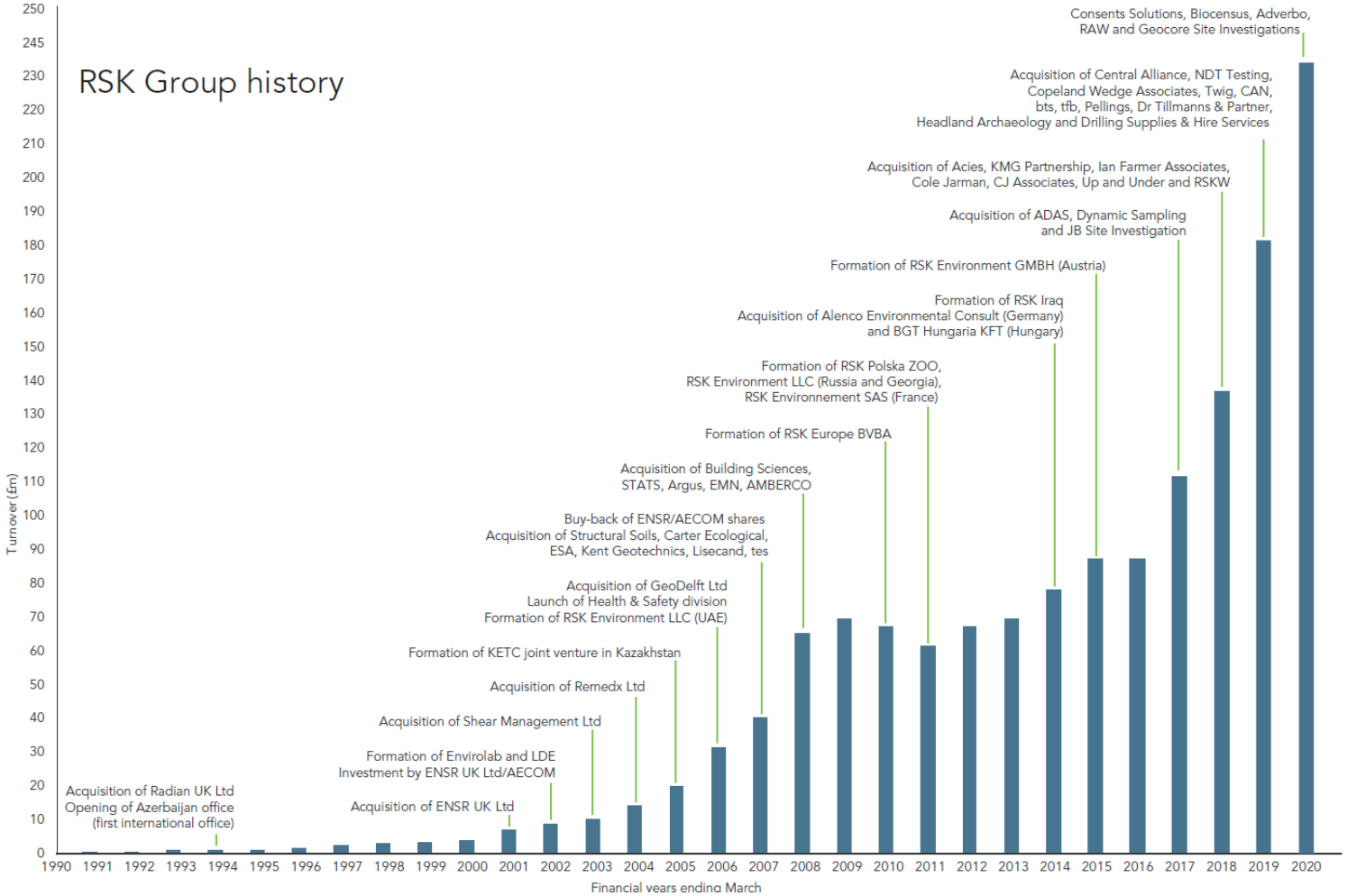
OFFSHORE WIND FARM SUPPORT SERVICES

RSK Capability Statement

Sue Sljivic

RSK Group history



Our Service Quality

RSK has achieved certification to the

ISO 9001, ISO 14001 and OHSAS 18001 standards

Our range of accreditations demonstrates our high commitment to quality, health, safety and the environment

RSK are registered with and audited by vendor databases including:

- Achilles UVDB
- Constructionline
- RISQS Rail Industry Qualification Scheme
- UKAS
- FPAL

DNV·GL

MANAGEMENT SYSTEM CERTIFICATE

Certificate No: 158767-2014-AHSS-GBR-UKAS
Initial certification date: 12 December 2003
Valid: 22 October 2018 – 11 March 2021

This is to certify that the management system of

RSK Group Ltd
Incorporating: RSK Environment Ltd and subsidiary companies, RSK Environment, RSK Business Solutions Ltd, RSK Cevre Hizmetleri AS, RSK Environment LLC, RSK Europe BVBA, Argus Environmental Ltd, RSK Remediation and Development Ltd, RSK STATS Ltd, Structural Soils Ltd, Technical Editing Services Ltd, RSKW Ltd, Remedx Ltd, RSK Radiological Ltd, RSK Romania SRL, RSK Benelux BVBA, RSK Environment (Isle of Man) Ltd, Envirolab Ltd, RSK Netherlands, RSK Land and Development Engineering Ltd, RSK Polska Sp. z.o.o. RSK Alenco GmbH RSK Environment GmbH, RSK ADAS Ltd

