

1 INTRODUCTION

1.1 PURPOSE OF THE REPORT

Environmental Impact Assessment

- 1.1.1 Able Humber Ports Ltd (Able) propose to develop a marine energy park on the south bank of the Humber Estuary; if consented, the development will be known as Able Marine Energy Park (AMEP). AMEP will incorporate a new quay together with facilities for the manufacture of marine energy components including offshore wind turbines. The development of AMEP, east of North Killingholme, will lie partly within the Humber Estuary, which is designated under European law as an important site for nature conservation and forms part of the Natura 2000 network of sites. This network consists of Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) established under the Birds Directive (Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds) and the Habitats Directive (Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora) respectively. In order to ensure that the coherence of the Natura 2000 network of sites is maintained, new intertidal habitat and terrestrial managed grassland roosting and feeding habitat will also be created on the north bank of the Humber. The development on the north bank is referred to throughout this document as “the Compensation Site”. Collectively, for the purposes of the Environmental Statement, the development of AMEP and the Compensation Site comprise “the Project”.
- 1.1.2 This document and its annexes comprise the Environmental Statement (ES) for the Project and report the findings of the Environmental Impact Assessment (EIA) that has been undertaken. In doing so, it describes the likely significant environmental impacts resulting from the construction and operation of the Project and, where appropriate, the measures that are intended to mitigate any adverse impacts and how these measures will be secured.
- 1.1.3 *Volume 1 (Chapter 1 – Chapter 24)* of this document reports on the EIA undertaken for AMEP. *Volume 2 (Chapter 25 – Chapter 43)* reports on the EIA undertaken for the Compensation Site.
- 1.1.4 The application is being submitted to the Infrastructure Planning Commission (IPC) in accordance with the requirements of the Planning Act 2008 (“the 2008 Act”) and the Infrastructure Planning

(Environmental Impact Assessment) Regulations 2009 (“the 2009 EIA Regulations”).

1.2 LOCATION AND DESCRIPTION OF THE SITE

Introduction

1.2.1 The Project incorporates two geographically distinct areas as shown in *Figure 1.1*.

The AMEP Site

1.2.2 The proposed AMEP site is located east of North Killingholme, within North Lincolnshire, on the south bank of the River Humber. The site is approximately 1 km downstream of the Humber Sea Terminal (HST) and immediately upstream of the South Killingholme Oil Jetty.

1.2.3 The site, excluding the area of ecological mitigation, covers approximately 268 ha, of which approximately 122.4 ha is covered by existing consent for port related storage, 100.3 ha is existing arable land that will be developed for industrial use and 45 ha is reclaimed land from the estuary to provide a new quay. A further 47.8 ha of existing arable land will be converted to managed grassland to mitigate for the effects of the development on ecological receptors including birds that use the adjacent Humber Estuary SPA.

1.2.4 A large proportion of the site’s terrestrial area currently comprises hard-standing for the storage of imported cars, particularly in the north-east/east of the site and in the west of the site. A railway line passes through the site, and a redundant sewage works can be found to the south-west of the site. Former clay pits to the north of the site, which are now flooded, are classified as a Site of Special Scientific Interest (SSSI) and are also part of the Natura 2000 network of sites. A raised embankment along the eastern boundary supports a flood defence wall, which protects the site from tidal flooding.

The Compensation Site

1.2.5 The Compensation Site is located on the north bank of the Humber Estuary, within East Riding of Yorkshire, opposite the AMEP site and some 4 km to the south-west of Keyingham. The site is divided into an area to be developed into intertidal habitat, and an area to be developed as wet roosting and feeding habitat. The proposed intertidal site, known as Cherry Cobb Sands, is roughly triangular in shape and currently comprises arable fields defined at their boundaries by

drainage ditches, hedges and a flood defence embankment. The proposed managed grassland roosting and feeding habitat is located at Old Little Humber Farm, and comprises four irregularly-shaped fields defined at their boundaries by drainage ditches and hedges.

1.3 *BRIEF DESCRIPTION OF THE PROJECT*

Overview

1.3.1 An Indicative Site Plan is reproduced in *Figure 4.2*. This reflects one potential outcome, within the defined boundary, that is consistent with the broad parameters and principles that will guide and direct the detailed layout of the Project, as described in *Annex 4.1 Project Specification*.

1.3.2 AMEP comprises a harbour development with associated land development, to serve the renewable energy sector. The harbour will comprise a quay of 1 279 m frontage, of which 1 200 m will be Solid Quay and 79 m will be a Specialist Berth, and will be formed by the reclamation of intertidal and subtidal land within the Humber Estuary.

1.3.3 Associated development will include:

- dredging and land reclamation;
- the provision of onshore facilities for the manufacture, assembly and storage of wind turbines and related items;
- works to Rosper Road, the A160 and the A180; and
- surface water disposal arrangements.

1.3.4 Ancillary matters will include:

- the diversion of two footpaths that run along the shore of the Humber, one on the south bank and one on the north bank;
- the conversion of a railway into a private siding;
- the interference with rights of navigation;
- the creation of a harbour authority;

- a deemed licence under section 66 of the Marine and Coastal Access Act 2009;
- the modification of public and local legislation; and
- the compulsory acquisition of land and rights in land and powers of temporary occupation of land to allow Able to carry out and operate the above development.

