



## RENEWABLE ENERGY PORTFOLIO

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Trusted Design | Quality Workmanship | Proven Experience

THE FUTURE OF THE SOFEC PRODUCT LINE



## Alternative Fuels Transfer Systems:

SOFEC offers jetty-less e-fuel terminals in the form of either a CALM (Catenary Anchor Leg Mooring) Buoy or a TLU (Tower Loading Unit).

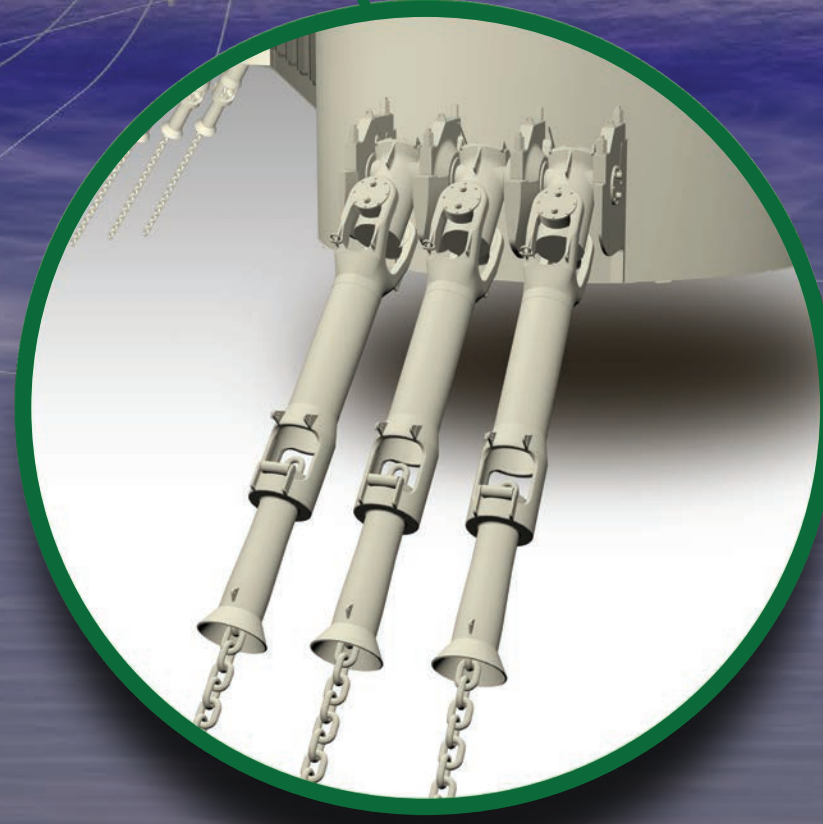
- Suitable to convey refrigerated ammonia at -33 °C.
- Adaptive to convey other e-fuels such as Methanol.
- Reduced downtime compared to jetty or other fixed structures.
- Lower overall cost compared to jetty or other fixed structures.
- Suitable for loading, offloading, or bunkering e-fuels.
- Provides stationkeeping and weathervaning capabilities for the tanker.



## Floating Wind Mooring Systems:

SOFEC is a leading mooring system EPC contractor and has supplied mooring systems in a wide range of water depths and in harshest environments. We also provide technical support for installation and long-term integrity management of mooring systems.

- Innovative, optimized, and cost-effective mooring solutions.
- Installation friendly designs.
- Disconnectable mooring systems.
- Mooring Integrity Management Plan Development.
- Inspection Support, Condition Monitoring, and Performance Assessment.
- Digital Twin and Advance Analytics.



## Electric Charging Buoy:

SOFEC offers an offshore charging station to accommodate all-electric and hybrid vessels.

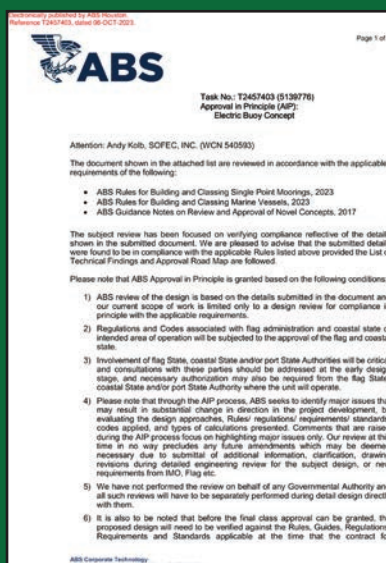
- Designed according to IEC standards and CLASS rules.
- Flexible power output:
  - Voltages up to 1kV AC with a peak rated power transfer capacity of up to 1MW.
  - 1kV AC to 11kV AC with a peak rated power transfer capacity of 1MW to 10MW.
- Equipped with:
  - Cable management system
  - Telemetry system and NavAids
  - Energy storage system with rechargeable batteries
  - Electrical slip ring
- Provides stationkeeping and weathervaning capabilities for the vessel.





Drawing on 50 years of experience, SOFEC is dedicated to meeting the renewable energy industry's demands by offering innovative marine terminals for fluid transfer systems and versatile mooring solutions. With persistent innovation, SOFEC's Renewable Energy Portfolio broadens our array of solutions.

- **Alternative Fuels Transfer Systems:** DNV granted SOFEC Approval in Principle (AiP) for refrigerated ammonia transfer systems using two mooring technologies: 1) CALM Buoys and 2) Tower Loading Units. Both systems belong to SOFEC's proven product lines and are adapted for low-emission alternative fuels like ammonia.
- **Electric Charging Buoy:** ABS awarded SOFEC Approval in Principle (AiP) for the cutting-edge Electric Charging Buoy (ECB), promoting renewable energy and electric shore power. This solution offers offshore charging stations for fully electric or hybrid offshore vessels, such as tugboats, ferries, Crew Transfer Vessels (CTVs), and Service Operation Vessels (SOVs), eliminating the need for returning to the port.
- **Floating Wind Mooring Systems:** SOFEC leverages its extensive expertise in the analysis, design, supply, installation, and integrity management of mooring systems to cater to the specific needs of Floating Offshore Wind (FOW) developments. Our cost-effective mooring solutions are supported by advanced numerical calculations, the utilization of innovative materials and components, and consideration of installation requirements.





A Global Leader in the supply  
of Turret Mooring Systems and Marine Terminals

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