Spring Lodge, 172 Chester Road, Helsby, Cheshire, WA6 0AR, United Kingdom

and the sites as mentioned in the appendix accompanying this certificate

has been found to conform to the Management System standards:

OHSAS 18001:2007/ ISO 9001:2015/ ISO 14001:2015

This certificate is valid for the following scope:

Please see appendix for full scope of activities

Place and date:
London, 26 October 2018

For the issuing office:
DNV GL – Business Assurance
4th Floor, Vivo Building, 30 Stamford Street, London, SE1 9LQ, United Kingdom

Doug Milne
Management Representative

0013

Lack of fulfilment of conditions as set out in the Certification Agreement may render this Certificate invalid.
ACCREDITED UNIT: DNV GL Business Assurance UK Limited, 4th Floor, Vivo Building, 30 Stamford Street, London, SE1 9LQ, United Kingdom.
TEL: +44(0) 20 8776 7509, www.dnvgl.co.uk

DNV·GL

Certificate No: 158767-2014-AHSS-GBR-UKAS
Place and date: London, 26 October 2018

Appendix to Certificate

RSK Group Ltd
Activities included in the certification are as follows:

Provision of engineering and environmental consultancy services, and technical support services, including:

- **Agricultural & horticultural research and consultancy including: soils, chemicals, sustainability, productivity, food and farming, land management and biotechnology**
- **Air quality; modelling & monitoring.**
- **IPPC consultancy.**
- **Archaeological services.**
- **Asbestos surveys and sampling.**
- **Business to business technical communications.**
- **Carbon Management.**
- **Corporate social responsibility (CSR) services including stakeholder engagement.**
- **Data management systems including geographical information systems (GIS).**
- **Due diligence; pre-acquisition and pre-divestiture audits.**
- **Ecological services.**
- **Environmental auditing & environmental management systems.**
- **Environmental impact assessment.**
- **Engineering assessment, structural and infrastructure design.**
- **Expert witness and public inquiries.**
- **Geophysics.**
- **Geotechnical and contamination investigations and foundation engineering.**
- **Health & safety services; including training and consultancy.**
- **Inspection and quality assurance.**
- **In situ and ex situ soil and groundwater remediation design and contracting.**
- **Laboratory analysis; including materials testing, environmental and occupational hygiene services.**
- **Landscape architecture.**
- **Noise and vibration.**
- **Petrography.**
- **Quantified risk assessment; including geo-hazards.**
- **Radiological consultancy.**
- **Site investigation and remediation.**
- **Structures investigation.**
- **Water services: environmental monitoring and assessment; potable and wastewater asset management/monitoring: feasibility studies and design; water quality; water resources and catchment management; and flood risk assessment and mitigation.**
- **Gas, groundwater leachate, surface water sampling and routine in-situ testing.**
- **Building fabric performance design consultancy, environmental condition monitoring and non-destructive testing services.**

Offshore UK services are managed from the principal office in Helsby.

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Marine Projects Delivery Team

RSK has a dedicated team of marine specialists that undertake projects both in the UK and overseas. This team is based in a number of office locations in the UK (Helsby, Bristol and London). The services offered by the marine team include:

- The design, implementation, management and reporting of offshore and intertidal marine biodiversity, and physico-chemical surveys (baseline, pre-construction and monitoring)
- Marine and coastal impact assessment; from feasibility studies to post construction service provision
- Production and implementation of environmental management and ecological monitoring plans
- Statutory and non-statutory stakeholder consultation, advice and support
- Consent and licencing compliance (including HRA and MCZ assessments)
- Fisheries baseline survey and assessment

RSK NSIP Experience

- Rampion Offshore Wind Farm
- Triton Knoll Offshore Wind Farm
- Triton Knoll Electrical Infrastructure
- East Anglia ONE Offshore Wind Farm
- Dogger Bank Teesside A and B Offshore Wind Farm
- Hornsea 3 Offshore Wind Farm
- Brechfa Forest Overhead Powerline Connection
- Hinkley Point C Connection
- Wylfa Newydd Nuclear Power Station
- Richborough Connection Project
- North West Coast Connections

The Planning Inspectorate

Scotland Specific Experience

Electricity Act S36 applications have been submitted in Scotland for large scale projects such as renewables and pipeline projects in accordance with the EIA Regs (2017).

