Consultation Draft

PORT OF Lowestoft MASTERPLAN 2018 - 2036

ABP | ASSOCIATED BRITISH PORTS

FOREWORD

I am delighted to be able to publish for consultation – and your comment - the draft of our Master Plan for the Port of Lowestoft.

This Plan is designed to give everyone an understanding of the Port's "direction of travel" - where we genuinely believe the Port can go and how we intend to get there.

Any comments you are able to give us – short, lengthy, positive or negative – will be very much appreciated.

Standing back, one clear message comes out of this Master plan. That message is that the Port of Lowestoft has a great future. We see a process of modernisation and investment. We expect some traditional sectors at the Port to grow (such as aggregates and fisheries) whilst others are likely to flex and adjust to market conditions (such as oil and gas engineering). We stand ready to help in that process wherever we can.

We also see exciting opportunities arising from the rapid growth of the offshore wind energy industry. The Port and the town are perfectly situated to be long-term beneficiaries of these opportunities.

This Master Plan assesses the challenges ahead if we are to take advantage of those opportunities with which we are now being presented. For example – do we need additional berthing space? If so, when? What facilities will we need to provide for these new business sectors? Where should we put them, bearing in mind that demand is likely to exceed the number of berths in the Outer Harbour which in turn will push marine activity deep into the Inner Harbour?

We have responded to these positive challenges by generating new ideas about the redevelopment of our Inner Harbour's Shell Quay to create an 'Energy Hub' – an integrated offer for the wind energy industry.

We are conscious that we also need to develop a rail-connected aggregates wharf to supply the UK's major infrastructure projects with sustainable construction materials.

We do not intend this Master Plan to be the final word on the future of the Port of Lowestoft. Rather, we want to use this document to act as a stimulus for a continuing positive conversation with our stakeholders and the local community.

So, this is just a starting point in the processes of change which will affect the Port of Lowestoft and the wider town over the coming decades. We very much hope you find this Master Plan an interesting guide to the exciting futures facing the Port, and we are keen to hear your views.

Andrew Harston

Regional Director

ABP Short Sea Ports

Jacket and Suction Bucket foundations for Equinor's Dudgeon OWF Substation, about to be loaded onto the delivery barge at Sembmarine SLP's Lowestoft yard

Contents **Page**

Figures **Page**

Tables **Page**

1. INTRODUCTION

1.1 Associated British Ports (ABP) is the UK's largest port operator, owning and operating 21 ports across the UK. Together with our customers, in 2017 ABP handled some 89 million tonnes of cargo, supported 119,000 jobs and contributed £7.5 billion to the UK economy. [1]

1.2 The Port of Lowestoft is one of 11 ports within ABP's Short Sea Port (SSP) business: it contributes £30m to the economy annually and supports 580 local jobs. We firmly believe that the Port is on the verge of making an even greater commercial contribution: thanks to its strategic marine and land location, it is perfectly positioned to service the growing nationally significant offshore energy sector.

1.3 This Master Plan sets out ABP's requirements and objectives for the Port over the next 18 years or so. However, these requirements can only be secured, and the objectives achieved, if we align the commercial opportunities being presented and the infrastructure investment being committed with the needs of the local community and our stakeholders.

"What a Master Plan is not intended to be is rigid and inflexible. Ports operate in a dynamic commercial world, and it is essential that they should have the flexibility to changing patterns of demand and commercial opportunities. The Master Plan should therefore present a framework in which such adaptation can occur without undue bureaucracy".

DfT Guidance on the Preparation of Port Master Plans

[1] *ABP (2018) Servicing the Economy. Serving the Nation*

1

PART 1 : OUR OBJECTIVES AND APPROACH

Here, we set out what we want to achieve in this Master Plan, and our approach to achieving those objectives

2. OBJECTIVES AND APPROACH

Our objectives

2.1 Our principal objective in this Master Plan is to ensure that we make the correct long-term choices today as we plan for tomorrow. This is critical if the Port is to be able to contribute fully to the local economy and the local environment, whilst also protecting and ensuring the Port's continuing commercial success.

