

NORTHCONNECT
CONNECTING RENEWABLES

Chapter 1: Introduction



Co-financed by the European Union
Connecting Europe Facility

NorthConnect KS
Serviceboks 603, Lundsiden
N-4606 Kristiansand
Norway

Phone +47 38 60 70 00
Mail: post@northconnect.no
Web: www.northconnect.no

Contents

1	Introduction	1-1
1.1	NorthConnect.....	1-1
1.2	Project Background	1-2
1.3	Environmental Impact Assessment Report Project Coverage	1-2
1.4	The Location.....	1-3
1.4.1	HVDC Cable Corridor – Onshore	1-3
1.4.2	HVDC Cable Corridor – Marine	1-3
1.4.3	Fibre Optic Cabling.....	1-3
1.4.4	Temporary Construction Requirements	1-5
1.5	Consenting and Licensing requirements.....	1-5
1.5.1	Planning Consent	1-5
1.5.2	Marine Licence – Scottish Territorial Waters.....	1-5
1.5.3	Marine Licence – UK Waters.....	1-5
1.5.4	EIA Regulations	1-6
1.5.5	Habitats Regulations Appraisal (HRA).....	1-6
1.5.6	European Protected Species (EPS).....	1-6
1.5.7	Pre-Application Consultation (PAC)	1-6
1.6	Marine and Planning Policy Requirements.....	1-7
1.6.1	Onshore Planning Policy	1-7
1.6.2	Marine Planning Policy.....	1-7
1.7	References	1-8

1 Introduction

NorthConnect is a commercial Joint Venture (JV) established to develop, build, own and operate a 1400 megawatt (MW) High Voltage Direct Current (HVDC) 'interconnector'. The interconnector will provide an electricity transmission link between Scotland and Norway. The interconnector will allow electricity to be transmitted in either direction across the North Sea.

This document is the Environmental Impact Assessment Report (EIAR) for the HVDC cable connection of the NorthConnect electricity transmission project in the UK.

The purpose of this EIAR is to support the planning application and marine licence application for the HVDC Cable Infrastructure by describing the proposed project, documenting the assessment of its likely significant effects on the environment, and detailing the mitigation measures proposed to minimise significant adverse effects. The relevant expertise and qualifications of the authors are stated in Appendix A.1.

The EIAR is split into four volumes as follows:

1. Non-Technical Summary;
2. Main Text;
3. Appendices; and
4. Drawings.

1.1 NorthConnect

NorthConnect is a project set up to develop, consent, build, and operate an HVDC electrical interconnector between Peterhead in Scotland and Simadalen in Norway (Drawing 3013). The 665km long, 1400MW interconnector will provide an electricity transmission link allowing the two nations to exchange power and increase use of renewable energy. The intention is for the HVDC interconnector to be operational by 2023.

NorthConnect is a Joint Venture (JV) project company owned by four community and state-owned partners from Norway and Sweden: Agder Energi AS, E-CO Energi AS, Lyse Produksjon AS, and Vattenfall AB. The partnership was established on 1st February 2011.

The four owner companies are illustrated in Figure 1.1.

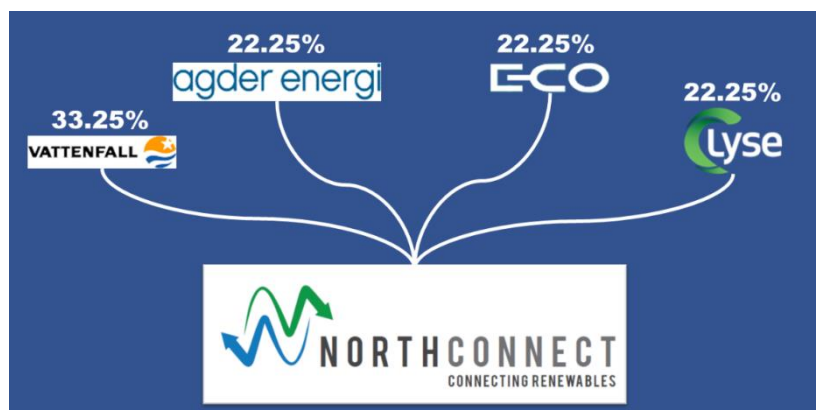


Figure 1.1 NorthConnect Joint Venture Partners.