We understand the planning and consents regime in Scotland and have experience of dealing with the Energy Consents Unit and the Marine Scotland Licencing Operations Team

4. Case Studies

Marine, Transmission and Renewables

Rampion Offshore Wind Farm

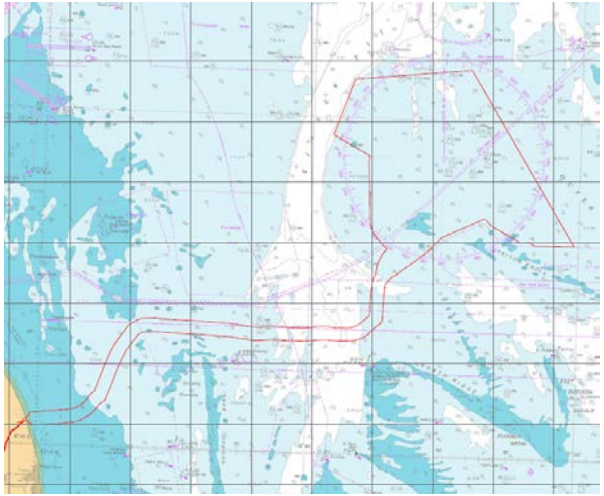
RSK has been involved with the Rampion Project since 2010 to present, as lead environmental consultants. The work has included:

- Scoping and stakeholder consultations
- Cable routing and onshore baseline surveys
- Offshore EIA and co-ordination of baseline surveys
- Onshore EIA and landfall co-ordination of baseline surveys
- Substation Consents
- DCO consents support
- Construction monitoring

Triton Knoll Offshore Wind Farm

Triton Knoll Offshore Wind Farm Limited, 2012 - 2014

- RSK provided environmental services for the completion of the EIA for the Offshore Array, including EIA Project Manager and various specialists.
  - The offshore array included up to 288 turbines (1200MW), associated intra-array cabling and up to 4 offshore substation platforms.
  - Development consent was granted in July 2013.
- RSK also undertook the EIA for the Electrical Infrastructure, comprising the offshore export cables, landfall works, onshore cables, intermediate compound (to provide reactive power compensation), an onshore electrical substation, and onwards connection to the NGET substation at Bicker Fen in Lincolnshire.
  - RSK managed the geophysical surveys such as offshore geophysical surveys for marine archaeology, the data from which, along with the onshore ecology survey data, various desktop data searches and site visits allowed the least environmentally constrained sites and cable route to be selected.
  - RSK worked closely with the RWE project team and their legal advisors to examine and decide on a preferred consenting strategy.
  - This project resulted in the Triton Knoll Cable Route project.



Lincs Offshore Wind Farm – Wash Cable Landfall

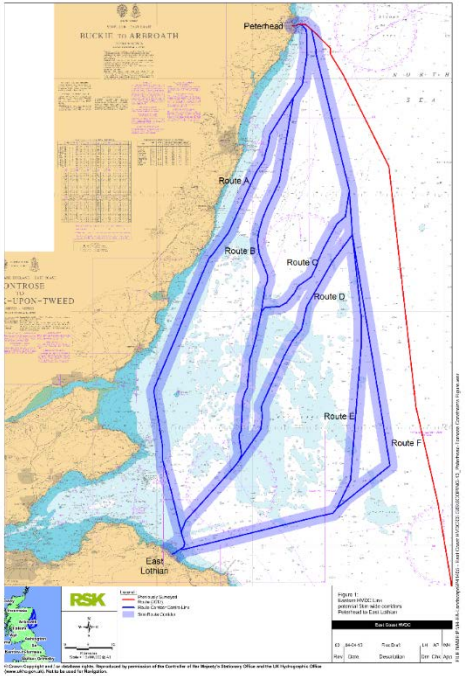
Centrica Renewable Energy Ltd, 2010 - 2011

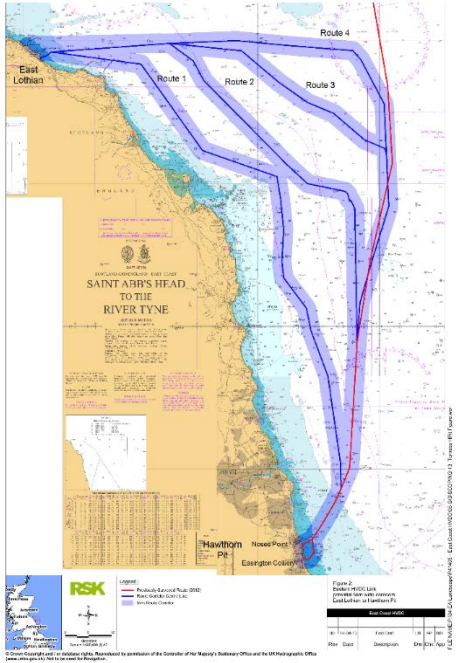
- RSK managed the environmental assessment of a modified construction approach for installing buried export power cables (two x 132kV) across 600 – 800m of sensitive salt marsh in The Wash, an area variously designated as a SAC/ SPA, Ramsar site and SSSI.
- When the previously consented failed, RSK provided a multi-disciplinary team to evaluate an alternative method of cable trenching (not previously used in the UK).
- Appropriate consents/licences were successfully gained within a very short timeframe.
- The main benefit of the new approach was that only two machines (with ultra-low ground bearing pressure) were required on the saltmarsh and each cable could be installed and the trench reinstated in a single, fairly rapid pass by the trencher without the need to install ancillary equipment such as cable rollers and bog mats.
- RSK also played a pivotal role in gaining approvals from relevant authorities for subsequent pre-and post-construction bird and botanical monitoring and the installation of bird deterrents within the area of consented works.

