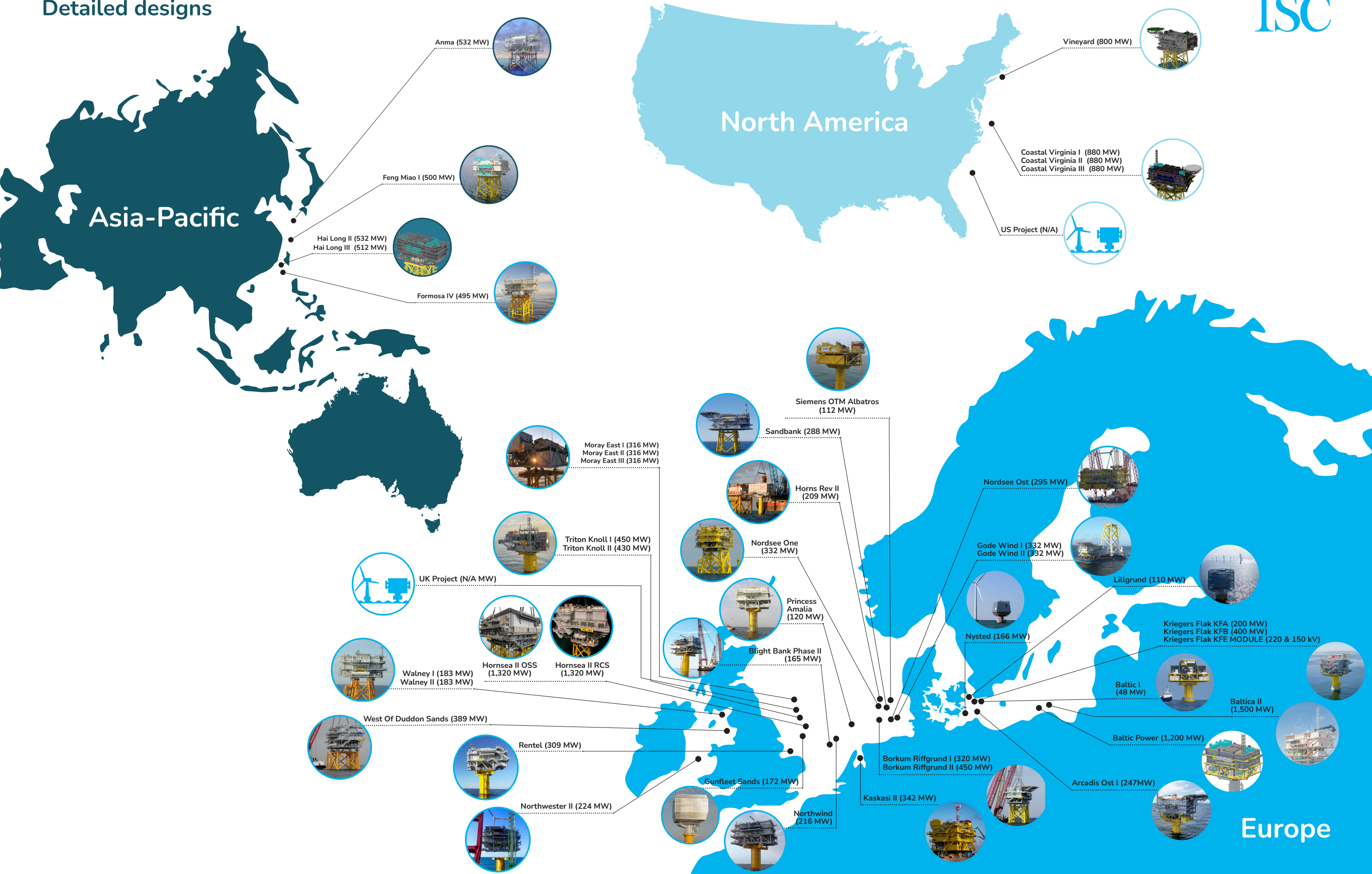


OFFSHORE SUBSTATIONS

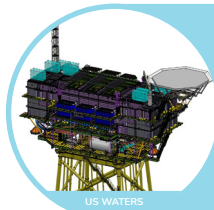


ISC

Detailed designs



Detailed designs



Coastal Virginia I (880 MW)
Coastal Virginia II (880 MW)
Coastal Virginia III (880 MW)

