



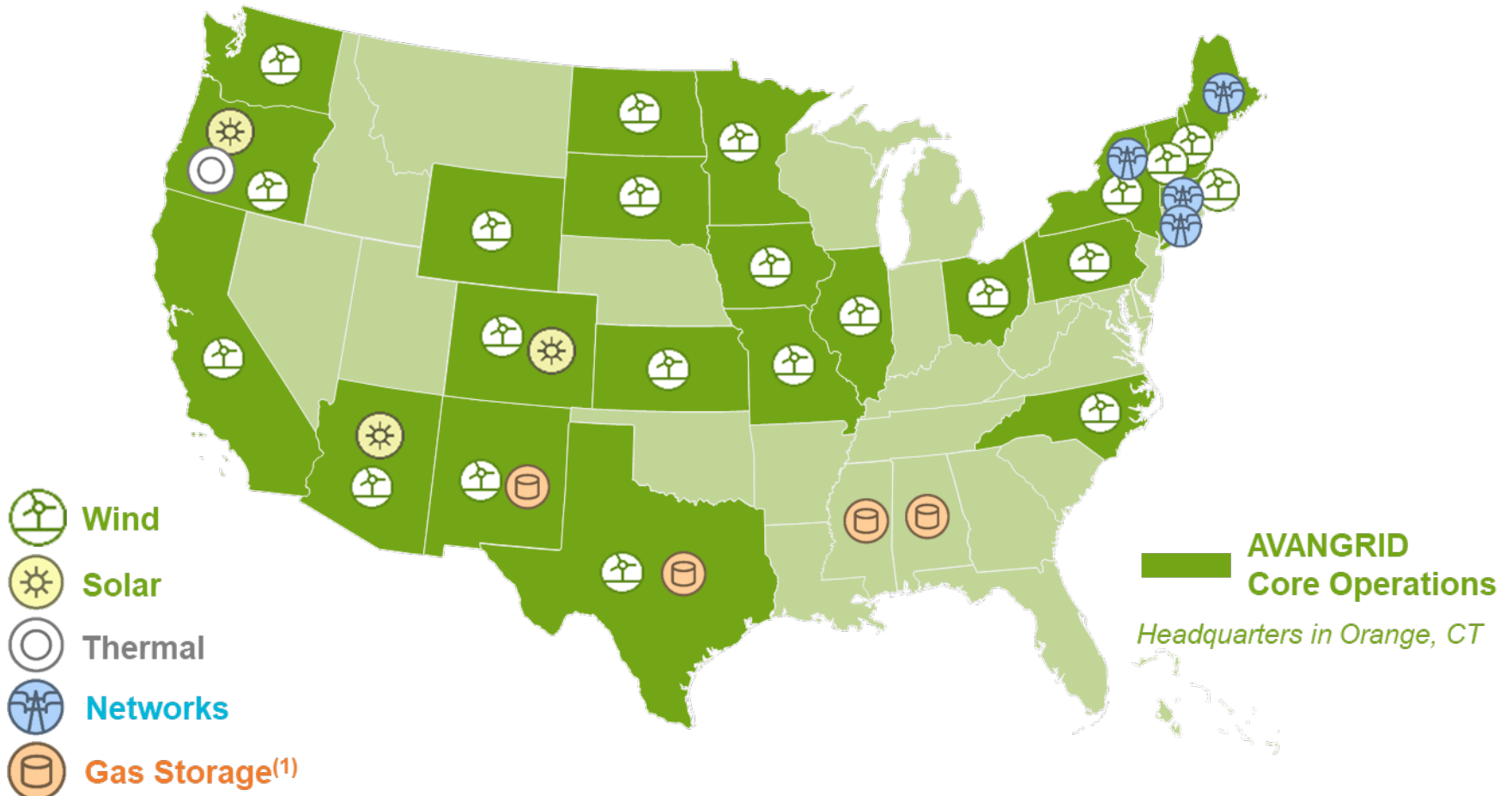
**AVANGRID
RENEWABLES**

February 11, 2020

Kitty Hawk Offshore Wind

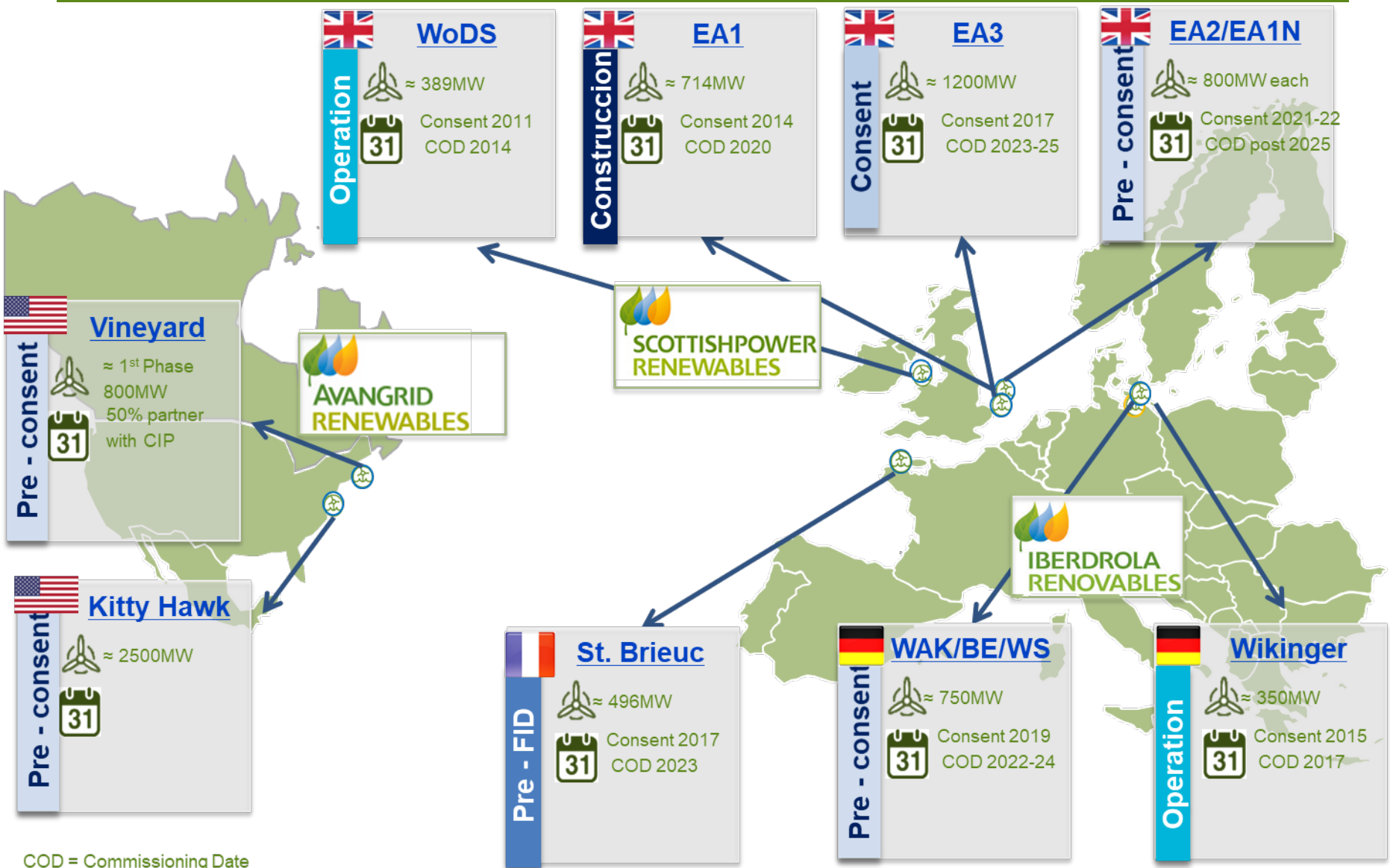
AVANGRID's Geographic Presence

~ \$32 billion in assets with a presence in 27 states
3rd largest wind operator in the U.S.
> 6 GW wind & solar in operation



