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## Description

The West of Duddon Sands Offshore Wind farm is a joint venture between DONG Energy and ScottishPower Renewables. The Wind Farm is located approximately 14km from the nearest coast off Walney Island, Cumbria and covers an area of approximately 66km<sup>2</sup>. The wind farm will comprise 108 wind turbine generators, each with a capacity of 3.6MW giving a total capacity of 389MW. Each wind turbine generator will be connected by submarine cables to an offshore substation inside the wind farm and from there via two 155kV submarine cables to the shore, by way of a landfall near Middleton in Lancashire, and National Grid transmission system.

## Reducing the Risks whilst Fishing

To reduce the risks of fishing near offshore structures, it is essential to be up to date with KIS-ORCA information. KIS-ORCA information is easy to install on your vessel's fishing plotter and ensures skippers are able to make informed decisions for their safety.

The closer to the surface a subsea cable is lifted when fouled by fishing gear, the more danger there is to the fishing vessel. In the interests of fishing safety and to prevent damage to subsea structures, fishermen are advised to exercise caution when fishing in the vicinity of subsea cables and renewable energy structures. Loss of gear, fishing time and catch can result if a trawler snags a subsea structure and there is serious risk of loss of life.

## Emergency Procedures

1. If you suspect you have snagged a subsea cable, **DO NOT** endanger your vessel and crew by attempting to recover your gear.
2. Carefully plot your vessel's position as accurately as possible.
3. Advise the Coastguard of your situation, and call the 24 hour Emergency Number and state that an incident is occurring concerning a subsea cable.

## Advisory Safety Zones

An Advisory Safety Zone of 50m around each turbine and substation structure is requested. An 200m anchorage exclusion zone around the export cable is requested. All vessels are asked to respect the Advisory Safety Zones, which as well as reducing the risk of collision damage, will provide protection to vessels, the export cable, and wind turbine structures.

If any major maintenance works are planned, Notices to Mariners will be promulgated in advance as required. During such works a Mandatory Safety Zone of 500m is likely to apply to certain turbines and/or vessels.

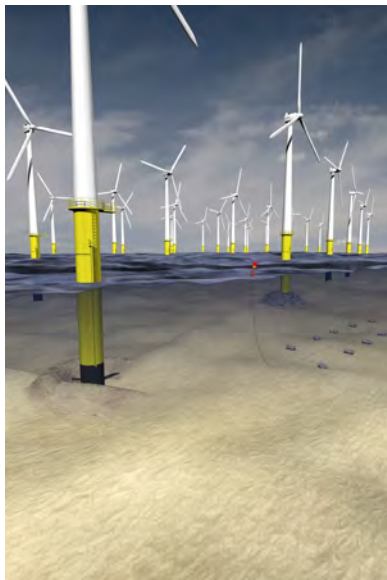
## Contact Details

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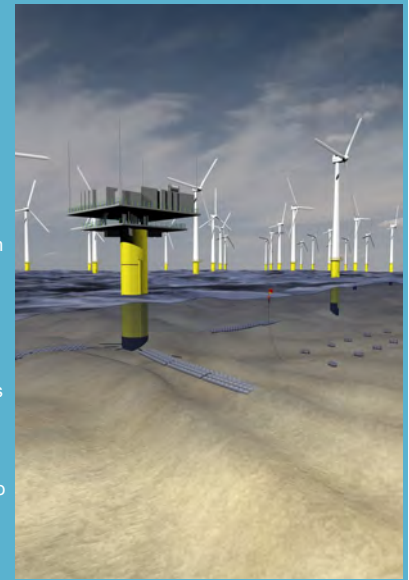
## Wind Turbines and Foundations

As wind turbines get larger and are deployed in deeper waters, a range of different foundation types may be encountered such as monopole, jacket, gravity base and suction bucket. In some cases multiple foundation types may be used within a single site. In all cases it is likely that scour holes will form around the foundation base, the depth and extent being dependent upon a range of factors including seabed type and current strength and direction. Scour protection in the form of rock dumping or cable mattresses is often used around the base of the foundations which may present a snagging risk. During the operational phase of a wind farm, an operator may request a 50m advisory safety zone around each structure.