Topside Weight: 4,000 tonnes
Installation Year: 2026
Water Depth: 25.8, 31.1 & 28.4 m
Substructure: Jacket
Detailed Design: Topside & Substructure
Owner: Dominion Energy

Location: US East Coast



Northwester II (224 MW)

Topside Weight: 930 tonnes
Installation Year: 2019
Water Depth: 31 m
Substructure: Monopile
Detailed Design: Topside
Owner: Northwester II

Location: Belgian North Sea



Nordsee One (332 MW)

Topside Weight: 1,890 tonnes
Jacket Weight: 1,375 tonnes
Installation Year: 2016
Water Depth: 29 m
Substructure: Jacket
Detailed Design: Topside & Substructure
Owner: RWE Innogy

Location: German Bight



Baltic I (48 MW)

Transition Piece Weight: 1,100 tonnes
Installation Year: 2010
Water Depth: 18 m
Substructure: Monopile
Detailed Design: TP & monopile
Owner: EnBW & Ballast Nedam

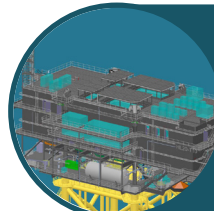
Location: German Baltic Sea



UK project (N/A MW)

Topside Weight: N/A
Installation Year: N/A
Water Depth: N/A
Substructure: N/A
Detailed Design: N/A
Owner/Client: N/A

Location : UK North Sea



Hai Long II (532 MW)
Hai Long III (512 MW)

Topside Weight: 2,800 & 2,800 tonnes
Installation Year: 2026
Water Depth: 26.8 & 30.1 m
Substructure: Jacket
Detailed Design: Topside & Substructure
Owner: Hai Long Offshore Wind

Location: Taiwanese Coast



Siemens OTM Albatros (112 MW)

Topside Weight: 742 tonnes
Installation Year: 2019
Water Depth: 39 m
Substructure: Monopile
Detailed Design: Topside
Owner: EnBW & Siemens

Location: German Bight



Gode Wind I (332 MW)

Topside Weight: 1,930 tonnes
Jacket Weight: 1,790 tonnes
Installation Year: 2015
Water Depth: 30 m
Substructure: Jacket
Detailed Design: Topside & Substructure
Owner: Ørsted

Location: German Bight



Walney I (183 MW)

Topside Weight: 1,000 tonnes
Jacket Weight: 940 tonnes
Installation Year: 2010
Water Depth: 21 m
Substructure: Jacket
Detailed Design: Topside & Substructure
Owner: Dong Energy

Location: UK Irish Sea



Formosa IV (495 MW)

Topside Weight: 2,700 tonnes
Installation Year: Expected 2027
Water Depth: 57-64 m
Substructure: Jacket
Detailed Design: Topside
Owner: Synera Renewable Energy

Location: Taiwan Strait



Mayflower (1,200 MW)

Topside Weight: 4,200 tonnes
Installation Year: N/A
Water Depth: 45 m
Substructure: Jacket
Detailed Design: Topside & Substructure
Owner: Mayflower Wind & BSR

Location: US East Coast



Kriegers Flak KFA (200 MW)
Kriegers Flak KFB (400 MW)

Topside Weight: 1,350 & 1,675 tonnes
Installation Year: 2018
Water Depth: 20, 31 m
Substructure: Concrete Gravity Base
Detailed Design: Topside & Substructure
Owner: Energinet.dk

Location: Danish Baltic Sea



Gode Wind II (332 MW)