1.2 Project Background

In the UK, electricity is normally generated, transmitted, distributed and consumed in an Alternating Current (AC) format. However, Direct Current (DC) technology allows electricity to be transmitted from point to point in much larger volumes, over greater distances with fewer transmission losses compared to an equivalent AC system. DC systems are therefore often used for high capacity interconnector projects such as NorthConnect.

The key components of the overall project are:

1. HVAC connections from the grid connection substations in Peterhead and Simadalen to new Interconnector Converter Stations.
2. Onshore Interconnector converter stations located near Peterhead, Aberdeenshire (Drawing 3022) and Simadalen in Norway along with associated infrastructure.
3. Onshore underground HVDC cabling from landfall to converter stations.
4. Landfall sites at Long Haven and Simadalen.
5. Subsea HVDC interconnector between the UK and Norway .
6. Fibre Optic cabling between the UK and Norway.

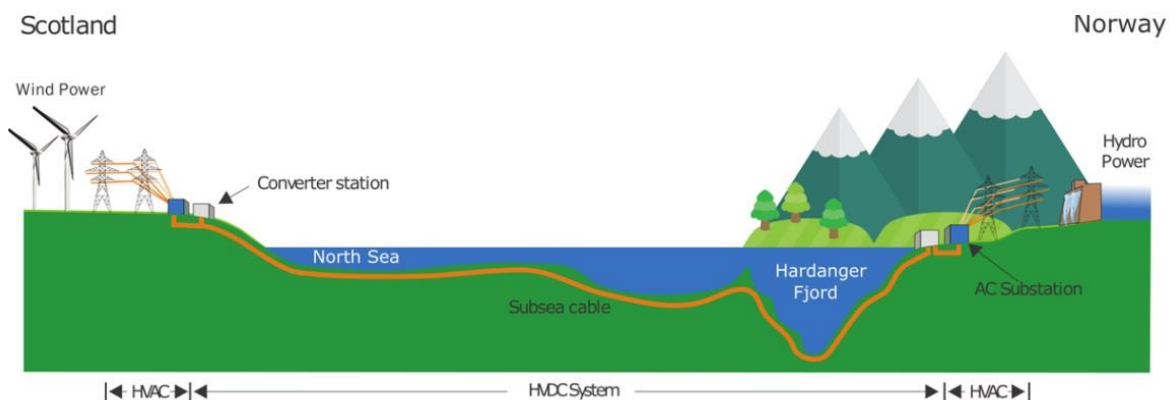


Figure 1.2 Indicative Scheme Components.

By utilising differences in the Norwegian and UK electricity markets' prices and importing / exporting energy to follow these differences, sufficient revenue can be raised for the construction and operation of the interconnector. The anticipated life of this project is at least 40 years.

1.3 Environmental Impact Assessment Report Project Coverage

The onshore HVAC cable burial from Peterhead substations to the UK Converter Stations and the construction of an onshore Converter Station at Fourfields located near Peterhead, Aberdeenshire, have been covered in a separate Environmental Statement (NorthConnect, 2015), and were granted planning permission in September 2015 by Aberdeenshire Council.

Although applications for the HVDC cable connection works alone would not automatically trigger the need for Environmental Impact Assessment (EIA) under the relevant EIA Regulations NorthConnect have elected to carry out an EIA and submit an EIA Report in respect the current planning and marine licence applications.

