EPConsult Energies

INTELLIGENT ENGINEERING

epconsultenergies.com

EPConsult Energies

EPConsult Energies (EP) is a UK-Danish independent technical consultancy for energy.

We combine state-of-the-art numerical and analytical techniques, powerful cost engineering databases and risk and delivery management systems with our commercial and project expertise. We deliver technical consulting and business advisory services and niche engineering studies for small, medium and large energy projects.

- Broad commercial experience
- Deep technical engineering expertise
- Agile and collaborative
- Innovative culture
- Focus on adding value
- Strong core values
- Embrace lasting client relationships
- ISO 9001:2015 Quality Management System

FS 561273

INTELLIGENT ENERGI

renewableUK

GREEN POWER DENMARK

United Nations Global Compact

energy institute

DANISH-UK ASSOCIATION
TRADE · FRIENDSHIP · CULTURE

MEMBERSHIPS AND QUALIFICATIONS

Working for decades with various clients across the energy industry gives us a unique edge in solving problems and creating solutions for a wide range of challenges.

WORLDWIDE PROJECT EXPERIENCE

CURRENTLY ALSO WORKING WITH:

Ørsted

Danish Energy Agency

ENERGINET

EWA هيئة الكهرباء والماء Electricity & Water Authority

PROVIDED SERVICES:

- Development planning
- Concept engineering selection
- Technical and commercial due diligence
- Opportunity and risk management
- Environmental, safety and social impact
- Production performance and asset integrity
- Project delivery
- Climate impact assessment

SWECO

Shell

MAERSK

equinor

TotalEnergies

ADNOC

NORECO

ExxonMobil

TechnipFMC

EnQuest

eni saipem

bp

ADGAS

pluspetrol

K4

Chevron

MORE ABOUT OUR CLIENTS

EXPERIENCED SPECIALISTS

Our team of engineers focuses on finding the best solutions for clients by efficiently integrating the specialist areas of engineering, operations, risk, economics and delivery.

Peter Daniel

Engineering Manager - Conceptual Engineer

Process and chemical engineer with a 20-year track record. Worked on major projects in a management capacity in Russia and Kazakhstan. Previously with Shell International Exploration and Production B.V. Provided consultancy to a number of offshore wind projects, including Orsted (Hornsea 4), Scott Wind, and the Government of Bahrain. Worked on a range of feasibility studies and technical due diligence projects, including Sealion FPSO (Navitas), Tamar SouthWest (Isramco/Tamar) and Renewables Strategy for companies such as Tritax.

Rolf J.Meijer

Principal Engineer – Marine Operations

Captain Rolf Meijer Marine Operations Specialist BSc from Amsterdam Nautical College, Dutch Nautical College SII Master. Accredited DNV auditor for nautical operations. 30 years' experience in marine and port operations with companies ExxonMobil, Shell and as a technical authority in marine engineering for Deutsche Bucht and PdVSA projects. Specialized operational experience in Deepwater Transport & Installation, Inshore and Offshore Loadouts, Heavy-Lifts, Float overs, and Deepwater Installations of FPSOs, FSOs, SURFs, Semisubmersibles, Platforms. Shipyard Management of Semi-submersibles.

Jamie Rowlands

Principal Consultant – Operations and Maintenance

Operations Manager with a track record in executive management roles within global offshore wind operation, service and maintenance sectors, delivering customers maximum uptime and value generation through safe, reliable and cost-efficient technology and maintenance services. Created and executed several strategic entry and growth plans into global offshore wind markets to drive high-value assets and businesses forward.

Joe Gransden

Principal Engineer – Pipeline and Subsea

A Chartered Principal Engineer with more than 16 years' experience, responsible for projects involved in the design, construction, and technical integrity of structures for oil, gas, and renewables. Interim pipeline regimes, establishment of pipeline management system to MAPD, PIMS, ERP, RBI. Engineering and installation/construction of subsea structures, pipelines, piping, jumpers, umbilicals, cables and risers to assess material selection.

Justin Mason

Principal Engineer – Subsea Engineering

Principal Consultant, a professional lead electrical engineer with deep technical expertise and strong awareness of related discipline engineering. Broad industry technical insight from an international career over 29 years spent in major projects, close asset support and operations across the renewables, utility and energy sectors and cement industry in challenging environments.

William Venn

Principal Consultant – Safety Engineering

With 30 years in Industry, ten of which have been in operations, William has gained substantial experience throughout the lifecycle of oil and gas projects, both offshore and onshore and in the UK and internationally. William is a safety and risk assessment specialist for oil, gas and renewables projects. He performed Safety, Risk, HAZID and FMEA studies for Southern North Sea Offshore Wind Farm Projects. Also performed several safety, risk and reliability studies for Ineos and TotalEnergies facilities in the North Sea.