Eastern Link HVDC Interconnector Cable

Scottish Hydro-Electric Transmission Ltd (SHETL) (and Scottish Power Transmission Ltd) 2011-2015

- RSK were engaged as Lead EIA Consultants and routing engineers. Specialist subcontractors were engaged by RSK to provide input to particular technical studies (e.g. 4C Offshore to undertake engineering routing constraints studies
- RSK managed the scoping exercises and routing studies for the project. The project was subject to legislation in four distinct areas (Scottish marine, Scottish terrestrial, English marine and English terrestrial). RSK managed and coordinated all associated onshore and offshore surveys.
- Consultation reports were prepared to provide details of the project and to seek feedback from key consultees, and presentations were made by the RSK and client team to joint meetings of many English and Scottish consultees
- RSK prepared environmental scoping reports for the offshore cable, landfall and onshore cables at Peterhead and Seaham, as well as the HVDC converter and substations



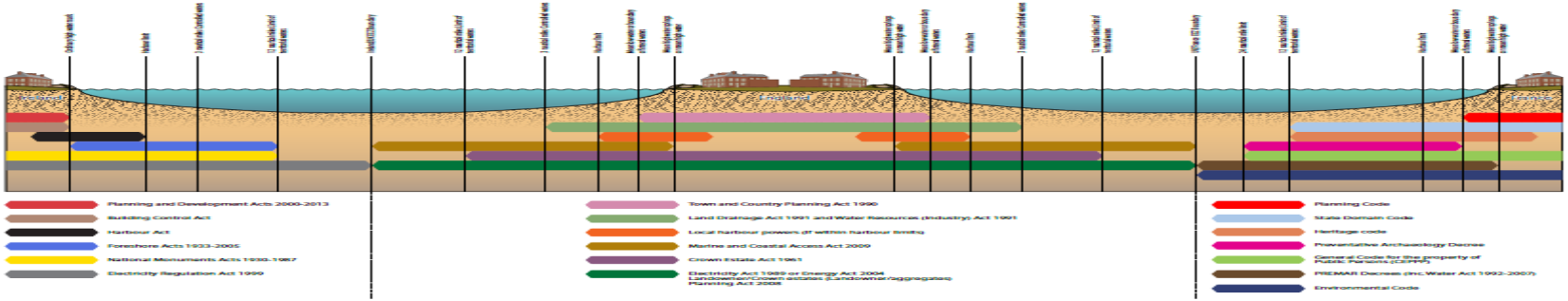


Celtic HVDC Interconnector Cable

The Celtic Interconnector project comprised an HVDC interconnector cable linking the electricity grids of Ireland to France (via UK waters close to the Isles of Scilly). The cable will traverse the Celtic Sea, and link up in NW France

RSK were engaged to undertake a review of the pertinent legislative frameworks and permitting requirements for the survey for and construction of an HVDC interconnector cable both onshore and in the waters of Ireland and France and just the offshore requirements for England (as the cable would not make landfall) and to condense these into a briefing note

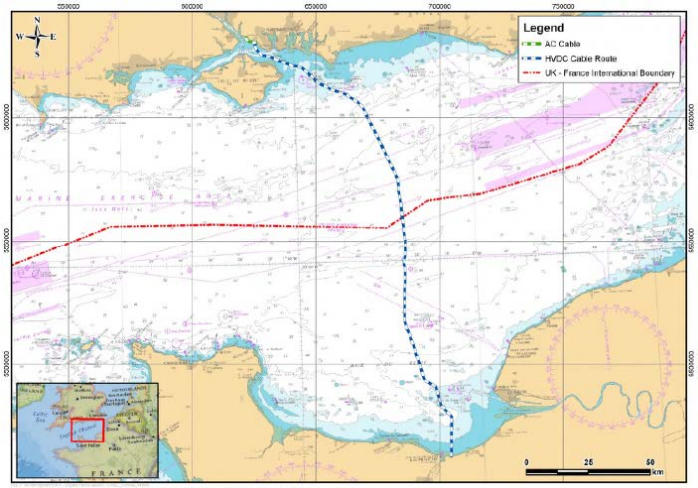
Geographical extent of principle marine works: Ireland, England and France



IFA 2 England to France Interconnector Cable

National Grid Electricity Transmission plc (NGET) and Réseau de Transport d'Électricité (RTE), 2013 - 2016

- RSK were engaged as lead consultants to undertake the routing and environmental studies for the HVDC interconnector between the UK and France
- During the Scoping stage RSK carried out stakeholder engagement work to ensure that the Scoping Report was distributed by the MMO to all statutory consultees.
- RSK worked with a number of specialist subcontractors in the delivery of the project including CreOcean (for the French consent submissions), 4C Offshore (for routing studies and the management of the offshore geophysical and environmental surveys), and Anatec Ltd (for the navigation studies).
- RSK managed the EIA for the project as well as undertaking habitat regulations assessments as part of the TEN-E PCI submission, which included the submission of a non-statutory environmental report.
- Development consent for the project was granted and construction should be completed in 2020.