## Inter Array Wind Farm Cabling

The inter array cables interconnect the turbines typically in radial strings going to the offshore substation platform. The issues associated with these are largely the same as per cable burial. Each turbine will usually have up to two cables entering the foundation structure at the seabed through a protective tube. Typically the tube end has a bellmouth at the seabed to aid alignment and pulling in of the cables. Whilst the cables may have been jetted in or ploughed as close as practical to the foundation, cables may not be fully buried and may also become exposed by scour holes forming. In these circumstances scour protection in the form of rock dumping or cable mattresses may be used. Cables, albeit close to the foundation, may present a snagging risk to anchors and/or trawled gear.



## Wind Farm Coordinates

TURBINE POSITIONS			TURBINE POSITIONS			TURBINE POSITIONS			EXPORT CABLE			
No.	COORDINATES		No.	COORDINATES		No.	COORDINATES		COORDINATES			
A01	54°00.004'N	003°33.221'W	E11	53°57.655'N	003°26.941'W	J02	54°01.010'N	003°26.716'W	54°00.799'N	002°54.008'W		
A02	53°59.647'N	003°32.785'W	E12	53°57.354'N	003°26.585'W	J03	54°00.718'N	003°26.386'W	54°00.283'N	002°57.539'W		
A03	53°59.362'N	003°32.438'W	E13	53°57.031'N	003°26.205'W	J04	54°00.426'N	003°26.057'W	54°00.226'N	002°58.460'W		
A04	53°59.078'N	003°32.091'W	E14	53°56.706'N	003°25.821'W	J05	54°00.135'N	003°25.728'W	53°59.763'N	003°00.818'W		
A05	53°58.793'N	003°31.744'W	F01	54°00.778'N	003°29.799'W	J06	53°59.843'N	003°25.398'W	53°59.689'N	003°01.055'W		
A06	53°58.508'N	003°31.397'W	F02	54°00.414'N	003°29.371'W	J07	53°59.552'N	003°25.069'W	53°58.350'N	003°04.286'W		
A07	53°58.223'N	003°31.051'W	F03	54°00.126'N	003°29.032'W	J08	53°59.209'N	003°24.683'W	53°58.221'N	003°04.690'W		
A08	53°57.939'N	003°30.704'W	F04	53°59.838'N	003°28.694'W	J09	53°58.917'N	003°24.354'W	53°58.193'N	003°04.974'W		
A09	53°57.654'N	003°30.357'W	F10	53°58.080'N	003°26.630'W	J10	53°58.626'N	003°24.025'W	53°58.175'N	003°05.135'W		
A10	53°57.369'N	003°30.011'W	F11	53°57.791'N	003°26.292'W	J11	53°58.334'N	003°23.696'W	53°57.945'N	003°06.082'W		
A11	53°57.085'N	003°29.664'W	F12	53°57.492'N	003°25.941'W	J12	53°58.045'N	003°23.371'W	53°57.885'N	003°06.663'W		
A12	53°56.771'N	003°29.283'W	F13	53°57.167'N	003°25.560'W	K02	54°01.153'N	003°26.074'W	53°57.872'N	003°07.097'W		
B01	54°00.149'N	003°32.580'W	F14	53°56.849'N	003°25.187'W	K03	54°00.861'N	003°25.744'W	53°57.914'N	003°07.464'W		
B02	53°59.791'N	003°32.144'W	G01	54°00.926'N	003°29.142'W	K04	54°00.569'N	003°25.415'W	53°58.316'N	003°09.373'W		
B03	53°59.506'N	003°31.797'W	G02	54°00.561'N	003°28.716'W	K05	54°00.278'N	003°25.085'W	53°58.454'N	003°10.115'W		