This EIAR focuses on the following parts of the project:

- Onshore HVDC buried cabling from the UK landfall to the converter station;
- Subsea HVDC interconnector from the UK to the UK-Norwegian median line (eastern extent of the UK Exclusive Economic Zone (UKEEZ));
- Fibre Optic cabling between the UK converter station and the UK-Norwegian median line; and
- Temporary construction requirements

1.4 The Location

The HVDC cables will connect the converter station at the Fourfields site near Boddam, Peterhead to the converter station located in Simadalen, Norway. The redline boundary for the UK elements are provided in Drawings NCFFS-NCCT-X-XG-0001-01 and Drawings NCOFF-NCT-X-XG-0001-01 to 04).

1.4.1 HVDC Cable Corridor – Onshore

The Fourfields site at NK119 412 is approximately 2.6km south of the outskirts of Peterhead; 4.5km south of Peterhead town centre; and 1km southwest of the village of Boddam (Drawing 3022). The Fourfields site is located to the south of Lendrum Terrace and Highfield, east of the Den of Boddam, Sandfordhill and Denhead and west of Stirling Hill and the Quarry. The site covers an area of approximately 37.2Ha.

The HVDC cables will be connected to the Converter station at Fourfields, and will run from the Converter station due south, crossing under the A90 and continuing to the landfall site at Long Haven, by the Longhaven cliffs (Figure 1.3), with indicative arrangements provided in Drawings NCGEN-NCT-Z-XE-0002-01 and NCGEN-NCT-Z-XD-0001-01 to 04. The cables are then routed under the cliffs to the subsea section of the project.

1.4.2 HVDC Cable Corridor – Marine

The onshore cabling will involve a horizontal directional drill (HDD) entry hole on land at Long Haven, and an exit hole approximately 200m from the cliffs. The offshore cables will be pulled onto land and the onshore and offshore cables will be joined in a jointing bay to the south of the A90.

The proposed offshore corridor for the HVDC cables will run in a north-easterly direction from the HDD exit point along the seabed to the Converter station at Simadalen, Norway (Drawings NCOFF-NCT-X-XG-0001-01 to 04). The scope of this EIAR focuses on waters up to the UK-Norwegian median line (eastern extent of UK waters).

1.4.3 Fibre Optic Cabling

A fibre optic cable will be bundled with one of the HVDC cables and as such will be installed and brought onshore as described above. The length of the optic cable route is short enough not to require an offshore repeater station, so no additional infrastructure will be required on the sea bed. Once onshore, the fibre optic cable will be routed to the converter station, along the same route as the HVDC cables. No additional infrastructure is expected for the fibre optic cabling, as it is only going to be used for site to site communications between the Scottish and Norwegian converter stations.