Martin H. Larsen

Principal Consultant – Structural Engineer

A leading international O&G and Renewables technical consultant and Managing Director of EPConsult Energies, specialising in project management and project delivery with over 25 years of projects and consultancy experience. Significant experience with structural and marine engineering, asset integrity and performance, HSE and risk management. Lead Consultant for Orsted HOW-04 Offshore Installations Interfaces study. Previous Lead Consultant for other Orsted, Energinet, European Energy, Ineos, TotalEnergies studies.

Nick Cowlan

Principal Consultant – Naval Architect

Chartered Naval Architect and Floating Systems Engineer. Key strengths include hydrodynamics, hydrostatic, stability analysis, metocean data analysis, hull design stress analysis, buckling & fatigue analysis, structural testing, and technical specification, floating assets with regards to Structural welding procedures and specification, design, and plan approval of Offshore code and Classification Rules, mooring, soils, and asset management assurance for Semi-sub and FPSO installations.

Majbrit Høyer

Principle Consultant - Power Systems

Principal Power Systems Engineer with significant experience with power cables and power systems. Her experience within the energy sector includes technical advisory to the Danish Energy Agency for the North Sea Energy island, >10GW offshore wind power, grid connection, power and gas distribution, biogas, and micro scale off-grid solar systems. Her most recent experience includes, Grid connection authority liaison and project development for offshore Wind Power in Taiwan.

Roy Evans

Principal Consultant – Commercial Risk

Experienced Professional with an impressive record of risk, change, and programme management in several roles, including project delivery and corporate operations in offshore renewable energy, real estate, and construction. Previously Head of Corporate Operations for The Crown Estate and a board member on the Crown Estate Risk Committee. Led the development of the Round 3 Offshore programme and Pentland Firth Wave and Tidal. Before joining The Crown Estate, he was a Partner at a leading UK Cost Management Consultancy where he undertook several due diligence reviews.

David Price

Principal Consultant – Asset Integrity

Experienced consultant with more than 30 years' experience in the energy sector worldwide, including offshore projects in the Middle East, Kazakhstan, North Sea and The Philippines. His expertise covers asset management, integrity and performance management, OPEX reviews and shut-down /turn-around projects. David comes from an engineering manager position at Shell International Exploration and Production. David is currently part of a team providing OPEX review for Danish Oil Pipe.

OFFSHORE PROJECTS

EP HAS A WEALTH OF EXPERIENCE AND SKILLS IN MULTI-DISCIPLINARY ENGINEERING SUBJECTS FOR FLOATERS

We draw on years of experience in the design, engineering studies, reliability and operability of floaters such as **FPSO**, **SPAR**, **Semi-Sub**, **TLP**, **SPM**, **CALM**, **Floating Wind**, and **Floating LNG**.
Providing reliable engineering and intelligence for subsea engineering, marine operations, naval architecture, constructability and many other engineering and risk aspects for more than two decades makes EP uniquely suited to developing successful engineering studies for floater projects.

EP supports floater projects with:

- **Business case**
- **Opportunity and risk**
- **Climate impact**
- **Development engineering**
- **Technical due diligence**
- **Project delivery**
- **Health, safety and environment**
- **Asset performance**

CASE STUDIES →

NORTH SEA ENERGY ISLANDS

DEA|SWECO

The Danish Energy Agency is planning an Energy Island in the North Sea, which will deliver 3 GW of power generated by floating offshore wind in 2030 and be scaled to 11 GW in 2033. Green hydrogen production will be generated from 50% of the power.
EP's scope involvement includes:

- Engineering Package comprising conceptual design for the island, construction, power intake, and hydrogen facilities.
- Tender Package compilation of engineering package comprising functional requirement specification and conditions of contract
- Risk Management for programme implementation and project risk reserve estimation
- Risk Analysis, making use of risk register and expected monetary value (EMV), event trees and decision risk assessment.
- Operations and Maintenance specification and scope development for future Island operations
- Programme Management Office (PMO), incl. interfaces, planning and cost, and reporting to the Danish Energy Agency

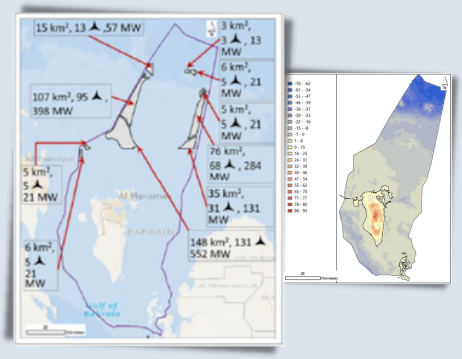
BAHRAIN OFFSHORE WIND PRE-FEASIBILITY STUDY

EWA

In support of the green energy transition in the Kingdom of Bahrain EP delivered a pre-feasibility study for offshore wind energy. The main function of the study is to assess the potential for fixed-based and floating offshore wind power generation throughout the entirety of the territorial waters of Bahrain.