2.2 In this Master Plan, therefore, we aim to:

- Explain the Port's strategic plan from 2018 to 2036 – which period aligns with the time-frame proposed to be covered by the emerging Waveney Local Plan;
- Identify how land within the Port estate may be developed so as to be best able to take advantage of future commercial opportunities;
- Inform port users, employees and the local community about what they can expect to see in terms of development at the Port over the coming years; and
- Build and further develop a genuine stakeholder dialogue.

ABP's vision for the Port of Lowestoft
"The Port of Lowestoft will help the East Anglian and wider UK economy benefit from long term growth. The Port will be responsive and adaptable to the needs of its existing customers, and also help the town of Lowestoft to seize major opportunities, particularly in the energy and construction sector."

Our approach

The area covered by this Master Plan

2.3 The geographical area covered by this Master Plan is the commercial Port that ABP owns in Lowestoft (Figure 2). For the purposes of this Master Plan – which concerns land development plans, rather than statutory responsibilities for the water - we are excluding land subject to a formal transfer from ABP to the Highways and Broads Authorities (marked as the hatched area on Figure 2).

The structure of this Master Plan

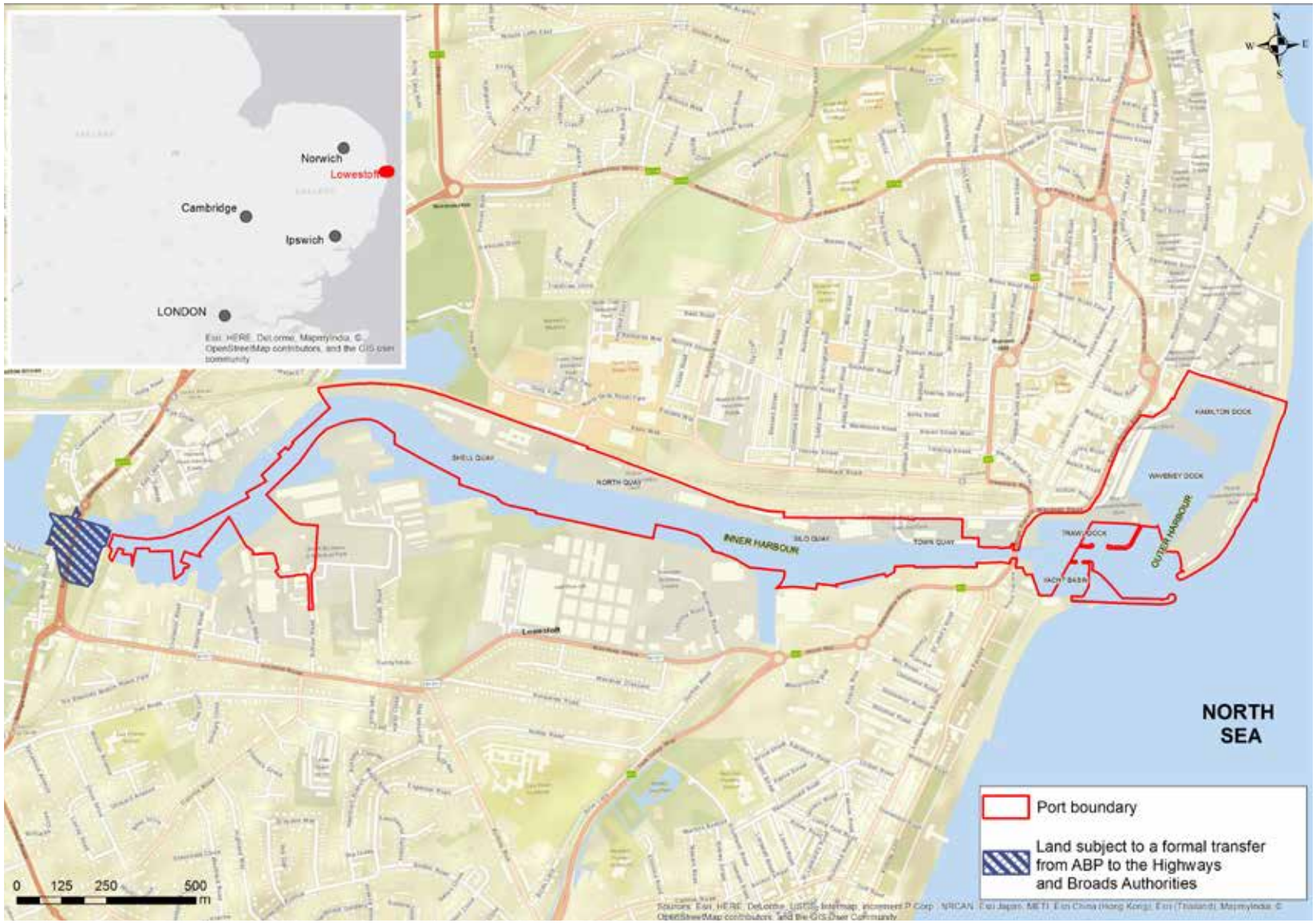
2.4 The Master Plan has been produced having regard to the Guidance prepared by the Department for Transport (DfT) (December 2008) *Guidance on the Preparation of Port Master Plans.*[2]

