

The INTERREG IV(a) Fostering Long Term Initiatives in Ports project Newhaven Port and Properties Ltd cross border workshop

“PORT PLANNING AND DEVELOPMENT FOR A SUSTAINABLE FUTURE
“PLANIFICATION, GESTION PORTUAIRE ET DÉVELOPPEMENT DURABLE”

- progress and results lessons learned from consultation approaches with master planning studies

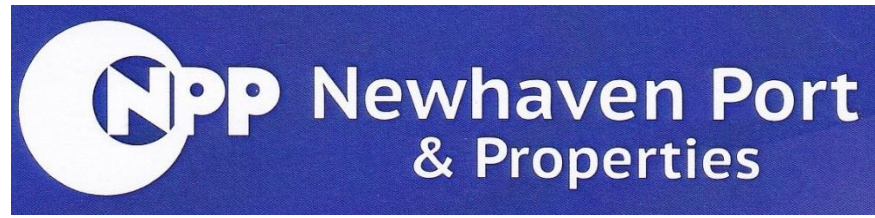
Wednesday 10th December, 2014– Thistle Brighton Hotel



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**Emerging Opportunities
in
Offshore Wind for Channel Ports**

Main Areas of Opportunity

Category	Sub-category
Manufacturing & assembly	Major items Large components Small components
Load in/load out	With pre-assembly Without pre-assembly (buffer storage)
Construction base & commissioning	
O & M base	
Emergency port & overnight shelter	
Repairs & maintenance	
De-commissioning	

Red = suitable for smaller ports

Manufacturing

Category	Sub-category	Port Requirements
Integrated manufacturing: Tier 1	Turbines Foundations Towers & transition pieces Sub-stations	100 ha 1,000m+ heavy quay 1,000t crane capacity Financial incentives 10m depth
Large component manufacturing: Tier 2	Sub-station components Cables Blades & hubs Gearboxes, generators & transformers	10ha – 25ha Sea access, 8m depth Proximity to Tier 1 Financial incentives
Small component manufacturing: Tier 3	Control systems, electronics Tooling & machine parts Flanges, fixings, bearings Castings, forgings, rolled steel Composites	Skilled labour pool Proximity to Tier 1/Tier 2 Industrial buildings Transport links

Load in/Load out

Category	Port requirements
With pre-assembly	15ha prepared surface <5% slope Loadings (10t/M2) to take large crawler cranes 400m+ heavy duty quay (20t/M2) 8m depth at quay Seabed able to take legs/spuds on jack up vessel 100m clearance Clear air draft
Without pre-assembly	Mostly as above except: 5ha usually enough Can manage with 250m+ quay Heavy lift pads on quay Monopile storage can be 'in water' Cable storage can be drums, or transfer to spindle

Deepwater access at all states of tide
Ideally within 12 hours of windfarm @ 10 knots

Construction & O&M base

Category	Port requirements
Construction	Short term = 3 years Space for up to 200 people + services Dry, ideally insulated storage sheds 150m berthing for CTVs Ability to handle multiple smaller vessel types
Operations & maintenance	Long term = 50+ years 1ha - 2ha land Office building for 80 – 100 people and engineering shed/store 150m berthing for CTVs Ability to accommodate 100t crane Ability to accommodate larger components on an irregular basis