(1) Under strategic review

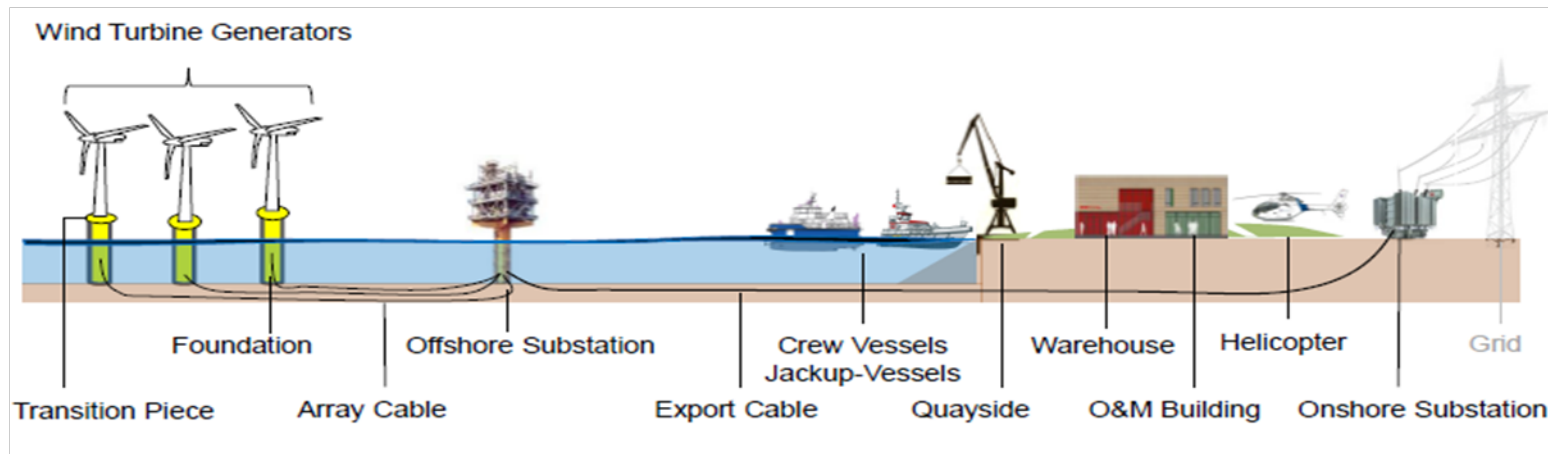
Offshore pipeline overview Iberdrola Group



COD = Commissioning Date

Anatomy of an Offshore project

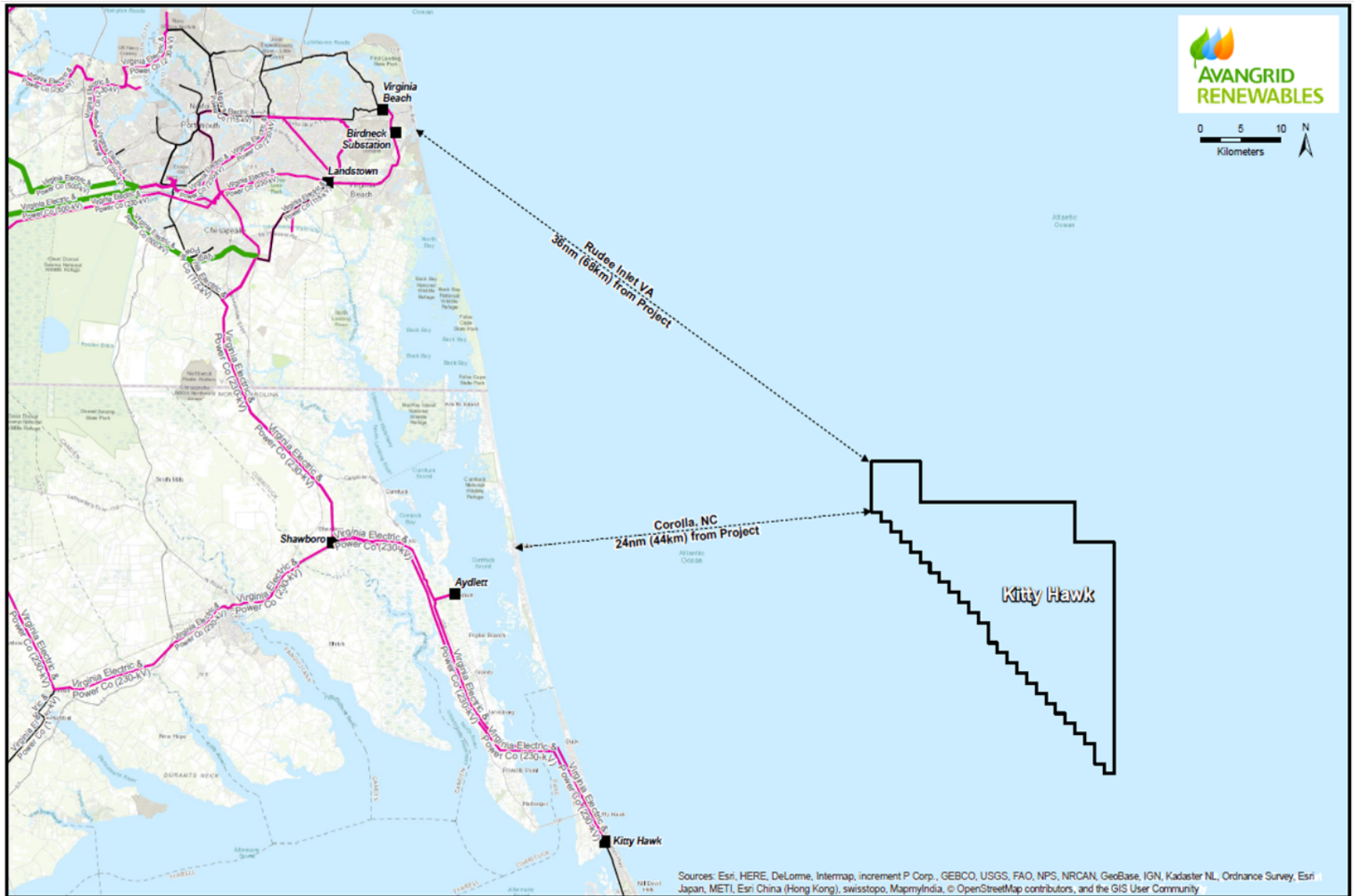
Complex power plants located far from shore