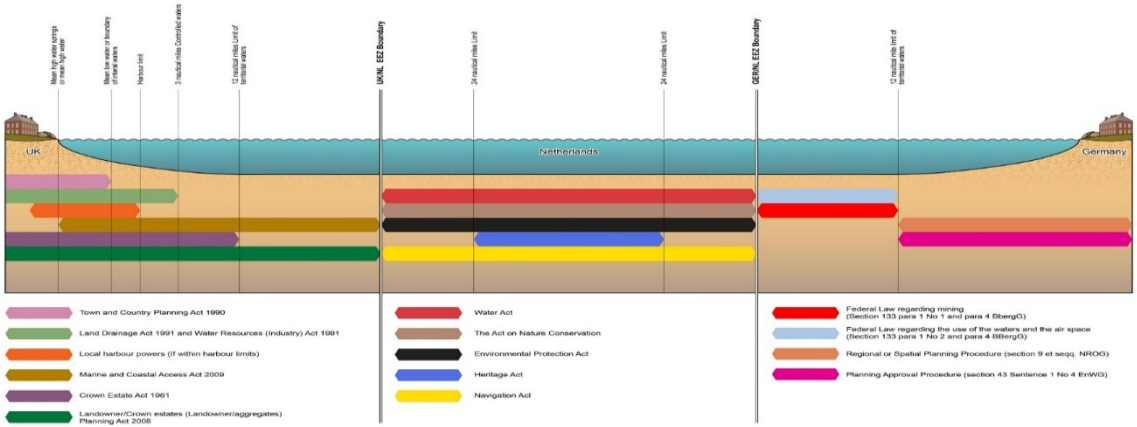
NeuConnect Interconnector Consents Review

4C Offshore Ltd. 2016-2017

The NeuConnect HVDC Interconnector cable will link the electricity grids of the UK, the Netherlands and Germany

RSK were engaged to undertake a review of the pertinent legislative frameworks and permitting requirements for the survey for and construction of an interconnector cable in the waters of the respective countries and to condense these into a briefing note

Geographical extent of principal national legislation: UK, Netherlands and Germany



Floatgen Prototype Floating Wind Turbine Demonstrator

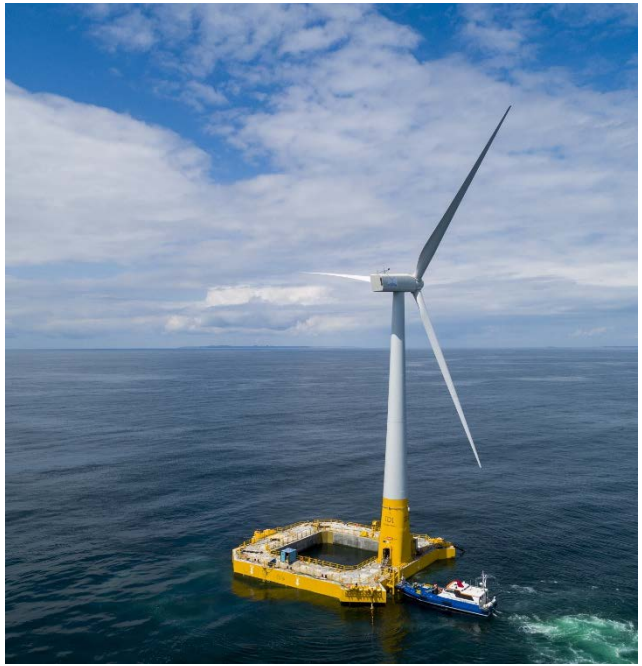
2016-2018

RSK are part of a consortium for the EU funded Floatgen project to complete and install a prototype floating offshore wind turbine.

RSK reviewed the environment impact of three potential designs.

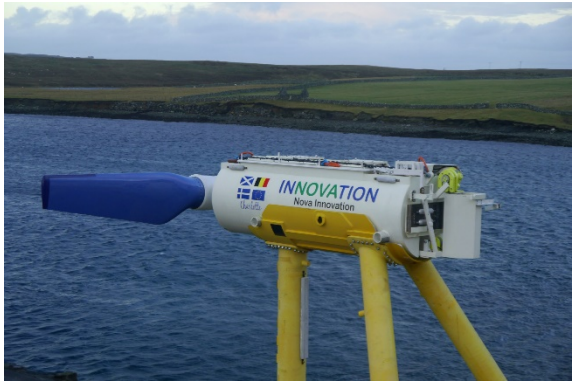
With the project reaching its final stages, RSK are currently analysing the environmental impacts of the floating base system chosen verses conventional fixed foundations, as well as collating environmental management measures for the device.

