Scottish Market Update

Opportunities in the UK Offshore Wind Industry

June 1st 2021

Department for International Trade

INDUSTRIAL STRATEGY CLUSTER

DeepWind
North of Scotland Offshore Wind Cluster

AEE
Asociación Empresarial Eólica

Pacific Orca at Beatrice Project, source – HIE

Offshore Wind Sector Deal

Five themes

- Ideas (Innovation)
- Business Environment (Supply Chain)
- Infrastructure
- People (Employment, Skills and Community)
- Place (Formation of Clusters)

Sector Deal Ambitions

- 40GW of offshore wind capacity by 2030
- £48bn investment in UK infrastructure
- A fivefold increase in exports to £2.6bn p.a.
- A £2.4bn reduction in electricity costs to consumers
- 27,000 skilled jobs (30-40% female)

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Cluster Membership

Largest offshore wind cluster in Europe
Lead cluster for floating wind

A “triple helix” cluster

- Currently 584 members

- Membership Includes
  - 34 Offshore Wind Developers
  - 1 OEM Turbine Manufacturer
  - 14 Tier 1s
  - 8 Councils (Local Government)
  - 6 Universities and 3 Colleges
  - 25 ports and harbours
  - 3 Associations- AREG, Decom North Sea and Subsea UK
  - 490 supply chain companies from micro SMEs to multi-national companies

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34 developers

INDUSTRIAL STRATEGY

sse Renewables

OW OCEAN WINDS

equinor

eDF renewables

VATTENFALL

wpd

cobra GRUPO

Ørsted

SCOTTISHPOWER RENEWABLES

BlueFloat ENERGY

Falck Renewables

Sumitomo Corporation

MAINSTREAM RENEWABLE POWER

RWE

bp

SDIC Red Rock Power Limited

ESB

MAGNORA ASA

Quaybridge

TotalEnergies

Invenergy

EOLFI

GTIP

UNIVERGY

FLOTATION ENERGY

Simply Blue Energy

EnBW

BayWa r.e.

RIDG

CIP Copenhagen Infrastructure Partners

Fred.Olsen Renewables

Floating Energy Allyance

Aker Offshore Wind

CERULEAN WINDS

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Floating Offshore Wind Subgroup