The areas included in the study:

- Concept Outline (Turbines, Support Structures, Site Screening and Selection, Cables, Landfall and Substations, Development & Construction, Operations and Maintenance, Logistics Requirements
- Objectives, Risks and Opportunities
- New Technology Assessments
- Cost of Energy
- Wind, Wave and Geotech Data Gathering Strategy
- ESIA Strategy
- Execution and Contracting Strategy
- Outline Development Plan and Schedule

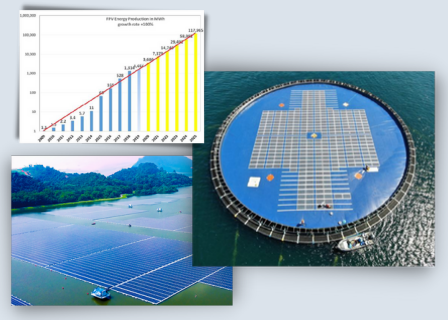


FLOATING OFFSHORE SOLAR PV - MARKET STUDY

MARKET STUDY

EP was requested by DARROW Resources to investigate the current development potential for the application of floating offshore solar PV within the Arabian Gulf region. To achieve this EP conducted a study to provide an overview of key technologies and market players in floating PV. The findings served to identify a future scope of work for pre-feasibility studies.

- Currently, offshore FPV projects are only 5MW in size, while in reservoirs and lakes, they can reach up to 2100MW.
- Specific companies which are active in the region were assessed which have the capability to design, construct and install floating offshore PV systems.
- A range of technological solutions and new technology was also assessed with evaluation criteria applied to determine technology maturity and applicability.



INNOVATE UK – OFFSHORE PTX GENERATION

INNOVATE UK

EP with Tadek Offshore, University of Aberdeen and Rhizome Energy applied for an Innovate UK Smart Grant.

- The proposed project is for the development of floating offshore hydrogen and ammonia production as exchangeable energy vectors.
- The proposed feasibility study and concept design will promote an integrated energy system in the North Sea that will appeal to the public, economy, and investors.
- The objectives of this project will contribute to achieving the Ten Point Plan for a Green Industrial Revolution, set out by HM Government, as well as the UK-Hydrogen Strategy, released in August 2021.

SCOTWIND FLOATING OFFSHORE WIND

ENLIGHT ENERGY

Enlight renewable energy is a global renewable energy developer with utility-scale projects across 12 different countries with a global portfolio of 17 GW of renewable power.
In support of potential investment into 4 separate Crown Estate ScotWind licence areas, EP performed technical due diligence for floating offshore technologies.

- EP identified areas of concern which could indicate a low-ranking or potential rejection of the application.
- Provided insights and identified possible areas of improvement for the ongoing ScotWind applications.
- Conducted an independent scoring exercise for each of 4 separate licence applications based on the published scoring criteria.

This proved to show a highly accurate prediction of the success of the application and supported the client's commercial negotiations for buy-in.

TECHNICAL DUE DILIGENCE – FPSO PROJECT

NAVITAS

EP was contracted to conduct a comprehensive independent technical due diligence exercise covering wells, subsea, flow assurance, mooring systems, turrets and risers.

- Navitas Petroleum is a public oil and natural gas exploration and production partnership with significant exploration prospects focused on North America.
- The project included FPSO topsides, marine engineering, export systems, logistics and infrastructure, operations, maintenance, commissioning and start-up, project services and technical assurance.

RISK ASSESSMENT - DEVELOPMENT CONSENT ORDER

ORSTED

The Hornsea Project, Four Offshore Wind Farm project, is the world's largest offshore wind farm project. It comprises 180 wind turbines, taller than the Eiffel tower, along with a complex network of cables, platforms and converters.

To support the Development Consent Order (DCO) process, EP prepared an Offshore Installations Interface report to estimate and assess the interface risks between the Hornsea Project Four and the nearby oil and gas installations, infrastructure and shipping activities. The scope also included information tracking service to monitor field operational changes.

- Methodology

Using the UK North Sea regulatory regime combined with solid risk management practices, EP developed a methodology that bridges the offshore wind environmental focus with oil and gas assets, safety and commercial risks, including navigational risk.

FLOATER STUDIES

MULTIPLE CLIENTS

EP support clients assuring full integration of the engineering-asset-production-operations solution by performing specialist assignments for floaters across the world.

Locations: North Sea, GoM, West Africa, North Atlantic, Brazil, India

Types of floaters: FPSO, SPAR, TLP, Semi-Sub, CALM, SPM.

Assignments:
Concept selection, technical due diligence, flow assurance, subsea production, peer review, design review, naval architecture, mooring, marine operations, materials selection, production availability, reliability, HSE, maintenance optimisation, integrity management, consequence modelling, safety assessment, and quantitative risk assessment.

EPConsult Energies

To discuss your requirements
please contact our specialists.

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