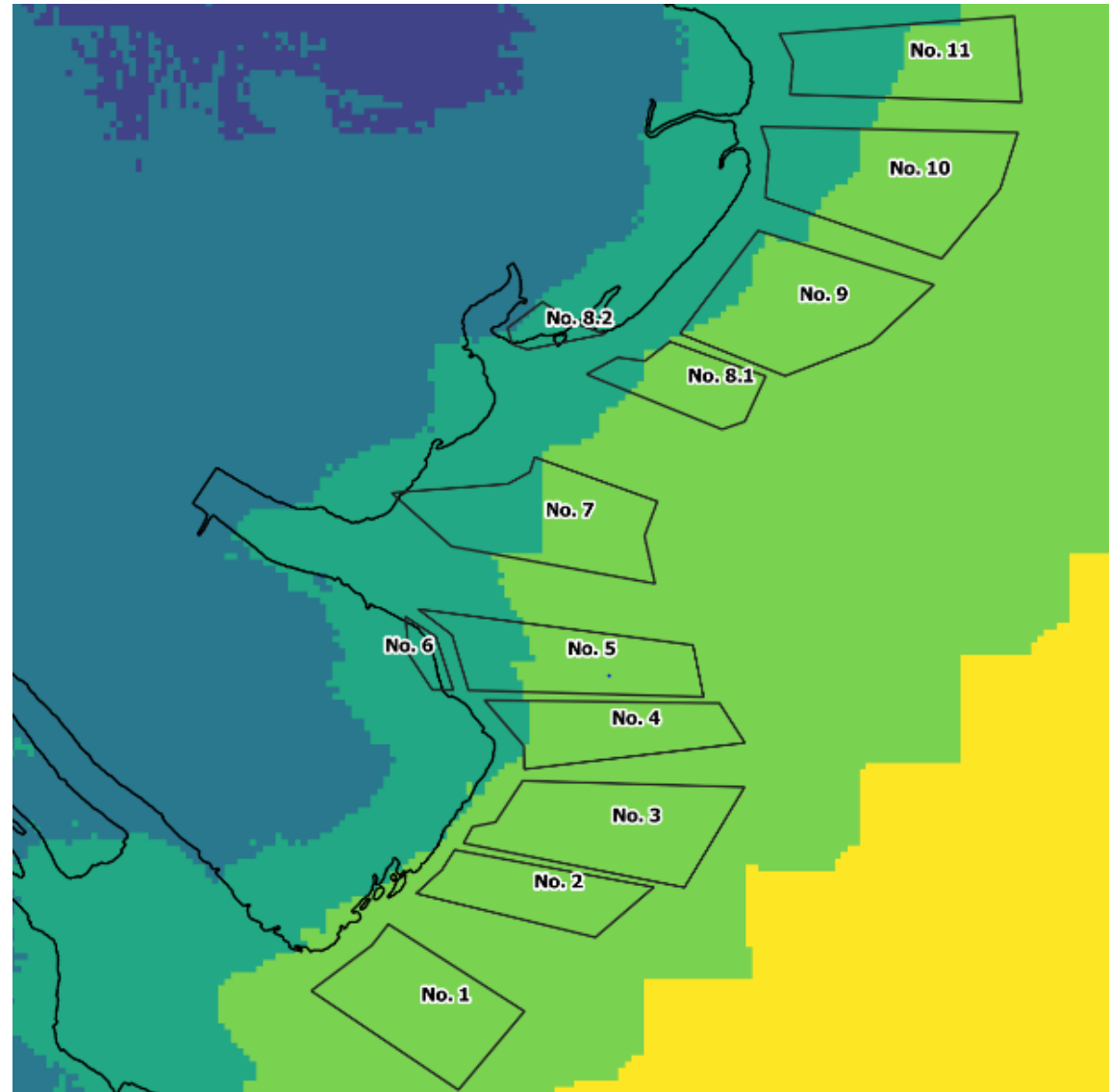
Offshore specific clauses in PPA

- Government decision No. 39/2018/QĐ-TTg dated 10th September 2018
- ‘Offshore wind turbines are wind turbines whose foundations are constructed outside the lowest average sea level edge for 18.6 years.’