1.3.5 The facility will primarily serve the emerging renewable marine energy sector including offshore wind, tidal and wave energy generation, by providing a base for the pre-assembly and construction of marine energy components, and for installation vessels. As the market currently stands, offshore wind generation is a more mature industry than either tidal or wave energy, and the development will accordingly focus principally on offshore wind components at its commencement, but as other technologies develop, the site will be able to serve them. While production focuses on offshore wind, once construction of the offshore wind farms is complete, the harbour will provide a facility from which to operate, monitor and maintain offshore wind farms. Maintenance will include re-powering of Offshore Wind Turbines (OWTs); this is the cyclical process of replacing OWTs that have reached the end of their service life.

1.3.6 At the Compensation Site the existing flood defences will be realigned at the Cherry Cobb Sands site, and ground levels re-contoured to provide new habitat of functional value to wildfowl and wading birds as well as other flora and fauna. The Cherry Cobb Sands Site will be developed within a 115 ha plot, with the realigned flood defence wall, drainage features and footpath occupying 13 ha. At the Old Little Humber Farm part of the Compensation Site, ground levels will be re-contoured to produce shallow ridge-and-furrow type undulations to retain water on the ground surface. These earthworks will be created within a 38.5 ha plot.

1.4 SCOPING OPINION

1.4.1 As an initial stage in undertaking the EIA, a Scoping Report was prepared and submitted to the IPC in September 2010 (ERM, 2010) (*document number TR03001/APP/14b*). The scoping exercise that was undertaken is described in detail in Chapter 2 of this volume. As a result of the Scoping Report being submitted, Able obtained a “Scoping Opinion” from the IPC (Scoping Opinion – Proposed Able UK Marine

Energy Park Killingholme Lincolnshire, 2010) (*document number TR03001/APP/14b*).

- 1.4.2 As noted in *Chapter 2*, the technical scope of the EIA has derived from both Able's Scoping Report and the IPC's Scoping Opinion. It is important to note that since the Scoping Report was prepared, some changes have been made to the internal configuration and content of the Project. These changes have been discussed with the IPC and this ES reflects these changes in full.

1.5 PRELIMINARY ENVIRONMENTAL INFORMATION REPORT

- 1.5.1 Under s42 of the 2008 Act the applicant is required to consult the community living in the vicinity of the application site. In accordance with Regulation 10(b) of the 2009 EIA Regulations, the applicant must include consultation on the preliminary environmental information. Preliminary environmental information is the information specified in Part 1 of Schedule 4 of the 2009 EIA Regulations which has been compiled by the applicant prior to the consultation process and that is reasonably required to assess the environmental effects of the development (and any associated development).

- 1.5.2 A Preliminary Environmental Information Report (PEIR) was prepared and made available to stakeholders between 31 January and 19 March 2011 for the purposes of consultation. The PEIR included information gathered and assessments made at that point. The PEIR and the subsequent consultation have informed the EIA process.

1.6 THE EIA STUDY TEAM

- 1.6.1 The preparation of the EIA for AMEP was led by Environmental Resources Management Ltd (ERM), working closely with Able and various other specialist consultants. Black and Veatch (B&V) led the EIA for the Compensation Site. Specific environmental topics have been addressed, or contributed to, by those identified in *Table 1.1*.

Table 1.1 *The EIA Study Team*

Environmental topic	Team Volume 1	Team Volume 2
Geology, Hydrology and Ground Conditions	Able, ES International	B&V
Hydrodynamic and Sedimentary Regime	JBA Consulting, HR Wallingford	B&V
Water Quality and Sediment Quality	ERM	B&V
Aquatic Ecology	ERM	B&V
Terrestrial Ecology and Birds	ERM, Applied Ecology Ltd., Institute of Estuarine and Coastal Studies (University of Hull), The Badger Consultancy, B&V	Institute of Estuarine and Coastal Studies, B&V
Commercial Fisheries	Institute of Estuarine and Coastal Studies	B&V
Drainage and Flood Risk	JBA Consulting	B&V
Commercial and Recreational Navigation	BMT Isis	N/A
Traffic and Transport	JMP Consultants Ltd.	B&V
Noise and Vibration	ERM	B&V
Air Quality	ERM	B&V
Historic Environment	AC Archaeology Ltd., Wessex Archaeology	AC Archaeology Ltd, Wessex Archaeology
Light	ERM	N/A
Landscape and Visual	ERM	B&V
Socio-economics	Roger Tym & Partners	B&V
Aviation	ERM	N/A
Waste	ERM	B&V
Health	ERM	N/A
Cumulative and In-combination	Able, ERM	B&V

1.7 *STRUCTURE OF THE ES*

1.7.1 This report is divided into two volumes as described above. *Volume 1*, the ES for the AMEP, is structured as follows:

- **Chapter 1** (this chapter) details the location of the Project, provides a description of the sites for AMEP and the Compensation Site and gives a brief description of the works proposed. It sets out the steps undertaken in obtaining opinions on the scope of the EIA. It also identifies the parties involved in developing information to be included in the EIA.
- **Chapter 2** describes the environmental assessment process applied in the EIA for AMEP. *Chapter 2* also details the cumulative and in-

combination projects in relation to the Project (including both AMEP and the Compensation Site).

