A unified approach to Energy and Marine use planning when considering offshore wind cable infrastructure

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Group Structure

**GLOBAL MARINE GROUP**

- **Global Marine**: Fibre-optic cable solutions to the telecommunications and oil & gas markets
- **CWind**: A range of project services, CTVs and GWO-accredited training course to the offshore wind market
- **Global Offshore**: Cable installation, repair and trenching services to the offshore renewables, utilities and oil & gas markets
- **OceanIQ**: Subsea cable data, survey, route engineering and consultancy services to the telecommunications, offshore renewables, utilities and oil & gas markets
A Unified Approach

- The coastal marine ecosystem is vast, diverse and irreplaceable
- Limited experience with utility scale electrical infrastructure in the marine setting in the US
- The marine environment is already home to many existing commercial uses
- Common issues related to cable infrastructure construction and maintenance are largely the same whether one point-to-point cable or an entire system is being constructed.
- Purpose built vessels and equipment designed specifically for offshore power cable are a by-product of the European OSW industry to date.

**Goal:** Offshore cable infrastructure which maximizes electrical throughput while minimizing marine environmental impact and is designed to co-exist with existing commercial users.
Global Marine Zone Representation

ACMA – Wave Sentinel (West) & C.S. Sovereign (East)
NAZ – Cable Innovator
SEAIOCMA – Cable Retriever
YZ – JV vessel, Fu An

Key
- Vessels
- Depots
- JVs/Alliances
- Site Locations
Common OSW Cable Infrastructure

- Cable Manufacturing
- Cable Storage
- Project Management
- Cable Route Engineering
- Pre-Project Planning & Cable Installation
- Trenching & Protection
- Cable Repair
- Temporary Power
- Topside & Subsea IMR
- Subsea Survey
- Specialist Cable Ships

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Example Equipment: Multipurpose Pre-Lay Plough

› Single pass capability delivering boulder clearance and pre-trenching up to 1.7m in a single run, leaving a boulder cleared swathe and a ‘backfill-ready’ open trench with segregated spoil.

› Reduces operational risk and the time required to install subsea cables.

› Can be reconfigured into backfill mode.
Equipment: Trenching ROV

› Jet trenching up to 3m in soil conditions ranging from 5 KPA to 100 KPA

› Mechanical chain cutting of soils up to 250 KPA

› Facilitates backwashing and backfilling of seabed material.

› Accommodate flexible cables up to 250mm diameter.
Example Vessel: Global Symphony

› Array Installation vessel
› 130m length
› Extensive 1,400m² deck space
› Fitted with two WROV systems
› Accommodates 105 persons
Example Technique: Shore End

- Cable is “floated” through shallow water
- Crosses beach via HDD or trench depending on project design and permits
- Cable is then buried along the route to the specified depth
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