The demonstrator device has been recently installed off the west coast of France, near Saint Nazaire, and as of September 2018 is producing electricity

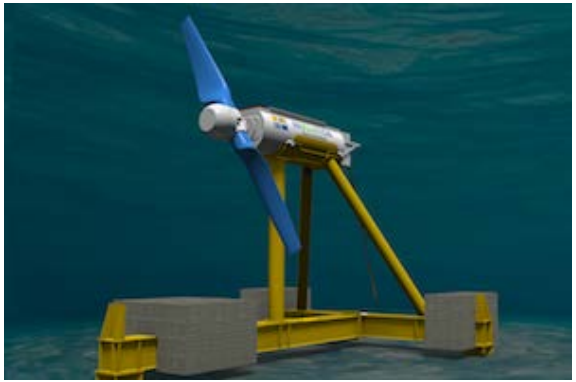


Enabling Future Arrays in Tidal

RSK is part of a consortium which has been awarded a research grant from the EU for a tidal energy array in Shetland.



The En FAIT project will ultimately comprise 6 turbines in Yell Sound, and development will last for 5 years. Three turbines are currently operating. The aim of the project is to prove that the unit cost of tidal power can be reduced to a similar range to that of offshore wind.



RSK's role in the project is to investigate the local environmental and socio-economic effects of the project, and to consider whether these, or other similar impacts will arise in other areas of the EU where tidal currents are sufficient for tidal energy to be extracted efficiently. RSK also is responsible for carrying out a review of the consenting regimes for similar projects throughout the EU.

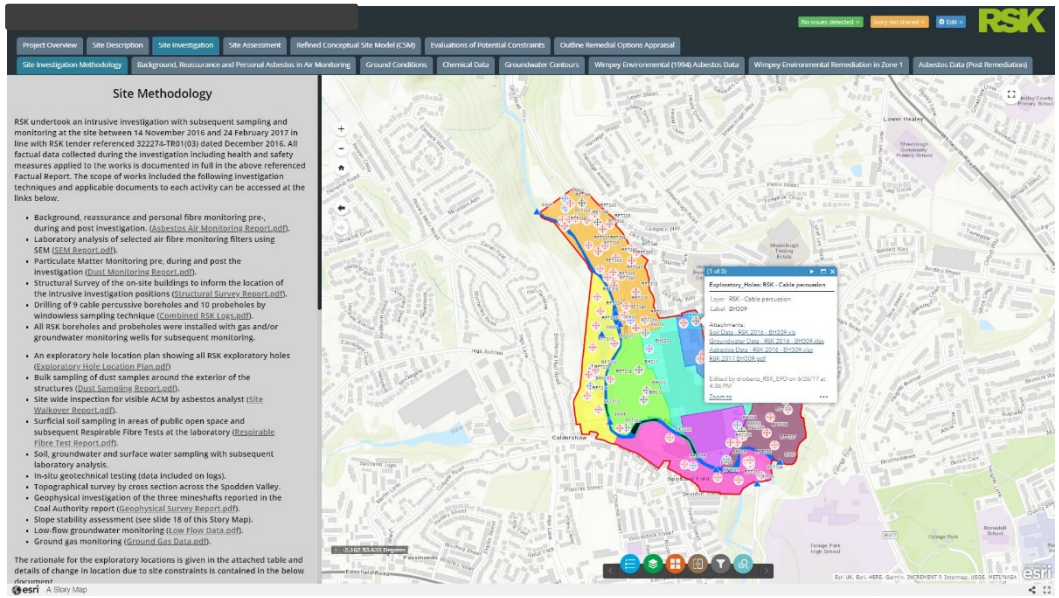
RSK

SAFEGUARDING YOUR
BUSINESS ENVIRONMENT

Digital EIA

Relevant experience

- Digital EIA – still in relative infancy as a concept but ‘take up’ increasing
- Greatest demand coming from national scale onshore projects and offshore renewables
- RSK has been providing ArcGIS online (AGOL) for clients for several years – online shared data management
- RSK has also been providing ESRI based storyboard services to clients – primarily for internal usage (intranet)



Key considerations

Consideration	Issue	Potential Solutions
Key drivers	• Increasing chances of consent? • Greater penetration in community consultation terms? • Future proofing for what is to come? • Sustainable approach (reduce paper)?	Discuss the key drivers with client to ensure that the storyboard aligns with objectives. Whatever the objectives keep simplicity at its heart (bearing in mind early adoption currently)
Consenting due process requirements	• Meeting the legal requirements of EIA/consenting • Acceptance of determining authority of the 'new thing' – most authorities?	Early discussions with ECU/MS-LOT/PA during PAC. Provide illustrations/walk through to provide comfort. Management of expectations.
Aarhus convention EIA requirements	• Meeting PAC requirements • Post submission consultation – reaching remote stakeholders • Not leaving the process open to legal 'challenge'	Use the storyboard as a project website. Target community hubs with access to internet facilities (and/or community contact).
Proportionality of information	• Cannot practically show full content ES/EIA Report on storyboard (need to make content engaging) • Stat stakeholders need to be able to review full pdf ES/EIA Report	Focus on presenting significant impacts. Take NTS approach as basis. Have pdf versions of ES/EIA report option.
Cost effectiveness	• Full ES/EIA Report still needed for formal application – added cost implications on overall LCOE	Agreement up front with client in terms of milestone points of decisions (scoping, consultation, submission, etc). Make decision following PAC discussions.
O&M of the system	• Process of checking content before disclosure (legal checks, etc) • Ongoing updates – frequency of checks & timing of disclosure	Agree protocols with client at start of project in terms of agreeing content and frequency of ongoing updates.
Life cycle coverage	• Focus on pre-consent phases or beyond to construction / operation?	Consider and agree potential coverage from inception but can be added at later date.