1	2-B Energy BV	55	Dolfines SAS	109	KBR	162	Rigmar
2	4C Engineering	56	Donut International	110	KD Marine	163	Rix Renewables
3	A Squared Engineering	57	Doosan Babcock	111	Kincardine Offshore Wind Ltd	164	RJ McLeod (Contractors) Ltd
4	Aberdeen City Council	58	Ecosse IP	112	Kishorn Port	165	Robert Gordon University
5	Aberdeen Harbour	59	EMM Corp	113	Kuiper Group UK Ltd	166	Roemex
6	Aberdeen Renewable Energy Group	60	EnBW Energie Baden-Wurttemberg AG	114	Lerwick Port Authority	167	Rovco
7	Aberdeen Training Centre	61	Engineering Construction Industry Training Board	115	Liberty Steel Dalzell	168	ROVOP
8	Acteon Group	62	Environmental Resources Management Limited	116	Linxon UK Ltd	169	Royal Haskoning DHV
9	AJ Engineering & Construction Services	63	EOLFI (Shell)	117	Lloyd's Register	170	RSK Environment
10	Aker Solutions	64	Equinor	118	Load Monitoring Systems Ltd	171	RWE Renewables
11	Anubis Security	65	European Marine Energy Centre	119	London Marine Consultants	172	Safetrade 247 Limited
12	Apollo	66	Facilitating Change	120	London Offshore Consultants (Aberdeen) Ltd	173	Savante Offshore Services Ltd
13	Aquatera	67	Falck Renewables Wind Ltd	121	Maersk Supply Service	174	SBM Offshore
14	Aquaterra Group	68	Film Ocean	122	Mainstream Renewable Power	175	SBT Energy Limited
15	ARC Marine	69	First Marine Solutions	123	MarynSol	176	Scottish Power Renewables
16	Armech Solutions	70	First Subsea	124	McDermott	177	Sealand Projects
17	Asco	71	Flicq UK	125	MELCAL Marine UK Ltd	178	Seaway7
18	Ashtead Technology	72	Flotation Energy	126	Mistras Group	179	Semco Maritime
19	Aspect Land and Hydrographic Surveys	73	Floating Power Plant	127	Monitor Systems Scotland Ltd	180	SFF Services Limited
20	Atkins Limited	74	Floating Wind Energy Systems	128	Moog Focal	181	SIG Distribution
21	Aubin Group	75	Francois Offshore Catering	129	Motion Software	182	Simply Blue Energy
22	AWC Technology Ltd	76	Fraserburgh Harbour	130	Motive Offshore Group Limited	183	Stork Technical Services
23	Axess North Sea Ltd	77	Frontera Enterprise Ltd	131	National Oilwell Varco	184	StormGeo
24	Axis Energy Projects Ltd	78	Fugro (Co-Chair)	132	Natural Power	185	Strainstall UK
25	Balmoral	79	Fulkrum Technical Resources Ltd	133	Naval Energies	186	Subsea UK
26	Bam Nuttall	80	GAC Group	134	NDT and Quality Services	187	Sumitomo Corporation
27	Bilfinger Salamis UK	81	Gareloch Support Services	135	NHV Helicopters	188	Swire Oilfield Services
28	Birlinn Offshore	82	Gicon Großmann Ingenieur Consult GmbH	136	North Star Renewables	189	TechnipFMC
29	BlackFish Engineering	83	Global Energy Group (SG)	137	Oceaneering	190	Ternan Energy
30	BlueFloat Energy	84	Global Offshore	138	Ocean Winds (Co-chair)	191	Texo Group Limited
31	Bluewater Energy Services	85	Green Marine	139	Offshore Projects Alliance	192	Thornton Tomasetti
32	BMT	86	Griffen-Woodhouse Limited	140	Opportunity North East	193	Toda Corporation
33	BP Innovation and Engineering	87	GTL Search	141	Optimus	194	Total E&P UK
34	BPP Cable Solutions	88	Gulfxstream	142	Orcades Marine Management Consultants Ltd	195	Trac Oil & Gas
35	Bridon Bekaert	89	Had Fab Limited	143	ORE Catapult	196	TTI Renewables
36	Briggs Marine	90	Halliburton	144	Orion Engineering	197	UL International
37	Bruce Anchor	91	Houlder Ltd	145	Orkney Harbour Authority	198	Univergy International
38	Buoyant Production Technologies Ltd	92	Hubbell	146	Partrac	199	University of Aberdeen
39	Bureau Veritas UK Limited	93	Hydro Group	147	Peel Ports (Hunterston)	200	University of Strathclyde
40	Burntisland Fabrications	94	Ideol	148	Petrofac Facilities Management Ltd	201	UTEC
41	Calder Engineering	95	Imenco	149	Petrolink Services Ltd	202	Vryhof Anchors
42	Caldive	96	Industrias Ferri AS	150	Port of Cromarty Firth	203	V-TES
43	Castletown Law	97	Intelligent Research & Translation Services	151	Portakabin (Scotland) Limited	204	W3G Marine
44	Cierco Wind Energy	98	InterMoor Ltd	152	PSG Marine & Logistics Ltd	205	Wardell Armstrong
45	Clarkson Port Services	99	Intertek Inspection Services UK Ltd	153	QHSE Aberdeen	206	Weldex (International) Offshore Ltd
46	COES Caledonia UK Limited	100	Inverness Chamber of Commerce	154	Quaybridge	207	WFS Technologies
47	Comhairle nan Eilean Siar	101	iSurvey	155	Quoceant	208	Wick Harbour Authority
48	Core Marine	102	ITC Hydraulics & Manufacturing	156	RDR Subsea	209	Windcat Worksboats
49	Cortez Subsea	103	i-Tech 7	157	Red Rock Power	210	Windstorm Renewables
50	Dangle Ltd	104	ITPEnergised	158	Remote Medical International	211	Wolfel
51	Destini Marine Safety Solutions	105	Jackson Offshore Supply	159	Response Consultants	212	Wood
52	Distibution NOW	106	Jan de Nul UK	160	Rever Offshore	213	wpd Offshore Solutions GmbH
53	DiveSource Limited	107	JGC Engineering & Technical Services	161	RIDG	214	Xi Engineering Consultants
54	DOF Subsea	108	Kabel Churchill Limited				