- *Chapter 3* outlines the planning policy and context for the Project, and provides a brief review of previous planning applications relating to the AMEP site.
- *Chapter 4* provides details on the development of AMEP including both the construction and operational phases.
- *Chapter 5* addresses the need for AMEP.
- *Chapter 6* outlines how alternative sites for AMEP were considered.
- *Chapter 7* addresses the topic of geology, hydrogeology and ground conditions in relation to AMEP.
- *Chapter 8* addresses the topic of the hydrodynamic and sedimentary regime of the Humber Estuary of relevance to AMEP.
- *Chapter 9* addresses the topic of water and sediment quality in relation to AMEP.
- *Chapter 10* addresses the topic of aquatic ecology in relation to AMEP.
- *Chapter 11* addresses the topic of terrestrial ecology and birds in relation to AMEP.
- *Chapter 12* addresses the topic of commercial fisheries in relation to AMEP.
- *Chapter 13* addresses the topics of drainage and flood risk in relation to AMEP.
- *Chapter 14* addresses the topic of commercial and recreational navigation in relation to AMEP.
- *Chapter 15* addresses the topic of traffic and transport in relation to AMEP.
- *Chapter 16* addresses the topic of noise and vibration in relation to AMEP.

- *Chapter 17* addresses the topic of air quality in relation to AMEP.
- *Chapter 18* addresses the topics of the historic environment in relation to AMEP.
- *Chapter 19* addresses the topic of light in relation to AMEP.
- *Chapter 20* addresses the topic of landscape and visual impacts in relation to AMEP.
- *Chapter 21* addresses the topic of socio-economics in relation to AMEP.
- *Chapter 22* addresses the topic of aviation in relation to AMEP.
- *Chapter 23* addresses the topic of waste in relation to AMEP.
- *Chapter 24* addresses the topic of health in relation to AMEP.

1.7.2

Volume 2, the ES for the Compensation Site, avoids repeating what is included in *Volume 1*; it only includes relevant information that has not already been detailed in *Volume 1*. *Volume 2* is, therefore, structured as follows:

- *Chapter 25* details the location, provides a description of the site and gives a brief description of the works proposed at the Compensation Site.
- *Chapter 26* describes the environmental assessment process applied in the EIA for the Compensation Site.
- *Chapter 27* outlines planning policy and context for the Compensation Site, and provides a brief review of previous planning applications relating to the Compensation Site.
- *Chapter 28* provides details on the development of the Compensation Site, including both the construction and operational phases.
- *Chapter 29* addresses the need for the Compensation Site.
- *Chapter 30* outlines how alternative sites for the Compensation Site were considered.

- *Chapter 31* addresses the topic of geology and ground conditions in relation to the Compensation Site.
- *Chapter 32* addresses the topic of the hydrodynamic and sediment regime of the Humber Estuary of relevance to the Compensation Site.
- *Chapter 33* addresses the topic of water and sedimentary quality in relation to the Compensation Site.
- *Chapter 34* addresses the topic of aquatic ecology in relation to the Compensation Site.
- *Chapter 35* addresses the topic of terrestrial ecology and birds in relation to the Compensation Site.
- *Chapter 36* addresses the topics of drainage and flood risk in relation to the Compensation Site.
- *Chapter 37* addresses the topic of traffic and transport in relation to the Compensation Site.
- *Chapter 38* addresses the topic of noise in relation to the Compensation Site.
- *Chapter 39* addresses the topic of air quality in relation to the Compensation Site.
- *Chapter 40* addresses the topics of the historic environment in relation to the Compensation Site.
- *Chapter 41* addresses the topic of landscape and visual impacts in relation to the Compensation Site.
- *Chapter 42* addresses the topic of socio-economics in relation to the Compensation Site.
- *Chapter 43* addresses the topic of waste in relation to the Compensation Site.
- *Chapter 44* addresses the in-combination impacts resulting from both the AMEP and the Compensation Site.



KEY

— Site Boundary

Note:

Works may be required outside of the site boundary on the local trunk road network.

Rev	Date	Description	By	Chk	App
C	24/11/11	General Amendments	JH	RC	RC
B	04/11/11	General Amendments	JH	RC	RC
A	16/06/11	Preliminary	JH	RC	RC



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Project:	ABLE Marine Energy Park
Client:	ABLE UK Ltd
Title:	Figure 1.1 DCO Application Boundary

PRELIMINARY

Scale:	1:40,000@A3	Drawn By:	J Harris	Checked By:	R Cram	Approved By:	R Cram
Date:	16/06/2011	Date:	16/06/2011	Date:	16/06/2011		
Drawing No.	Figure 1.1		Revision:	C			