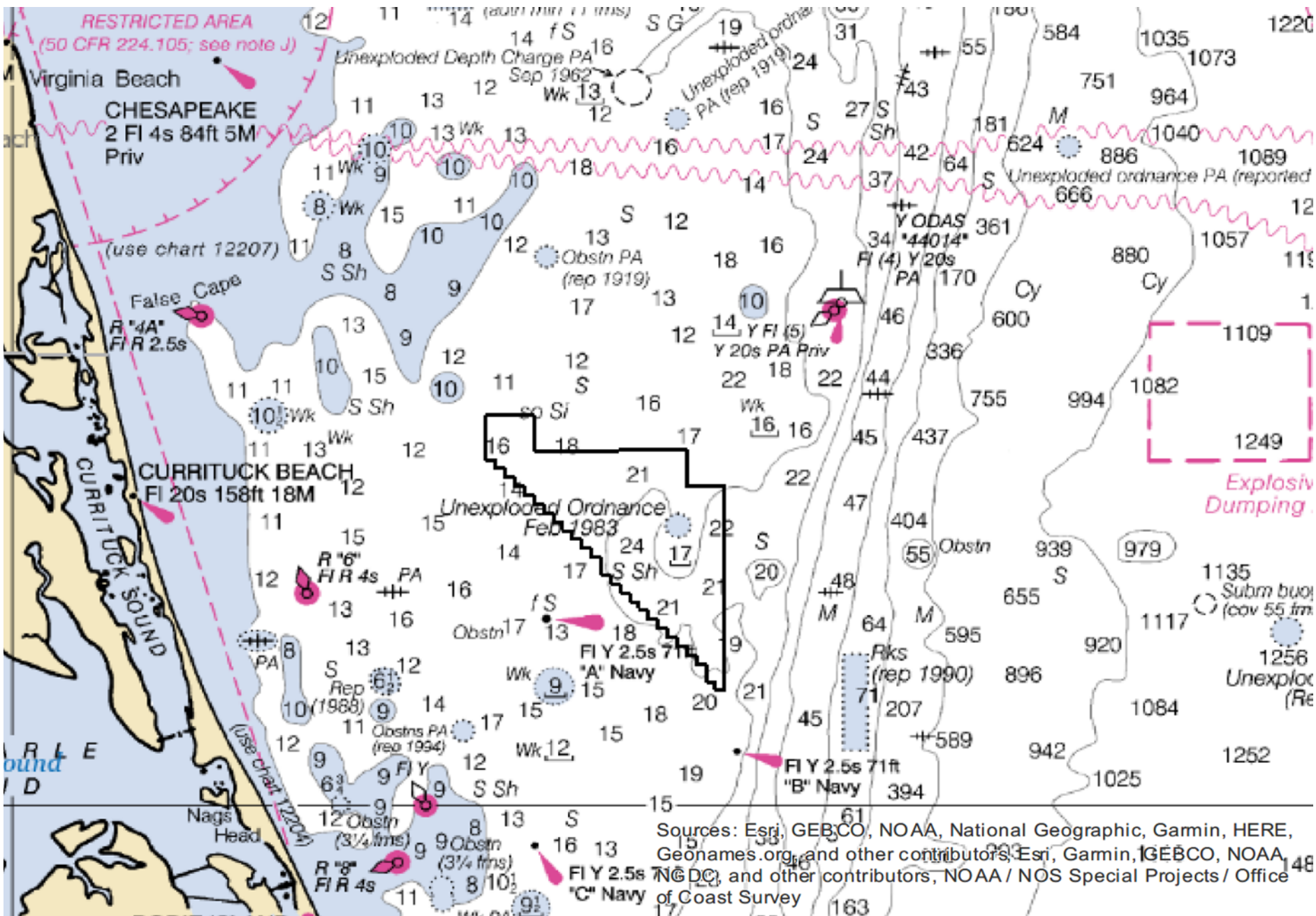


- Marine environment: sea waves, seabed mobility, corrosion, weather downtime
- Specific Health and Safety risks and requirements
- Huge scale of operations