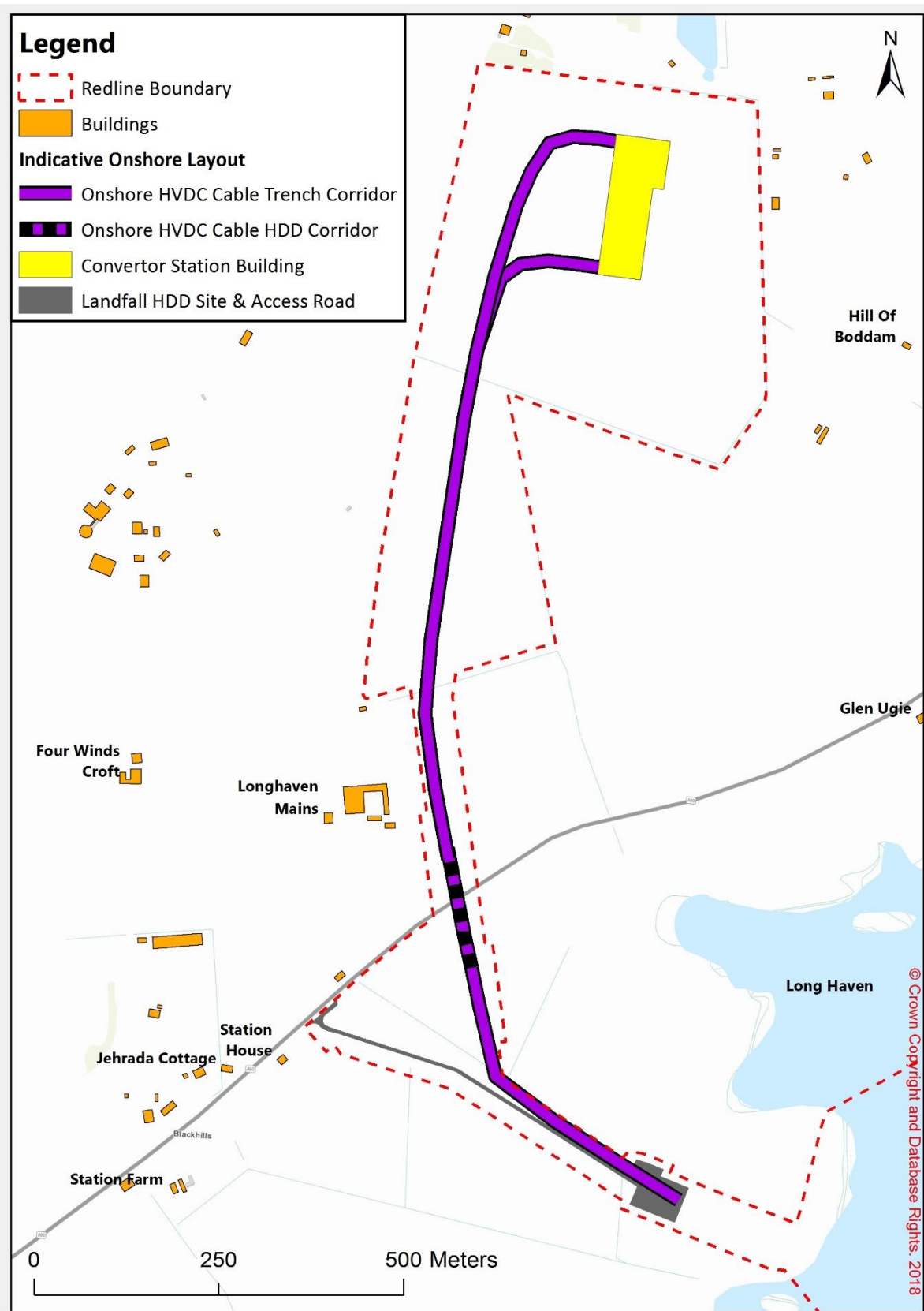


Figure 1.3: Indicative Onshore HVDC Cable Layout.

1.4.4 Temporary Construction Requirements

During the construction process, the majority of the site offices, staff welfare facilities, parking, storage and laydown areas will be provided at the Fourfields Converter Station Construction site and have already been incorporated into the approved planning consent for that element of the project.

To support the HDD and works south of the A90 further temporary construction requirements will be needed and are considered within this EIAR. These include: a temporary access road from the A90, a heavy lift drilling rig pad at the cliff HDD entry point and the A90 HDD entry point, and facilities for the HDD staff at the drilling site.

In addition, the HVDC cable corridor will require a haul road, a safety area, an area for spoil storage, a drainage ditch and boundary fencing.

1.5 Consenting and Licensing requirements

For the project to be constructed and operated, there are various consenting and licensing requirements which need to be in place.

1.5.1 Planning Consent

The HVDC cables require Planning Permission for the cable laying above Mean Low Water Spring (MLWS) from Aberdeenshire Council under the Town and Country Planning (Scotland) Act 1997. The temporary construction requirements will also be subject to planning consent from Aberdeenshire Council.