B04	53°59.221'N	003°31.450'W	G03	54°00.273'N	003°28.378'W	K06	53°59.986'N	003°24.756'W	53°58.502'N	003°10.279'W		
B05	53°58.936'N	003°31.103'W	G04	53°59.984'N	003°28.041'W	K07	53°59.694'N	003°24.427'W	53°58.774'N	003°11.543'W		
B06	53°58.651'N	003°30.756'W	G11	53°57.928'N	003°25.641'W	K08	53°59.346'N	003°24.034'W	53°58.961'N	003°12.824'W		
B07	53°58.366'N	003°30.409'W	G12	53°57.631'N	003°25.296'W	K09	53°59.054'N	003°23.705'W	53°59.211'N	003°14.869'W		
B08	53°58.076'N	003°30.055'W	G13	53°57.149'N	003°24.734'W	K10	53°58.762'N	003°23.376'W	53°59.308'N	003°15.276'W		
B09	53°57.791'N	003°29.709'W	H01	54°01.075'N	003°28.486'W				53°59.406'N	003°15.528'W		
B10	53°57.506'N	003°29.363'W	H02	54°00.708'N	003°28.060'W				53°59.532'N	003°15.796'W		
B11	53°57.221'N	003°29.015'W	H03	54°00.419'N	003°27.724'W				53°59.880'N	003°16.445'W		
B12	53°56.756'N	003°28.452'W	H04	54°00.130'N	003°27.388'W				53°59.967'N	003°16.643'W		
C01	54°00.294'N	003°31.940'W	H05	53°59.840'N	003°27.051'W				54°00.525'N	003°17.760'W		
C02	53°59.936'N	003°31.503'W	H06	53°59.551'N	003°26.715'W				53°58.764'N	003°22.832'W		
C03	53°59.650'N	003°31.155'W	H07	53°59.261'N	003°26.380'W				53°56.436'N	003°24.562'W		
C04	53°59.365'N	003°30.808'W	H10	53°58.353'N	003°25.326'W				53°56.503'N	003°29.484'W		
C05	53°59.080'N	003°30.461'W	H11	53°58.064'N	003°24.991'W					54°01.117'N	003°18.866'W	
C06	53°58.794'N	003°30.114'W	H12	53°57.770'N	003°24.651'W					54°01.120'N	003°19.022'W	
C07	53°58.509'N	003°29.767'W	H13	53°57.449'N	003°24.279'W					53°56.643'N	003°25.375'W	
D01	54°00.439'N	003°31.299'W	I01	54°01.235'N	003°27.775'W					53°56.718'N	003°29.331'W	
D02	54°00.080'N	003°30.861'W	I02	54°00.866'N	003°27.358'W					54°00.153'N	003°33.516'W	
D03	53°59.794'N	003°30.514'W	I03	54°00.574'N	003°27.028'W					54°01.776'N	003°26.667'W	
D04	53°59.508'N	003°30.167'W	I04	54°00.283'N	003°26.699'W					53°58.347'N	003°22.799'W	
D05	53°59.223'N	003°29.819'W	I05	53°59.992'N	003°26.370'W					53°56.643'N	003°25.375'W	
D06	53°58.937'N	003°29.472'W	I06	53°59.701'N	003°26.041'W						54°00.133'N	003°23.571'W
D13	53°56.724'N	003°26.785'W	I07	53°59.409'N	003°25.712'W						53°59.828'N	003°24.579'W
E01	54°00.630'N	003°30.455'W	I08	53°59.073'N	003°25.332'W						53°59.607'N	003°25.614'W
E02	54°00.267'N	003°30.026'W	I09	53°58.781'N	003°25.003'W						53°59.537'N	003°25.684'W
E03	53°59.980'N	003°29.686'W	I10	53°58.490'N	003°24.674'W						53°59.414'N	003°25.773'W
E08	53°58.518'N	003°27.960'W	I11	53°58.198'N	003°24.345'W						53°59.369'N	003°25.881'W
E09	53°58.226'N	003°27.645'W	I12	53°57.744'N	003°23.833'W						53°59.358'N	003°25.944'W
E10	53°57.943'N	003°27.281'W	J01	54°01.418'N	003°27.086'W							