Key technological decisions are taken 3 to 5 years before actually implemented

Kitty Hawk Wind Energy Area





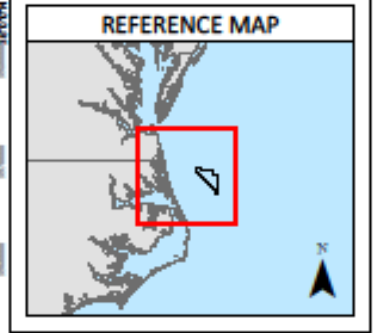
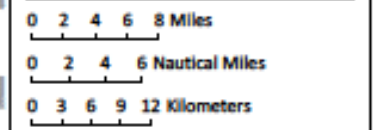
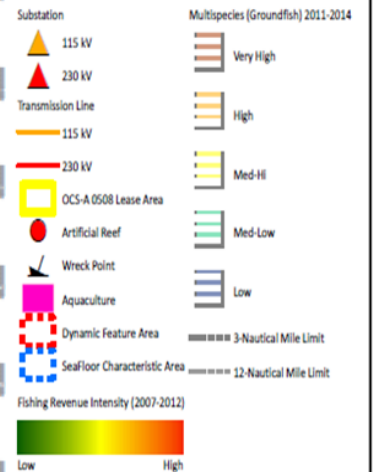
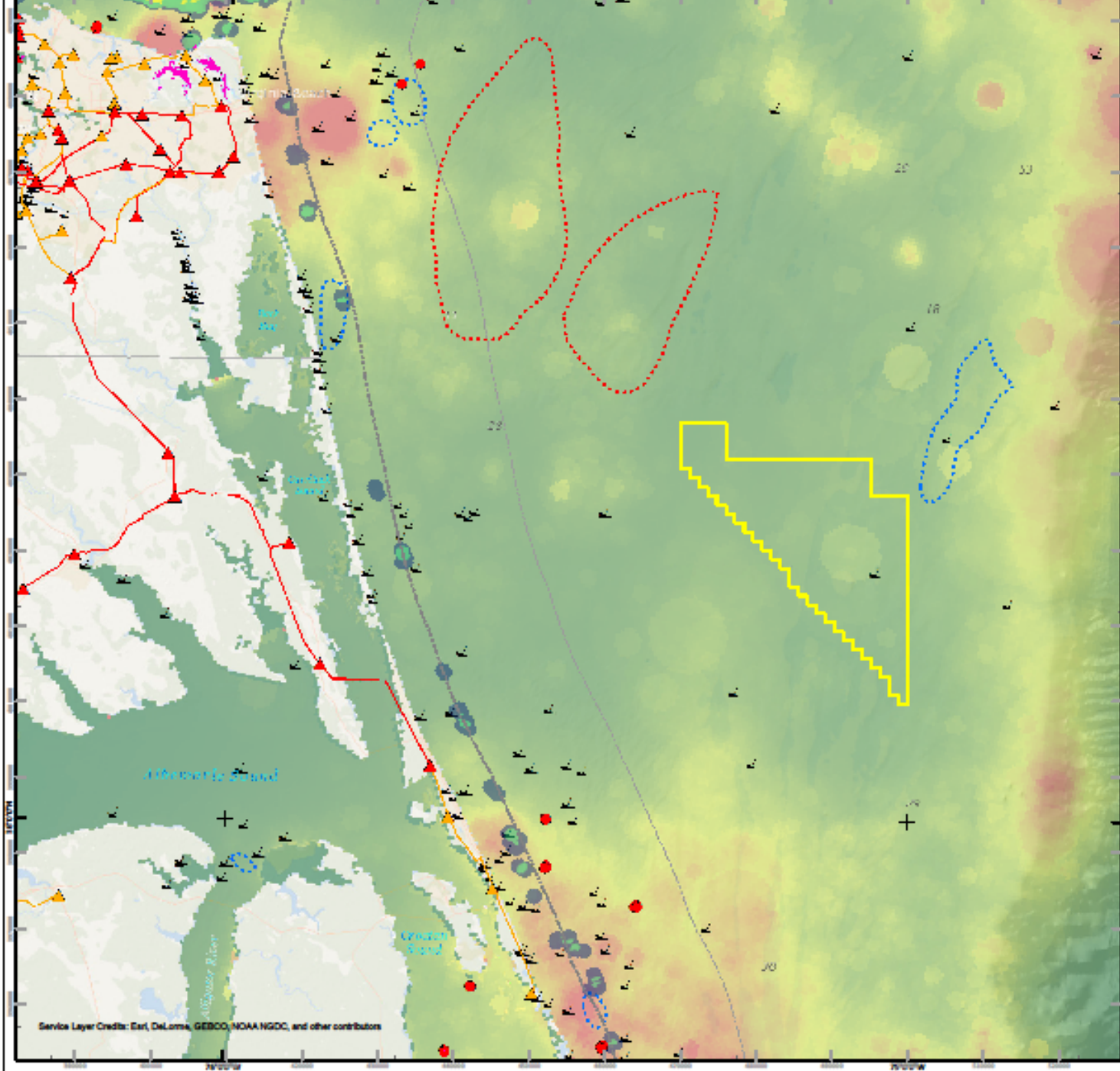
Sources: Esri, GEBCO, NOAA, National Geographic, Garmin, HERE, Geonames.org, and other contributors; Esri, Garmin, GEBCO, NOAA, NED, and other contributors, NOAA / NOS Special Projects / Office of Coast Survey