INDUSTRIAL STRATEGY

DeepWind
North of Scotland Offshore Wind Cluster

ScotWind Leasing Round 1

15 Sites (8-10GW)

SITE	DEVELOPER	CAPACITY	
Robin Rigg	RWE Renewables	174MW	892MW
Hywind Scotland	Equinor	30MW	
Aberdeen Bay	Vattenfall	93MW	
Levenmouth	ORE Catapult	7MW	
Beatrice	SSE/Red Rock Power	588MW	
Kincardine FOW	Cobra	50MW	2948MW
Moray East	Ocean Winds	950MW	
NNG	EDF Renewables/ESB	448MW	
Seagreen 1	SSE Renewables/Total	1500MW	
Inch Cape	Red Rock Power	1080MW	1942MW
Moray West	Ocean Winds	850MW	
ForthWind	Cierco	12MW	
Berwick Bank	SSE Renewables	2300MW	4450MW
Marr Bank	SSE Renewables	1850MW	
Pentland FOW	Copenhagen Infrastructure Partners	100MW	
Salamander FOW	Simply Blue Energy/Subsea7	200MW	

Current Wind Farms (10.2GW)

By status

- Operational
- Under construction
- Consented
- Planned

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DeepWind ports and harbours members

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INDUSTRIAL STRATEGY

Energy Transition Market

CES data and OGA Digital Platform

- Oil and Gas industry are looking to electrification to decarbonise their platforms on the UKCS
- The Oil and Gas Authority (OGA), the UK Regulator, has set an industry target of a Net Zero Basin by 2035 (3% of UK emissions)
- In order to reach this target by then the industry needs to start on this path now
- Floating and fixed wind are seen as some of the lowest cost options although the intermittency issue has to be overcome
- ScotWind will see a number of lease sites very close to the oil and gas infrastructure especially in the Central North Sea

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Energy Transition Market

- The bulk of the oil and gas electricity demand is in Scottish waters (90%)
- Central North Sea, Northern North Sea and West of Shetland have the highest levels of demand
- Pilot projects and pre-commercial scale projects are already underway but not publicly announced as yet

WoS: West of Shetland; NNS: Northern North Sea; CNS: Central North Sea; SNS: Southern North Sea; EIS: East Irish Sea

2018 estimate: 21 TWh / y

2030 forecast: 12 TWh / y

Sources: Power estimates based on 2018 O&G installation emission data (BEIS EEMS) typical emission intensities and uptime for the generation equipment employed. Timelines of asset cessation of production and new developments from OGA UKCS Survey. See Energy Integration Project Phase 2 publications

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Energy Transition Market - Hydrogen

- The Scottish and UK Governments have recognised that hydrogen will play a role in decarbonising difficult areas of the economy – transport, industry and heat
- Hydrogen Generation Targets:
  - **Scottish target is 5GW by 2030 (Scottish Hydrogen Assessment policy document)**
  - **Scottish Government ambition is 25GW by 2045**
- If 50% of the 2030 target is green then we need around 5GW of wind power
- 50% of the 2045 number will require 25GW of wind power to be dedicated to hydrogen production

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Thank You

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SCOTTISH DEVELOPMENT INTERNATIONAL

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