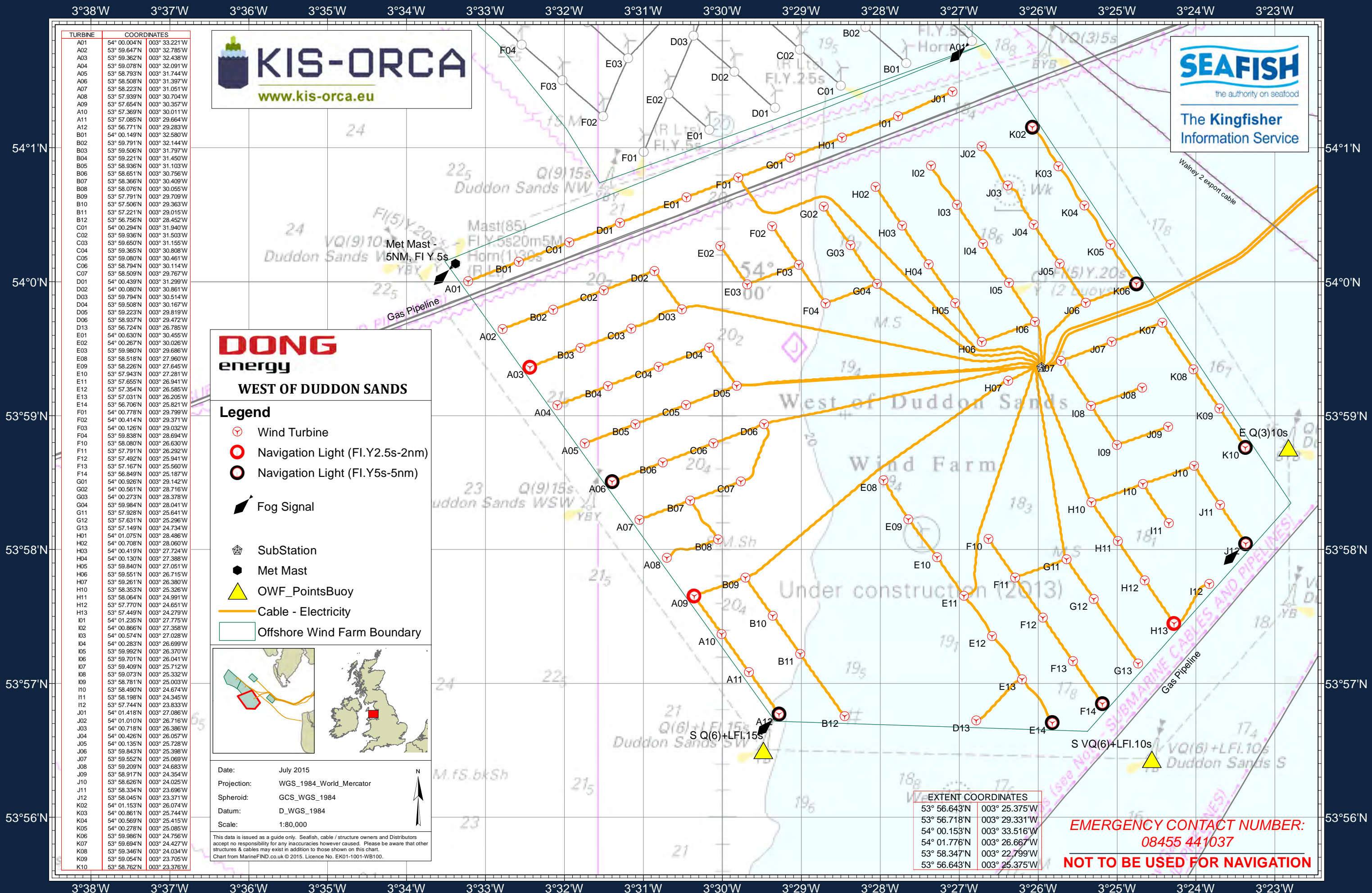
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# Kingfisher Awareness Chart



PLEASE KEEP CLEAR OF AND DO NOT DAMAGE SUBSEA CABLES

THESE CABLES CARRY HIGH VOLTAGES AND CAN BE DANGEROUS TO LIFE

IT IS AN OFFENCE TO WILFULLY DAMAGE SUBSEA CABLES