Kitty Hawk Offshore Wind Project Avangrid Renewables

CIA: Fishing



DRAFT



Service Layer Credits: Esri, DeLorme, GEBCO, NOAA, NGDC, and other contributors

Planned activities offshore NC & VA

2018

Planning, assessment & stakeholder outreach

2019

Planning, assessment & stakeholder outreach

Aerial Surveys of wind energy area – Avian, Marine Mammals, Sea Turtles, Fish

Marine geophysical, geotechnical, & benthic reconnaissance surveys

SAP submittal

2020

Planning, assessment & stakeholder outreach

Aerial Surveys of wind energy area – Avian, Marine Mammals, Sea Turtles, Fish

Marine geophysical, geotechnical, & benthic surveys of potential project area(s) & cable routes

SAP Approval/Buoy deployment

Potential

2021-2022

Planning, assessment & stakeholder outreach

Project permitting

2023 Onshore construction

2024-2025 Offshore construction

Targeted Fisheries Outreach

Communications Network and Nodes

- HMS Tournaments
- Marina Operators
- Regional Fishery Management Councils & Commission
- State Marine Fisheries Agencies (NC & VA)
- NMFS HMS
- Commercial Fleet Owners/Operators
- Commercial Fishery Associations & Recreational Leaders
- NMFS RAs

Targeted Fisheries Engagement

Oral History Interviews

- Description of historical fishing
- Gear types and operating modalities
- Seasonal movement of fish
- Historical characterization and trends
- Ecological and environmental observations
- Identification of other fisheries in the area

Future Fisheries Engagement

Developing Fisheries Baseline

- Characterizing fisheries transits
- Fisheries data requests- Federal/State
 - Fisheries independent data (e.g. Surveys)
 - Fisheries dependent data (e.g. VTR, NEFOP)

Buoy Deployment

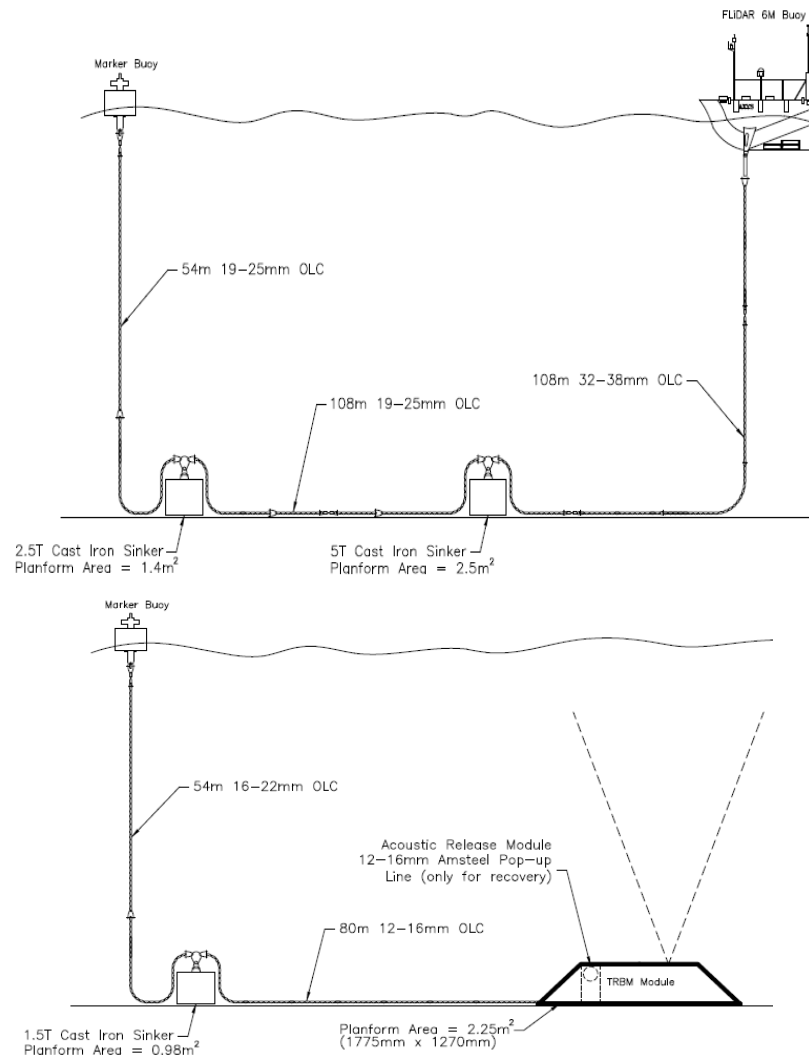
- Communication and coordination with fleet