Topside Weight: 1,930 tonnes
Jacket Weight: 1,790 tonnes
Installation Year: 2015
Water Depth: 33 m
Substructure: Jacket
Detailed Design: Topside & Substructure
Owner: Ørsted

Location: German Bight



Walney II (183 MW)

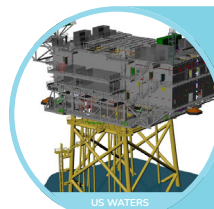
Topside Weight: 1,000 tonnes
Jacket Weight: 965 tonnes
Installation Year: 2011
Water Depth: 24 m
Substructure: Jacket
Detailed Design: Topside & Substructure
Owner: Dong Energy

Location: UK Irish Sea



Anma (532 MW)
Topside Weight: 3,250 tonnes
Installation Year: Expected 2027
Water Depth: 20 m
Substructure: Jacket
Detailed Design: Topside & Substructure
Owner/Client: HBA Future Energy
/Anma Offshore Wind Energy

Location: SouthWest of South Korea



Vineyard (800 MW)

Topside Weight: 3,040 tonnes
Jacket Weight: 2,000 tonnes
Installation Year: 2018
Water Depth: 38.3 m
Substructure: Jacket
Detailed Design: Topside & Substructure
Owner: Vineyard Wind

Location: US East Coast



Kriegers Flak KFE MODULE
(220 & 150 kV)

Topside Weight: 685 tonnes
Installation Year: 2018
Water Depth: 16 m
Substructure: Concrete Gravity Base
Detailed Design: Topside & Substructure
Owner: Energinet.dk

Location: Danish Baltic Sea



Nordsee Ost (295 MW)

Topside Weight: 1,650 tonnes
Installation Year: 2014
Water Depth: 23 m
Substructure: Jacket
Detailed Design: Topside
Owner: RWE Innogy

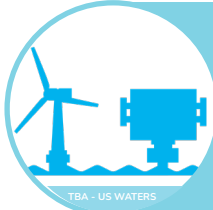
Location: German Bight



Gunfleet Sands (172 MW)

Topside Weight: 1,155 tonnes
Transition Piece: 155 tonnes
Installation Year: 2008
Water Depth: 15 m
Substructure: Monopile
Detailed Design: Topside
Owner: Ørsted

Location: UK North Sea



US project (N/A MW)

Topside Weight: N/A
Installation Year: N/A
Water Depth: N/A
Substructure: N/A
Detailed Design: N/A
Owner: N/A

Location: US East Coast



Arcadis Ost I (247 MW)

Topside Weight: 2,200 tonnes
Installation Year: 2022
Water Depth: 43.7 m
Substructure: MP & TP
Detailed Design: Topside
Owner: Parkwind OST GmbH

Location: German Baltic Sea



Triton Knoll I (450 MW)
Triton Knoll II (430 MW)

Topside Weight: 1,100 tonnes
TP & Cage: 755 tonnes
Installation Year: 2018
Water Depth: 27 m
Substructure: MP, TP & Cage
Detailed Design: Topside, MP, TP & Cage
Owner: Innogy & Siemens

Location: UK North Sea



Northwind (216 MW)

Topside Weight: 1,140 tonnes
Installation Year: 2013
Water Depth: 20 m
Substructure: Monopile
Detailed Design: Topside
Owner: Northwind Offshore Energy

Location: German Bight



Horns Rev II (209 MW)

Topside Weight: 1,238 tonnes
Jacket Weight: 798 tonnes
Installation Year: 2008
Water Depth: 13 m
Substructure: Jacket
Detailed Design: Topside & Substructure
Owner: Energinet.dk

Location: Danish North Sea



Feng Miao I (500 MW)

Topside Weight: 3,200 tonnes
Installation Year: Expected 2026
Water Depth: 53-60 m
Detailed Design: Topside
Owner: Copenhagen Offshore Partners

Location : Taiwanese Coast



Kaskasi II (342 MW)