Digital EIA Demo

rsk-epd.maps.arcgis.com/apps/MapSeries/index.html?appid=16aa8443ad504fdfb60c0384f3fdae58

Digital EIA Demo

A Story Map

RSK

EIA Screening | EIA Scoping | EIA* | Post Submission | Construction | Operations

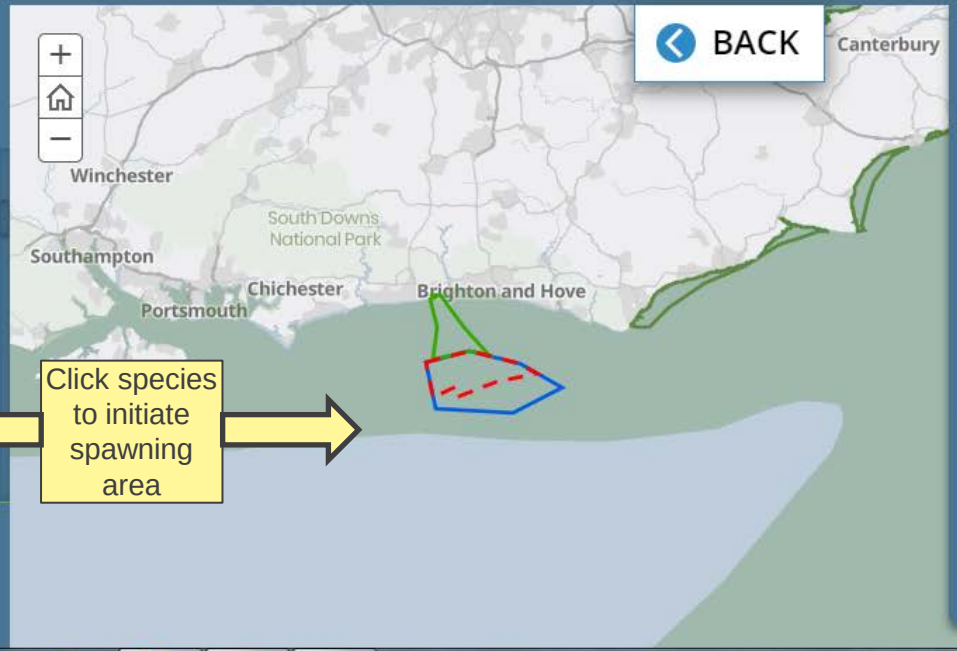
Terrestrial Ecology | Marine Ecology* | Transport | Geology | Cultural Heritage | Landscape

Layered tabs covering development cycle and sub-categories

Marine Ecology

Fish Spawning & Nursery Areas

Click species to initiate spawning area



Specific Issue: Black Bream

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Digital EIA Demo

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Digital EIA Demo

A Story Map

EIA Screening | EIA Scoping | EIA* | Post Submission | Construction | Operations

Terrestrial Ecology | Marine Ecology* | Transport | Geology | Cultural Heritage | Landscape

Marine Ecology

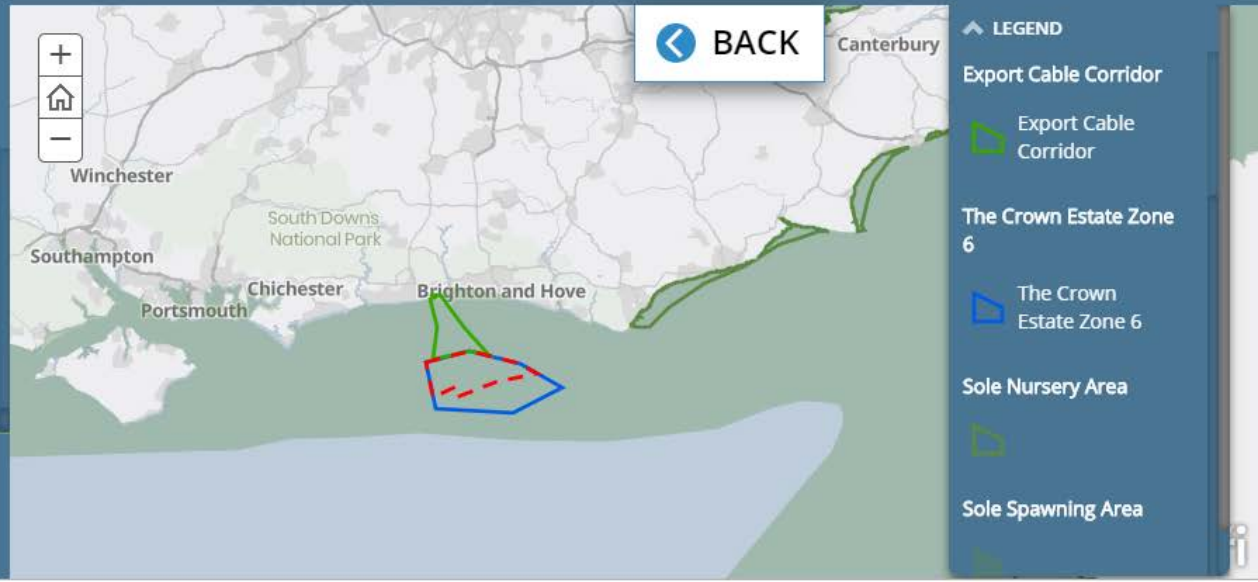
Fish Spawning & Nursery Areas

In general, all three of these sources support the distribution of high intensity spawning in a similar area well to the south and particularly the south-east of the Rampion wind farm, largely on the French side of the mid-Channel line.