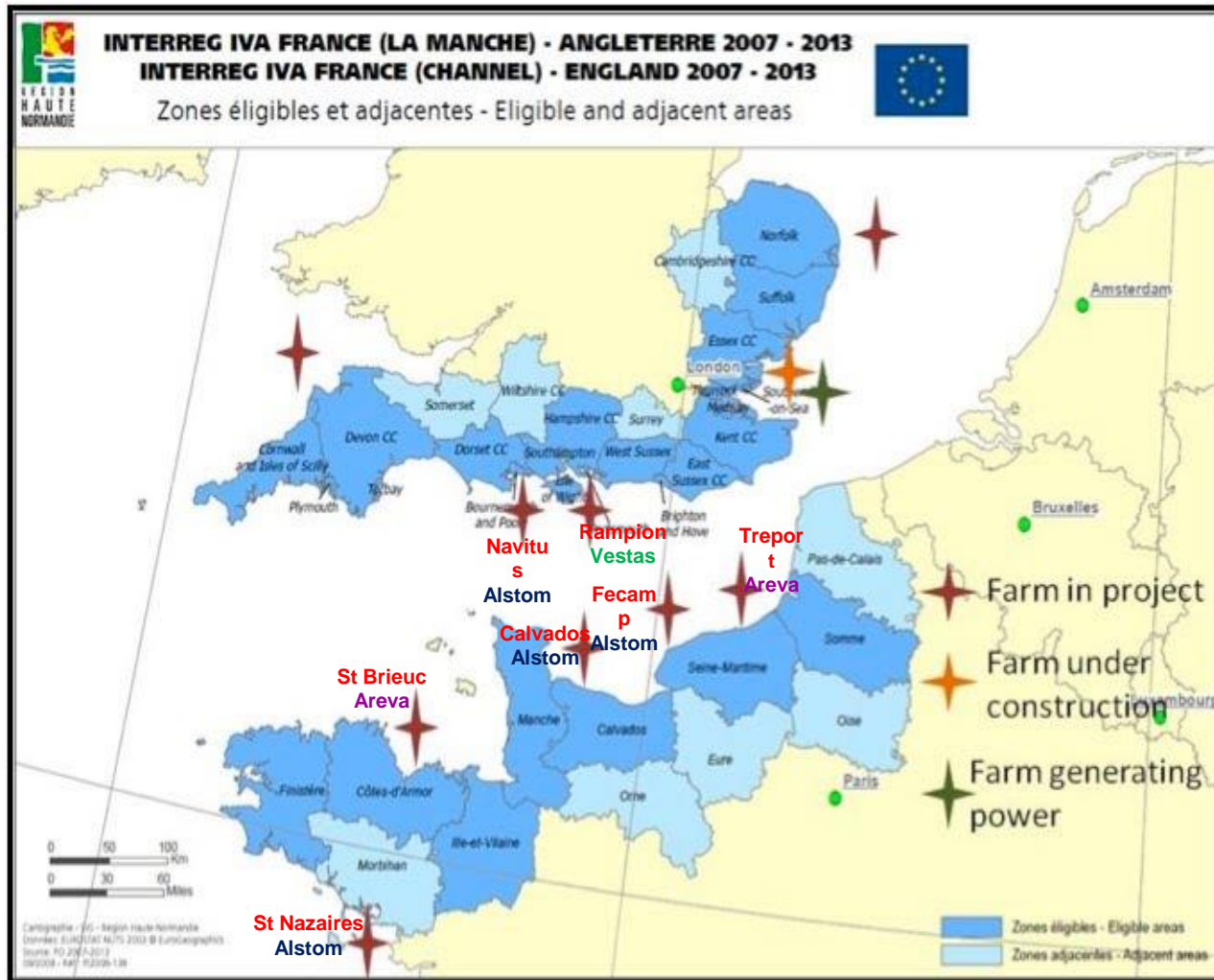
Sheltered harbour with access at all states of tide
Ideally within 60 minutes of wind farm @ 25 knots

Summary economics

Category	Maximum value to Port
Integrated manufacturing	€10m/year @ 15 years
LILO with pre-assembly	€5m/year @ 3 years
LILO without pre-assembly	€2m/year @ 3 years
Construction base	€250k/year @ 3 years 2,000+ vessel calls/year (excluding CTVs)
O&M base	€400k/year + inflation @ 50 years €50m over 50 years €10m NPV (net present value)

O&M represents excellent long-term business for smaller ports

Channel offshore wind projects



Channel project database

Project	Max. Size	Owner	Turbine	Foundations	Installation port	O&M port
Treport	500MW	GDF Suez/EDP	Areva 8MW	Vinci	Le Havre	Dieppe Treport
Fecamp	500MW	EDF/Dong/WPD	Alstom 6MW	Seatower (gravity)	Le Havre	Fecamp
Calvados	450MW	EDF/Dong/WPD	Alstom 6MW	Monopile	Cherbourg	Caen/ Ouistreham
St Briec	500MW	Iberdrola/RES	Areva 8MW	Jacket	Brest	St Quay Portrieux
St Nazaire	480MW	EDF/Dong/NassWind	Alstom 6MW	Monopile	Cherbourg St Nazaire	La Turballe
Rampion	700MW	E.ON	Vestas 3.8MW	Monopile	???	Newhaven
Navitus	970MW	EDF/Eneco	???	Monopile Jacket	Poole or Swanage/Portland ?	Poole or Portland or Yarmouth?

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