Topside Weight: 1,250 tonnes
Installation Year: 2022
Water Depth: 38.3 m
Substructure: Jacket
Detailed Design: Topside, MP & TP
Owner: Innogy

Location: German Bight



Rentel (309 MW)

Topside Weight: 1,100 tonnes
Monopile Weight: 1,100 tonnes
Installation Year: 2018
Water Depth: 31 m
Substructure: MP & TP incl. Cabledeck
Detailed Design: TP, MP & Cabledeck
Owner: Rentel & STX

Location: Belgian North Sea



West of Duddon Sands (389 MW)

Topside Weight: 1,520 tonnes
Jacket Weight: 1,180 tonnes
Installation Year: 2013
Water Depth: 19 m
Substructure: Jacket
Detailed Design: Topside & Substructure
Owner: Dong Energy & Scottish Power

Location: UK Irish Sea



Lillgrund (110 MW)

Topside Weight: 670 tonnes
Installation Year: 2007
Water Depth: 10 m
Substructure: Concrete Gravity Base
Detailed Design: Topside
Owner: Vattenfall

Location: Sweden Oresund



Baltica II (1,500 MW)

Topside Weight: 2,800 tonnes x 4
Installation Year: Expected 2027
Water Depth: 32-47 m
Substructure: Monopile
Detailed Design: Topside & Modular
Support Frame
Owner: Ørsted & PEG

Location: Baltic Sea



Moray East I (316 MW)
Moray East II (316 MW)
Moray East III (316 MW)

Topside Weight: 1,252 tonnes
Installation Year: 2021
Water Depth: 22 m
Substructure: Jacket
Detailed Design: Topside
Owner: EDP Renewables & Siemens

Location: UK North Sea



Bligh Bank Phase II (165 MW)

Topside Weight: 970 tonnes
Installation Year: 2016
Water Depth: 10 m
Substructure: Monopile
Detailed Design: Topside
Owner: Nobelwind

Location: Belgian North Sea



Borkum Riffgrund I (320 MW)

Topside Weight: 1,835 tonnes
Jacket Weight: 1,685 tonnes
Installation Year: 2013
Water Depth: 24 m
Substructure: Jacket
Detailed Design: Topside & Substructure
Owner: Ørsted

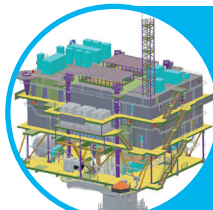
Location: German Bight



Princess Amalia (120 MW)

Topside Weight: 650 tonnes
Installation Year: 2007
Water Depth: 24 m
Substructure: Monopile
Detailed Design: Topside
Owner: Eneco

Location: Netherlands North Sea



Baltic Power (1,200 MW)

Topside Weight: 2,350 tonnes
Installation Year: 2026
Water Depth: 33-45 m
Substructure: Monopile
Detailed Design: Topside & Substructure
Owner: Baltic Power

Location: Baltic Sea



Hornsea II RCS (1,320 MW)
Hornsea II OSS (1,320 MW)

Topside Weight: 1,852 & 8,000 tonnes
Installation Year: 2021
Water Depth: 32 & 36 m
Substructure: Jacket
Detailed Design: Topside & Substructure
Owner: Ørsted

Location: UK North Sea



Sandbank (288 MW)

Topside Weight: 2,230 tonnes
Jacket Weight: 1,560 tonnes
Installation Year: 2016
Water Depth: 29 m
Substructure: Jacket
Detailed Design: Topside & Substructure
Owner: Vattenfall

Location: German Bight



Borkum Riffgrund II (450 MW)

Topside Weight: 2,185 tonnes
Jacket Weight: 1,670 tonnes
Installation Year: 2018
Water Depth: 27 m
Substructure: Jacket
Detailed Design: Topside & Substructure
Owner: Ørsted

Location: German Bight



Nysted (166 MW)

Topside Weight: 670 tonnes
Installation Year: 2003
Water Depth: 6-10 m
Substructure: Concrete Gravity Base
Detailed Design: Topside
Owner: Ørsted

Location: Danish Baltic Sea

50+ detailed designs

We are market leaders with 50+ detailed designs of substations on 3 continents, including the world's largest HVAC offshore substation and the world's first offshore substation.