Nursery areas for whiting, lemon sole and both thornback and undulate rays cover the entire area. Nursery areas for plaice, sole and sandeel are thought to be on the margins of the broad area.

The full chapter on fish and shellfish ecology can be downloaded here.

Specific Issue: Black Bream



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Digital EIA Demo

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Digital EIA Demo

A Story Map

EIA Screening | EIA Scoping | EIA* | Post Submission | Construction | Operations

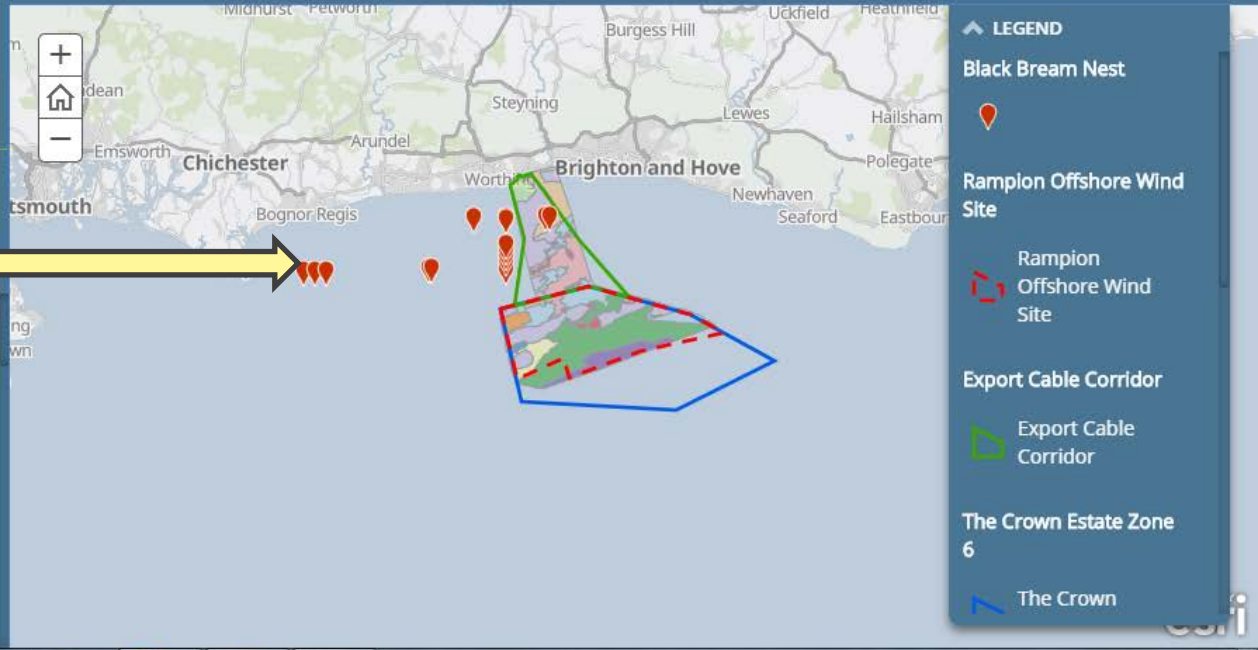
Terrestrial Ecology | Marine Ecology* | Transport | Geology | Cultural Heritage | Landscape

Marine Ecology

Fish Spawning & Nursery Areas

Specific Issue: Black Bream

Specific issues immediate draw up constraints on screen



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Rampion Offshore Wind Farm (D

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Rampion Offshore Wind Farm (Digital Demo)

A Story Map

EIA Screening | EIA Scoping | EIA* | Post Submission | Construction | Operations

Terrestrial Ecology | Marine Ecology* | Transport | Geology | Cultural Heritage | Landscape

Marine Ecology

Fish Spawning & Nursery Areas

Embedded links to recorded footage of species

Specific Issue: Black Bream

gravel areas adjacent to chalk reefs, sandstone reefs ships wreckage (see Emu, 2012). After fertilizing the eggs, m remain in close proximity to the nests protecting them from pre ors and keeping the nests clean from excessive siltation.

VIDEO: Protective male black bream takes on all comers guarding his nest

After hatching, the first juvenile stage remains in the vicinity of the nests until they reach a length of 7-8 cm; they then move inshore to feed, remaining in the wider inshore area around the nests until maturity at an age of 2-3 years and a size of around 20cm. Black bream are hermaphrodites, and change sex from female to male at about 30-

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