1.5.2 Marine Licence – Scottish Territorial Waters

As the HVDC Interconnector will cross the area between Scotland's Mean High Water Spring (MHWS) and the 12NM limit, it falls within the remit of the Marine (Scotland) Act 2010 (Scottish Parliament, 2010). Under Part IV of the (Marine Scotland) Act 2010 the following are "licensable marine activities":

- *"To deposit any substance or object within the Scottish marine area, either in the sea or on or under the seabed"*
- *"To construct, alter, or improve any works within the Scottish marine area"*
- *"To...remove any substance or object from the seabed within the Scottish marine area"*
- *"To carry out any form of dredging within the Scottish marine area"*

Therefore, all deposits made below MHWS and all construction below MHWS will require a Marine Licence for Marine Construction and will be sought from Marine Scotland Licensing Operations Team (MS-LOT).

1.5.3 Marine Licence – UK Waters

Executive devolution of the marine planning, conservation, marine licensing and enforcement from 12NM to 200NM through the Marine and Coastal Access Act 2009 (UK Government, 2009), allows Scottish Ministers to manage Scotland's Seas from MHWS to 200NM limit. Between 12NM and the 200NM UK Waters limit, a Marine Licence is not required for cable laying or maintaining exempt submarine cables.

The NorthConnect cables fall within this definition of “exempt submarine cable[s]”. However, cable protection activities are still licensable marine activities. Separate licences are not required under each Act, but the Marine Construction Marine Licence application will provide enough information to allow the consenting body to determine the application for activities up to 200NM.

1.5.4 EIA Regulations

This EIAR is submitted in accordance with the requirements of the relevant EIA Regulations. The Town and Country (EIA) (Scotland) Regulations 2017 and the Marine Works (EIA) (Scotland) Regulations 2017, which transpose the amendments made to the EIA Directive 2011/92/EU by Directive 2014/52/EU which came into effect on 16 May 2017. Since a scoping opinion was requested prior to the 16th of May 2017, this EIAR has been prepared in accordance with the transitional arrangements set out within these regulations (including for example the continued applicability of sections of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011). Further details on this, and our approach to the transition, is provided in Chapter 5: Planning Policy.

1.5.5 Habitats Regulations Appraisal (HRA)

An appropriate assessment (AA) is part of the Habitats Regulations Appraisal (HRA) process under the Conservation (Natural Habitats, &c.) Regulations 1994 (UK Government, 1994). It is required when a plan or project is likely to have a significant effect on a European site. The NorthConnect development will cross the Buchan Ness to Collieston Coast Special Protection Area (SPA) and the proposed Southern Trench Marine Protected Area (pMPA) and may cause indirect effects on several adjacent European sites. There is therefore potential for the development to cause a likely significant effect on a European site, a HRA Pre-Screening Report (Dr Lucy Quinn & Jonathan Ashburner, 2018) has been produced to inform the competent authorities Screening of the project, information to inform an AA if required has been provided within topic specific chapters of the EIAR which are cross reference from the HRA-Pre-Screening Report (Dr Lucy Quinn & Jonathan Ashburner, 2018).

1.5.6 European Protected Species (EPS)

The construction activities may affect European Protected Species (EPS) listed under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) (UK Government, 1994), namely dolphins, harbour porpoises and potentially European otters. As such, the appropriate EPS Licence’s will be applied for as required.

1.5.7 Pre-Application Consultation (PAC)

The NorthConnect interconnector project is categorised as a Major Development under The Town and Country Planning (Hierarchy of Developments) (Scotland) Regulations 2009. As a major development, formal Pre-Application Consultation (PAC) is required under section 35A of the Town and Country Planning (Scotland) Act 1997 and NorthConnect is required to comply with section 35B of that Act as well as the requirements set out in The Town and Country Planning (Development management Procedure) (Scotland) Regulations 2013.