Selection and award of Offshore Sites

- Many provinces focussing on closely spaced nearshore blocks
- Concerns with wake effects – will neighbouring blocks be built or not? For bankability must assume will be built – feasibility then in question
- UK and German practice for technical authority in government to define blocks and co-ordinate award in consultation with local province.

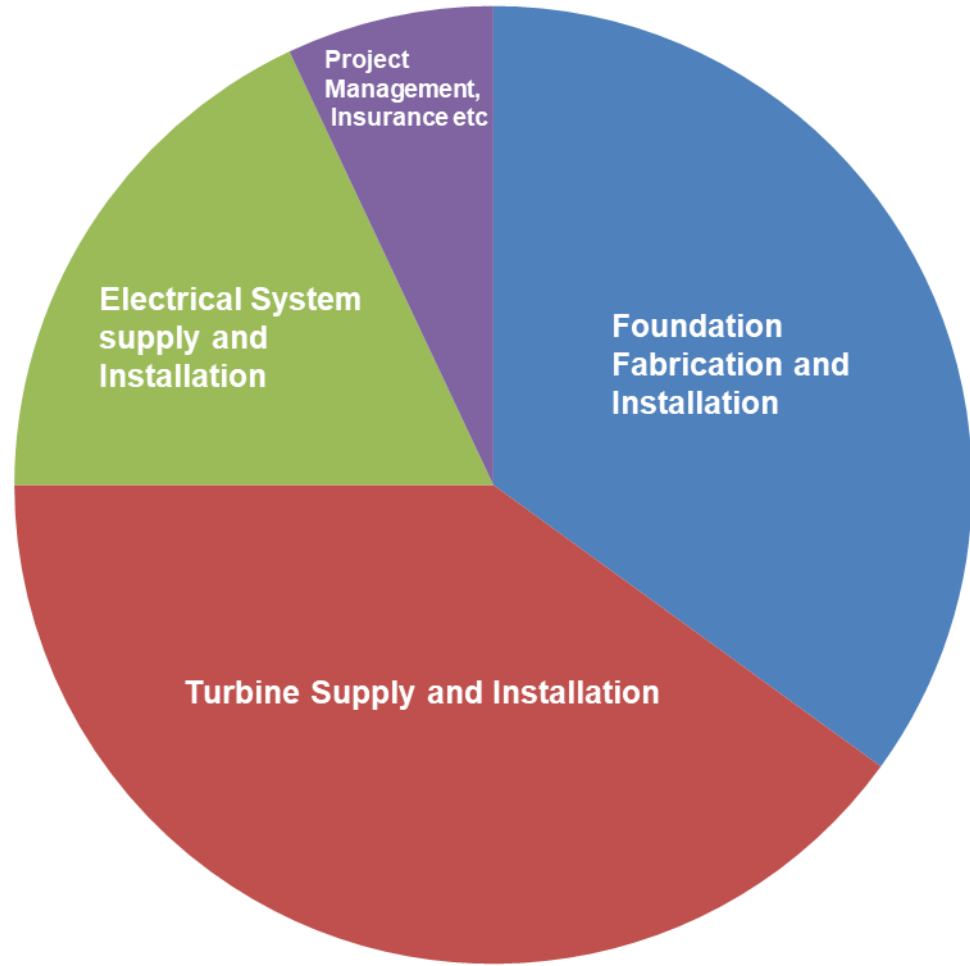


LESSON 2: Clear Regulatory Framework for Planning

Project Finance



- Capex Breakdown offshore
- Early UK projects USD 4M/MW
- Vietnam offshore players targeting below USD 2M/MW
- 800MW = USD 1.6bn investment
Project Finance > 1bn
- Scale too large for local banks
- International banks keen to fund but some bankability issues remain with PPA



LESSON 3: PPA bankability more important for Offshore at scale

Thank-you

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