

A small, low cost, emission-free, 100% renewable moored buoy designed for worldwide environments which supports all instrumentation necessary for full site assessment

INDUSTRY CHALLENGES

Business need

- Offshore project developers install multiple buoys, for each discipline
- Data inaccuracy due to buoy motions
- Limited number of instruments due to power consumption offshore
- O&M: boarding buoys impractical
- Multiple permits, contracts required

Complexities

- Increased environmental requirements
- Better engineering data can reduce foundation and turbine costs
- Difficult stakeholders' engagements

STRATEGY

Design basis

- Develop a zero-emission buoy with excellent motion characteristics
- 100% renewable powered
 - Wind Wave and solar energy
 - Battery storage for intermittence
- Operate high power equipment including multiple radars
 - ~1.5 KW power need

Key Features

- Slender columns buoy
- Single line mooring
- Flexibility
 - Transportable by container
 - Install with small tugs

MULTIDISCIPLINARY DATA

Financial

- Floating lidar

Environmental

- Radar
 - Birds & Bats
- Acoustics
 - Marine Mammals & bats

Engineering

- Metocean
 - Wind, wave, current
 - Turbulence (lidar)
- Local chemistry
 - Marine growth, corrosion

Stakeholder engagement

- Fishing industry
 - Bio-diversity
 - Mari-culture