Our portfolio demonstrates comprehensive expertise within the field of offshore substation design, including a broad spectrum of topside layouts as well as jackets, gravity-based, and monopile substructures.

We have demonstrated the ability to work alongside local authorities to produce superior solutions that comply with local regulations and authority requirements.

Furthermore, we have developed new concepts employing modularization for standard offshore substation platforms as well as custom-fit solutions for clients worldwide.

We bring it all together

We are experts in engineering services for substations, substructures, wind turbine foundations and hydrogen production.

When developing an offshore structure, every engineering decision creates consequences elsewhere. That's why our holistic approach is crucial to success. Nothing exists in isolation. Great offshore structures are designed in cooperation with many stakeholders working together. We focus on bringing it all together.

We provide our services directly to wind farm owners and EPC/EPCI contractors for all major players in the offshore wind energy business.

ISC's portfolio consists of offshore surveys, site supervision, assistance during the full project execution, numerous studies and new concept developments.

We continuously challenge the design and way of thinking together with our clients.

The world's first offshore substation design

We entered the offshore wind business with the development and design of the world's first offshore substation for an offshore wind farm.

This design by ISC has formed the basis for almost all offshore wind farm substations built today.



Nysted in the Danish Baltic Sea.

Services

We provide independent engineering consultancy directly for wind farm owners and developers and EPCI contractors. We are market leaders with more than 50 detailed designs for offshore substations and cooperate with frontrunners worldwide.

Our services include

- Feasibility study
- Concept study
- FEED designs
- Basic & detail design
- Workshop drawing
- Assistance with certifications
- Assistance with authority approval

BSH, Boem etc.

- Offshore assistance

Skilled staff holding offshore certificates.

- Employer's engineer

Engineering support during detail design, manufacturing and commissioning.
Development of employers' requirements, philosophies and assistance doing EPC/EPCI contracting.

Engineering disciplines

- Electrical**
All electrical installations. Cable-ways, earthing and bonding, single line diagrams, power- and light installations, fire alarm systems, auxiliary systems and ATEX area classification.
- Fire & safety**
We are cooperating with the client to achieve cost-effective fire & safety design. Chaired hazid and hazop sessions for the client, risk management and studies, fire and explosion risk assesment (FERA).
Escape, evacuation and rescue analysis (EERA), ALARP register, risk assesments, FOAM and argonite systems.
- General arrangement**
We are working with the client to achieve the best platform layout solution: Monopiles, Transition Pieces, Jackets etc.
- Geotechnical design**
Design of piles, soil interpretation etc.
- HVAC**
Design of systems to maintain the correct conditions for the sensitive platform equipment.
- Mechanical**
Working with the client to ascertain the appropriate demands and specifications for equipment lifting and environmental protection.
- Piping**
Open drain, bunkering, de-bunkering, seawater cleaning, technical water and sewage systems, sea water systems etc. Isometrics, material lists and stress analysis. Technical specifications and datasheets.
- Process**
Process flow (PFD), process & instrumentation diagrams (P&ID), flow calculations, technical specifications and datasheets.
- Project management**
- Structural**
Design of an economical yet robust structure that optimises efficient installation.

ISC

ISC Consulting engineers

We are an engineering company founded in 1967 and based in Denmark. ISC counts more than 250 employees in 2026.

ISC has been providing engineering services to offshore wind projects since we designed the world's first offshore substation, Nysted, 25 years ago.

Since then we have successfully undertaken the complete detailed design of 50+ offshore substations. Our portfolio demonstrates comprehensive expertise within the field of offshore substation design, including a broad spectrum of topside layouts as well as jackets, gravity-based, and monopile substructures.

Visit our website



www.isc.dk/en/services/renewable-energy

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