NAWEA / Windtech 2019

Local Sourcing in Floating Wind: a Case Study

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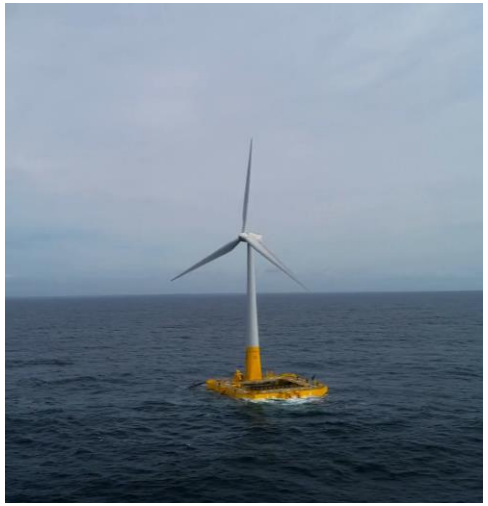
THIS IS WHAT IDEOL IS TODAY

A PROVEN TECHNOLOGY

2 full-scale demonstrators
in operation in 2 strategic markets (Japan and France)
with precommercial- and commercial-scale projects across the globe



1 | PIONEER IN **CONCRETE HULLS AND SYNTHETIC MOORING**

2 | BUILDABLE IN **STEEL OR CONCRETE**

ABS 3 | **PROVEN POWER PRODUCTION AND SEAKEEPING PERFORMANCE**

4 | **MOST COMPACT** SOLUTION, **HIGHEST** LEVEL OF **LOCAL CONTENT**

5 | DOZENS OF **R&D** PROJECTS **TO ACCELERATE THE COST REDUCTION TRAJECTORY** OF FLOATING WIND

WHY LOCAL CONSTRUCTION, FABRICATION NEED TO BE CONSIDERED IN PROJECTS

A NUMBER OF STATES INTRODUCED LOCAL CONTENT REQUIREMENTS

TAIWAN

- Gradually tighter local content requirements
- Aimed at supporting economic development

FRANCE

- First round of offshore tenders included social criteria
- Local authorities expect local employment

SOME OTHERS IMPOSE TECHNICAL REGULATIONS

Japan

- Construction to Japanese standards impose a number of national suppliers
- Ship technical regulations prevent foreign-flagged ships to operate
- Bridging by local team necessary to mitigate cultural differences

CAN A FLOATING FOUNDATION SUPPLIER MAXIMISE BENEFITS TO THE LOCAL ECONOMY

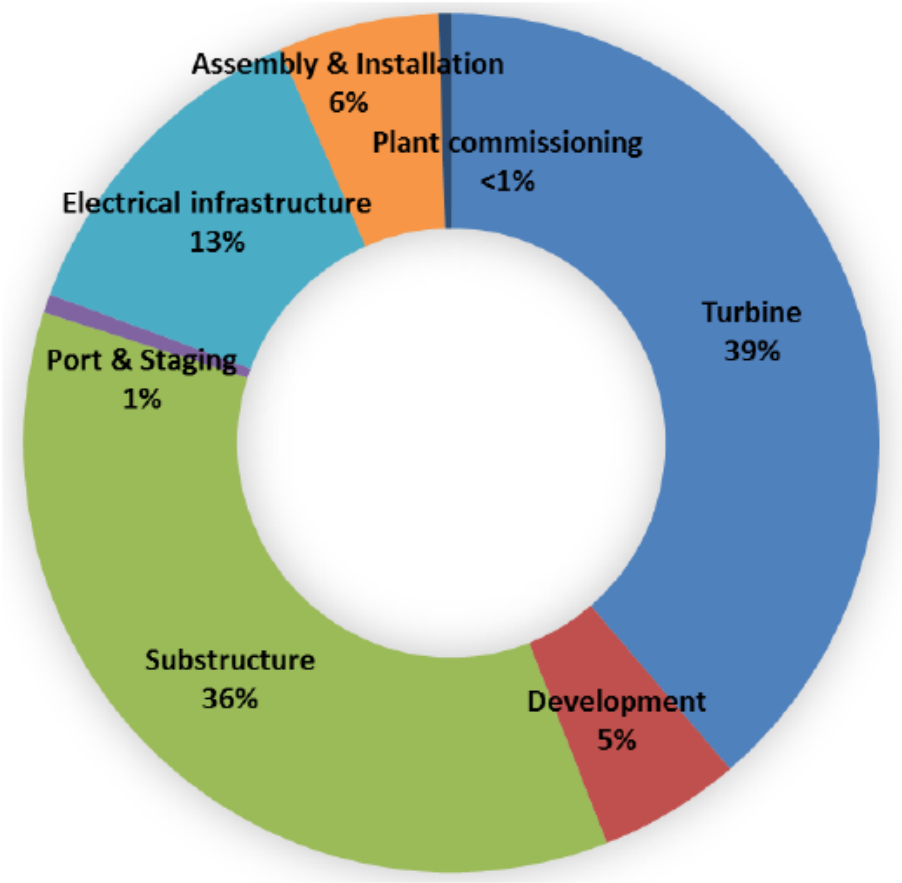
Floating Project CAPEX (breakdown from LIFES50+ project)

Substructure + offshore operations ~ 40% of CAPEX

Development, logistics are local by nature

Wind turbines and electrical infrastructures need factories and multi-project investment

Substructure and offshore operations are the low hanging fruits to improve local content