Offshore Survey Work

- Continued communication and coordination with offshore survey vessel and fishing fleet

MetBuoy Deployment

- MetBuoy Deployment – Q1 2020, pending approval of the Site Assessment Plan



Benthic Grab Sampling

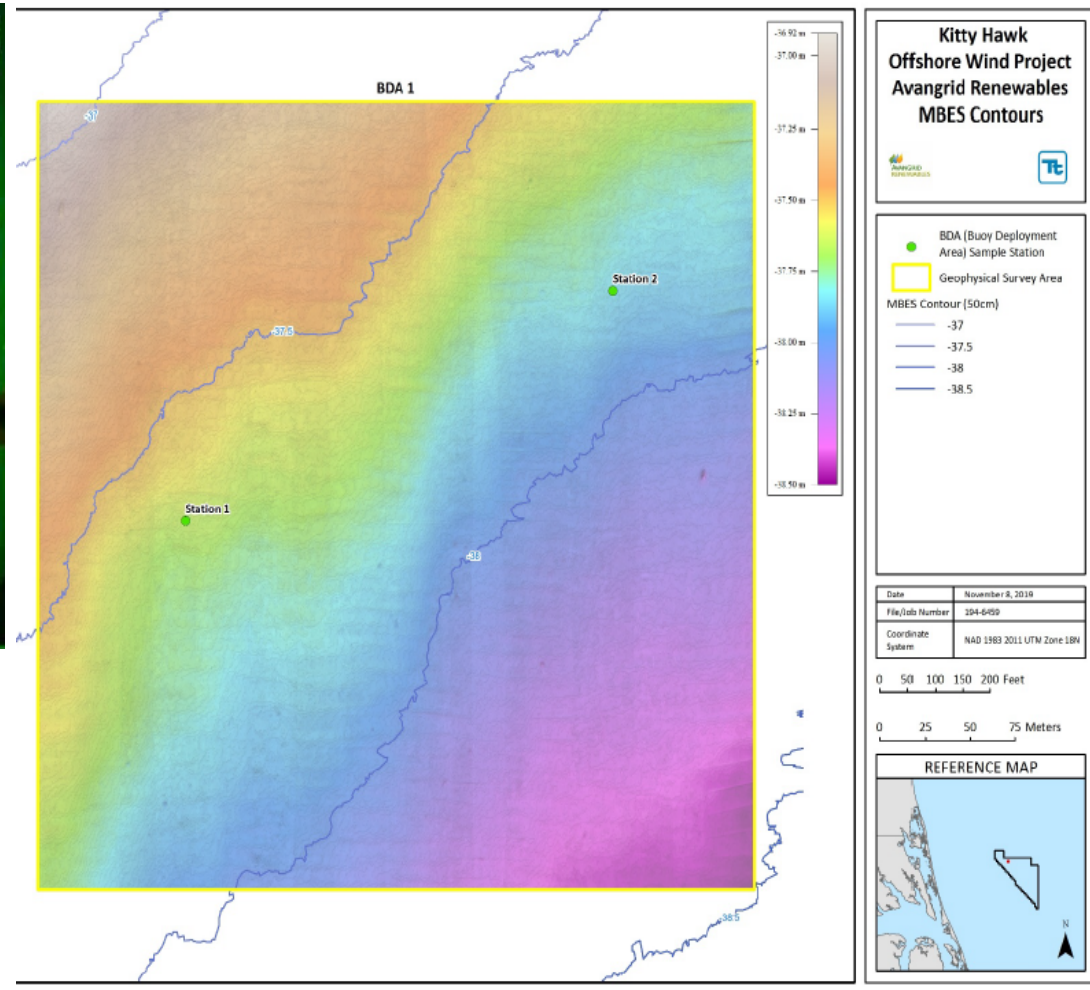
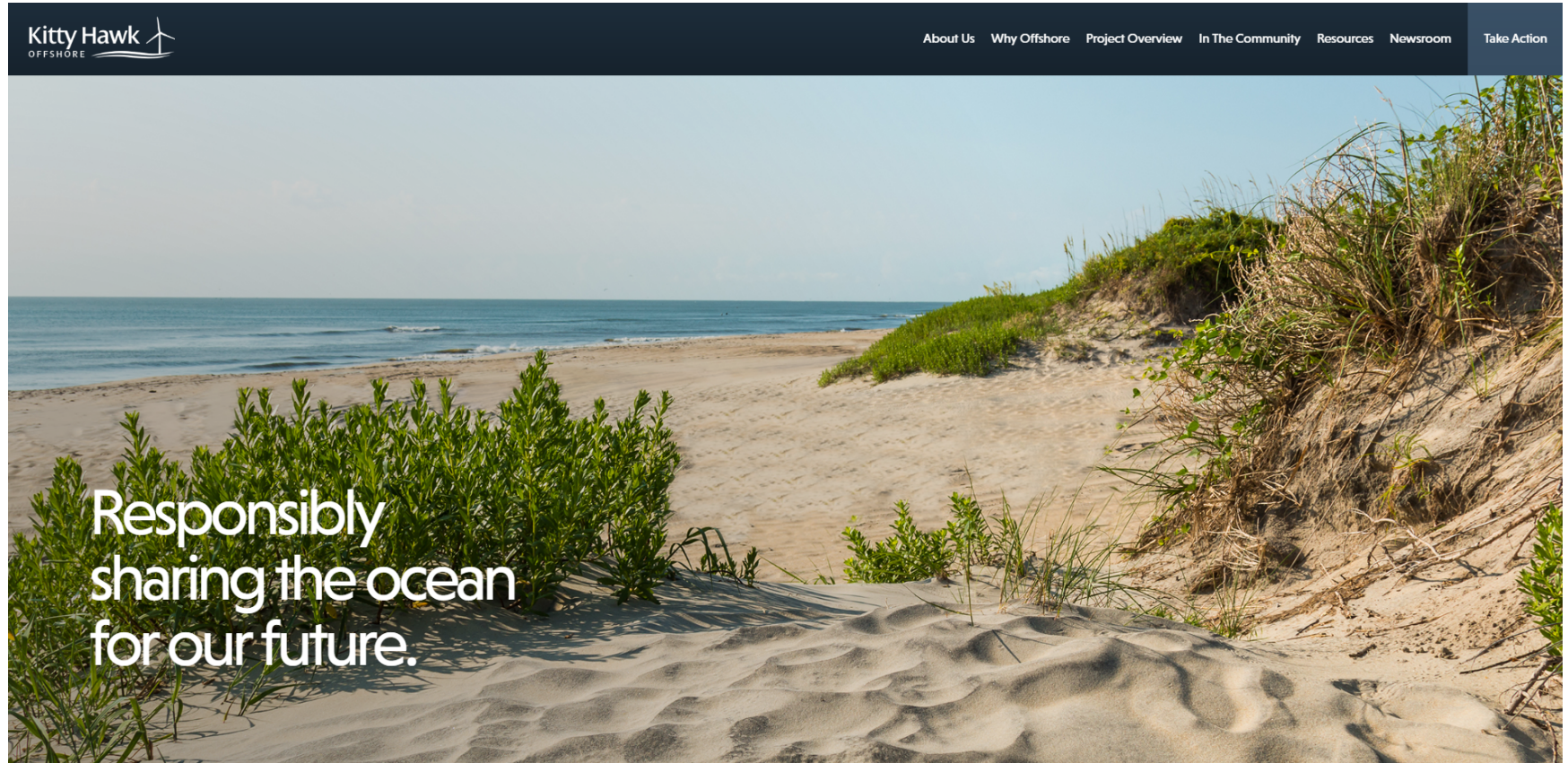


Figure 6-2 BDA1 MBES/SSS Mosaic

- Silty sand with medium to high compaction based on the SSS.
- Confirmed by the benthic grab sampling- fine sand (>96.5%)
- Total organic carbon was low, ranging from non detect to 3,400 mg/kg (0.34 percent).
- A total of 585 organisms were collected in BDA1, lowest practical taxonomic level (LPTL).
 - Primarily consisted of polychaete worms, amphipods, bivalves, and forams.
 - Species of anthropogenic importance observed included Atlantic rock crab, Atlantic jackknife clam, scallops, ocean quahog, and Atlantic surf clam.

Project Updates



Updates available at www.avangridrenewables.com/kittyhawk

Preparing to launch new website in Q1 2020 at www.kittyhawkoffshore.com

Questions?

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