RENEWABLE ENERGY

ISC

Detailed designs

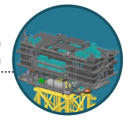
ISC

Asia-Pacific

Anma (532 MW)

Feng Miao I (500 MW)

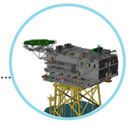
Hai Long II (532 MW)
Hai Long III (512 MW)



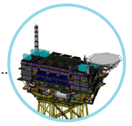
Formosa IV (495 MW)

North America

Vineyard (800 MW)



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



US Project (N/A)

Siemens OTM Albatros
(112 MW)

Sandbank (288 MW)

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

Horns Rev II
(209 MW)

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

Nordsee One
(332 MW)

UK Project (N/A MW)

Princess
Amalia
(120 MW)

Hornsea II OSS
(1,320 MW)

Hornsea II RCS
(1,320 MW)

Blight Bank Phase II
(165 MW)

Walney I (183 MW)
Walney II (183 MW)

West Of Duddon Sands (389 MW)

Rentel (309 MW)

Gunfleet Sands (172 MW)

Northwester II (224 MW)

Northwind
(216 MW)

Nordsee Ost (295 MW)

Gode Wind I (332 MW)
Gode Wind II (332 MW)

Nysted (166 MW)

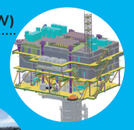
Lillgrund (110 MW)

Kriegers Flak KFA (200 MW)
Kriegers Flak KFB (400 MW)
Kriegers Flak KFE MODULE (220 & 150 KV)

Baltic I
(48,3 MW)

Baltica II
(1,500 MW)

Baltic Power (1,200 MW)



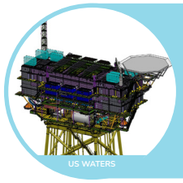
Borkum Riffgrund I (320 MW)
Borkum Riffgrund II (450 MW)

Arcadis Ost I (247MW)

Kaskasi II (342 MW)

Europe

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)

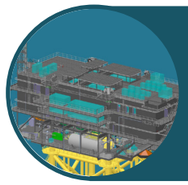
Transition Piece Weight: 1,100 tonnes
Installation Year: 2010
Water Depth: 18 m
Substructure: Monopile
Detailed Design: TP & monopile
Owner: EnBW & Ballast Nedam

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: 2023
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)

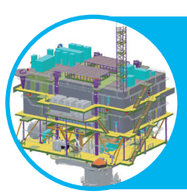
Topside Weight: 1,835 tonnes
Jacket Weight: 1,685 tonnes
Installation Year: 2013
Water Depth: 24 m
Substructure: Jacket
Detailed Design: Topside & Substructure
Owner: Ørsted

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

Why ISC Consulting Engineers?

- 25+ years experience
- 70+ countries
- All disciplines in-house

50+ offshore substations on 3 continents

ISC has consulted clients in Europe, Asia, and the United States on the design of more than 50 offshore substations and numerous projects related to offshore wind turbine foundations.

When developing an offshore substructure, 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 consult on the detailed design of

- HVAC substations
- HVDC substations
- Floating substations
- Offshore substructures
- WTG foundations
- Green hydrogen

Pioneering renewable energy

ISC has been a pioneer in offshore wind for over 25 years. We consult on the complete, detailed design of offshore substations, substructures, WTG foundations, and hydrogen production.

ISC provides independent engineering consultancy directly to wind farm owners, developers and EPCI contractors. We have consulted clients in Europe, Asia, and the United States.

HVAC substations

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.

HVDC substations

We are market leaders in designing HVAC offshore substations and are utilizing our experience to design cost-efficient and reliable HVDC substations.

Offshore substructures

We have been working in the offshore energy industry since 1975. Since then, we have designed every type of substructure.

Our knowledge and experience are built through close collaboration with first movers in oil and gas in the North Sea and pioneers in offshore wind globally.

Experts in renewable energy

WTG foundations

We have more than 30 successful offshore projects with offshore wind farms.

We know that project management and communication with developers are crucial to making an offshore project successful from idea to execution.

Floating substations

We have a concept ready for floating substations for offshore wind farms. The design of our floating substation fits the shape of a 3-column semisubmersible substructure, combining all known technologies in a new packaging.

Green hydrogen

We explore a range of concepts, from centralized, large-scale hydrogen production platforms and energy-island concepts to decentralized, smaller-scale WTG-integrated production platforms.

Services

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

Our engineering disciplines include

- Structural (primary & secondary steel)
- Geotechnical & foundations
- Transport & installation engineering
- Hydrodynamics
- Mechanical & equipment
- Piping & layout
- Fabrication & constructability
- Fatigue & structural integrity
- Safety (ALARP)

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 cooperate with our clients to achieve cost-effective fire and safety design. HAZID and HAZOP chairing, risk management and studies, and fire and explosion risk assessments. FOAM and argonite systems.

General arrangement

We collaborate with our clients to find the best platform layout solution.

Geotechnical design

Design of piles, soil interpretation, etc.

HVAC

Design of systems to maintain the correct conditions for the sensitive platform equipment.

Mechanical

Appropriate demands and specifications for equipment, lifting and environmental protection.

Piping

Open drain, bunkering, de-bunkering, seawater cleaning, technical water and sewage systems, seawater systems etc. Isometrics, material lists and stress analysis. Technical specifications and datasheets.

Process

Process flow, process & instrumentation diagrams, 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 for offshore oil and wind projects for more than 50 years, with experience in more than 70 countries worldwide.

When developing an offshore substructure, 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.

Visit our website

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

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