SUPPORTING THE IMPROVEMENT OF LOCAL CONTENT

Technical regulations

- Local engineering team necessary to address regulatory
- Early engagement with local supply chain
- Engagement with safety / environmental protection stakeholders

=> Anticipate local requirements and their impact

Economic benefits

- Select materials most suitable to local supply (e.g. to avoid trans-ocean shipping)
- Flexibility in installation techniques to adapt to local fleet / shipowners capabilities
- Design systems ready for local rules ahead of projects

HOW CAN A FLOATING FOUNDATION SUPPLIER MAXIMISE BENEFITS TO THE LOCAL ECONOMY

Intricate economic / logistic / technical constraints impose flexibility

Which allows to optimise/plan in a holistic manner

Early engagement is fundamental to meet project development pace

CASE 1

FLOATGEN

Number of orders placed

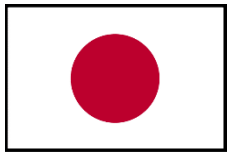
100 %	75%	70% (less than 2-hr drive from Saint-Nazaire)

Order value

100 %	91,6 %	62% (less than 2-hr drive from Saint-Nazaire)

CASE 2

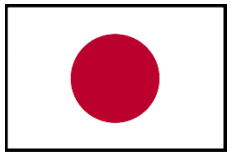
Number of orders placed



87,5%

12,5%

Order value



92,9%

7,1%

TWO DEMONSTRATORS
TWO DIFFERENT WAYS TO MAXIMISE LOCAL CONTENT

JAPAN

Steel hull

FRANCE

Concrete hull

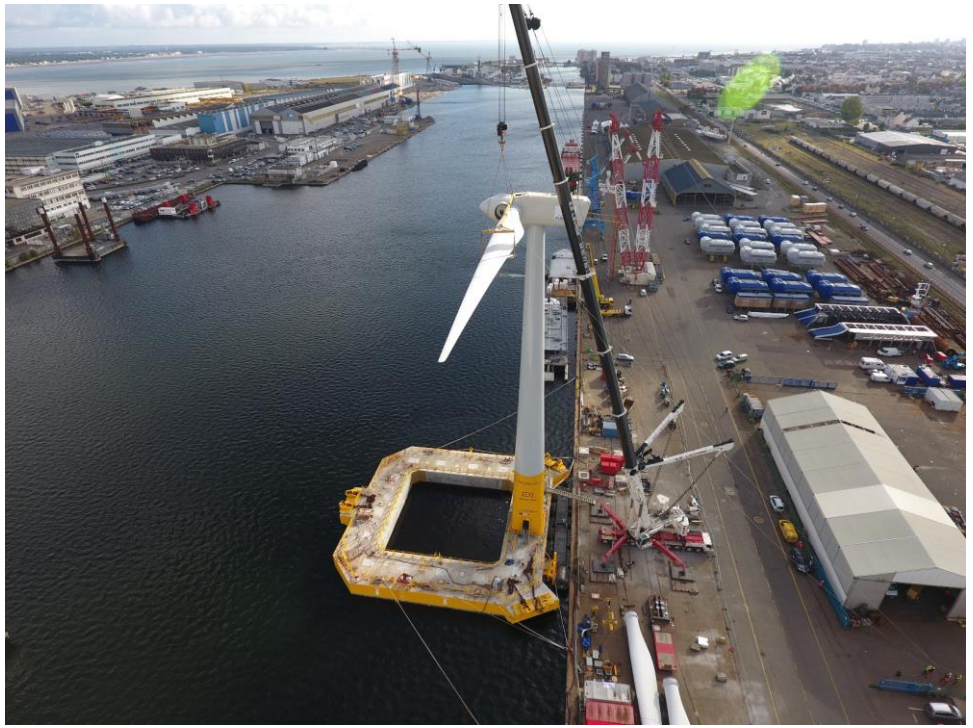
TWO DEMONSTRATORS
TWO DIFFERENT WAYS TO MAXIMISE LOCAL CONTENT

JAPAN

Turbine assembly by a shearleg

FRANCE

Turbine assembly by a mobile crane on dock



TWO DEMONSTRATORS
TWO DIFFERENT WAYS TO MAXIMISE LOCAL CONTENT

JAPAN

Anchors installation with anchored barge

FRANCE

Anchors installation with large dynamically-positioned tug

PREPARATORY STEPS TOWARD A LOCALLY-OPTIMUM PROJECT

- Identify regulations and constraints
  - Technical, environmental, labour, safety
- Identify local capabilities
  - Yards, ports, offshore vessels, manufacturers, services
- Prepare maximum local plan
  - Making use of maximum local resources

PROJECT BOUNDARIES

ITERATIVE PROCESS TOWARD A LOCALLY-OPTIMUM PROJECT

- Prepare project design and plan
  - Turbine type, materials, construction sites, main installation techniques, execution plan
- Assess environmental impact
- Assess local benefits
- Confirm project economics
  - Combining revenues, resource, expenditures

SOME TECHNICAL FACTORS HELP FIND BETTER SOLUTIONS:
Compact dimensions, Variety of materials usable, Limited need for specialised vessels, Possibility to install turbine alongside

CONCLUDING REMARKS

A large portion of Projects' activities can be located close to deployment sites

Stakeholder engagement must be initiated from planning phase

Local suppliers' / service providers' cooperation and standard processes challenging are key to good achivements

Economy, environment science and engineering should combine to improve projects

THANK YOU FOR YOUR ATTENTION

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