The Marine Licensing (PAC) (Scotland) Regulations 2013 (Scottish Government, 2013), prescribe the marine licensable activities that are subject to PAC and, in combination with the Marine (Scotland) Act 2010 (Scottish Parliament, 2010), set out the nature of the PAC process. The NorthConnect HVDC development falls within these regulations as it involves the installation of subsea cables within the Scottish marine area which exceed 1853m in length and cross the intertidal boundary. There is no similar provision for PAC in the Marine and Coastal Access Act 2009 (UK Government, 2009).

NorthConnect have undertaken consultation in line with both the Marine and Terrestrial PAC requirements, details of which are provided in the HVDC Cable Installation Pre-Application Consultation Report (Fiona Milligan, 2018).

1.6 Marine and Planning Policy Requirements

Both onshore planning policy and marine planning policy are covered in more detail in Chapter 5: Planning and Marine Policy. The following is an overview of the policies relating to the NorthConnect development.

1.6.1 Onshore Planning Policy

The context for NorthConnect lies in international and national policy on climate change and energy generation. This is distilled into national, regional and local planning through policies on sustainability and energy, where policies exist.

The development planning system in Scotland, which provides the framework for considering planning applications, is made up of three main documents:

- The National Planning Framework (NPF);
- Strategic Development Plans (SDPs); and
- Local Development Plans (LDPs).

Other guidance on a specific planning topic may be prepared and become part of the development plan. This is called supplementary guidance.

The National Planning Framework (NPF) is a requirement of the Planning (Scotland) Act 2006 and sets out the strategy for long-term development within Scotland. The third NPF (NPF3), was published in 2014 (Scottish Ministers, 2014a), and sets out the strategy for development over the next 20 to 30 years.

All Scottish Planning Policy (SPP) (Scottish Ministers, 2014b) has been consolidated into one overall policy document and the most up to date version of the document has been published recently setting out national planning policies which reflect Scottish Ministers' priorities for operation of the planning system and for the development and use of land.

The Scottish Government provides advice and technical planning information in the form of Planning Advice Notes (PANs).

The relevant development plan applicable to the determination of the application for consent consists of the Aberdeen City and Shire Strategic Development Plan, published in March 2014 and the Aberdeenshire Local Development Plan 2017. The appropriate supplementary guidance documents will be utilised to assist with topic specific assessments.

1.6.2 Marine Planning Policy

The Scottish National Marine Plan (NMP) covering inshore waters to 12NM and offshore waters from 12-200NM was adopted in 2015. The NMP lays out Scottish Minister's policies for the sustainable development of Scotland's seas (Scottish Government, 2015).

The Scottish NMP provides General Planning Principles (GEN), most of which apply to the NorthConnect project. The NMP also lays out sector-specific objectives and policies, including objectives related to subsea cables.

In addition to the NMP, regional Marine Planning Partnerships are being developed across Scotland. NorthConnect falls within the North-East region, but the plan has not yet been established.

1.7 References

- Dr Lucy Quinn & Jonathan Ashburner. (2018). NorthConnect HVDC Cable Infrastructure Habitats Regulations Appraisal: Pre-Screening Report. (NCGEN-NCT-X-RA-0007).
- Fiona Milligan. (2018). HVDC Cable Infrastructure - Pre-Application Consultation Report.
- NorthConnect. (2015). *NorthConnect Interconnector Converter Station and High Voltage Alternative Current Cable Route Environmental Statement*. Retrieved from
- Scottish Government. (2015). *Scotland's National Marine Plan: A single framework for managing our seas*. Retrieved from <http://www.gov.scot/Publications/2015/03/6517/downloads#res-1>.
- Scottish Ministers. (2014a). Scotland's Third National Planning Framework (NPF3) SG/2014/100.
- Scottish Ministers. (2014b). Scottish Planning Polucy (SPP).
- Scottish Parliament. (2010). Marine (Scotland) Act 2010
- UK Government. (1994). *The Conservation (Natural Habitats, &c.) Regulations 1994*.
- UK Government. (2009). Marine and Coastal Access Act 2009