2.5 With a view to assisting the reader, we have attempted to adopt a structured approach to this Master Plan, essentially dividing the exercise into distinct parts. Following this part of the Master Plan, which briefly sets out our objectives and approach, we have pulled together a baseline understanding of the current activities and issues at the Port. We look at the commercial opportunities we see for the Port, and then use this analysis to make plans for the future. The final part of the Master Plan looks at the consultation process. The process is summarised in Figure 1 below.

Figure 1. The structure of this Master Plan

[2] *DfT (December 2008) Guidance on the preparation of Port Master Plans (8)*

Figure 2. Map of the Port of Lowestoft showing ABP's registered land area



PART 2 : UNDERSTANDING THE PORT

We aim to understand the Port and the facts around the opportunities and challenges that we face. We will then use those facts to direct us towards coherent, co-ordinated actions

Port of Lowestoft 1953

3. THE PORT OF LOWESTOFT

3.1 In this chapter, we set out the history and present context of the Port.

The Port of Lowestoft today

3.2 The Port of Lowestoft is the UK's most easterly port. Capable of accommodating vessels of up to 5,000 gross tonnes, its strategic location, looking to the North Sea, means that it is ideally placed to capitalise on major new growth markets in both energy support and construction aggregates, whilst at the same time building on its traditional strengths.

3.3 The statutory Port estate covers in total some 63 ha (155 acres) of land and water and its diverse use reflects the wide range of occupiers and trades that operate from the Port (Figure 3).

The Outer Harbour is a hub for the offshore energy industry and the fisheries industry, and is also used by leisure craft

3.4 The Outer Harbour, which comprises some 18 hectares (44 acres) of port operational land, lies on the seaward side of the Bascule Bridge. It is divided into four areas: Hamilton Dock, Waveney Dock, Trawl Dock and the Yacht Basin (Figure 3). It is effectively fully occupied, acting as a hub for the growing offshore energy industry and the fisheries industry, as well as being used by leisure craft.

3.5 The Outer Harbour is dredged to 4.7 m depth, with the main channel into Waveney and Hamilton Docks maintained at 3.9 m, which, as a tidal harbour enables it to accommodate vessels of up to 5.5 m draught (Table 1).

Table 1. Normal acceptance dimensions of vessels at Lowestoft

Dock, jetty or quay	Quay	Length	Beam	Draught
Outer Harbour – Docks	1400 m	125 m	35 m	5.5 m
Entrance Channel & Inner Harbour	2100 m	125 m	22 m	6.0 m

Source: ABP

3.6 Port operations in the Outer Harbour currently include:

- East Anglia ONE – the construction, operation and maintenance ("O&M") base for the Scottish Power Renewables offshore wind farm;
- Greater Gabbard - the O&M base for the wind farm, owned by Scottish and Southern Energy (SSE);
- Sembmarine SLP Engineering Ltd - which offers extensive facilities for the construction of large topside-deck structures and jackets destined for oil and gas fields and wind farms primarily situated in the North Sea;
- Lowestoft's fishing fleet – currently comprising some 14 inshore fishing vessels which are each around 10 m Length Overall (LOA); and
- Leisure – a large number of recreational craft moored in the Outer Harbour yacht marina operated by the Royal Norfolk and Suffolk Yacht Club.

The Inner Harbour is west of the Bascule Bridge, and serves a wide variety of occupiers and trades

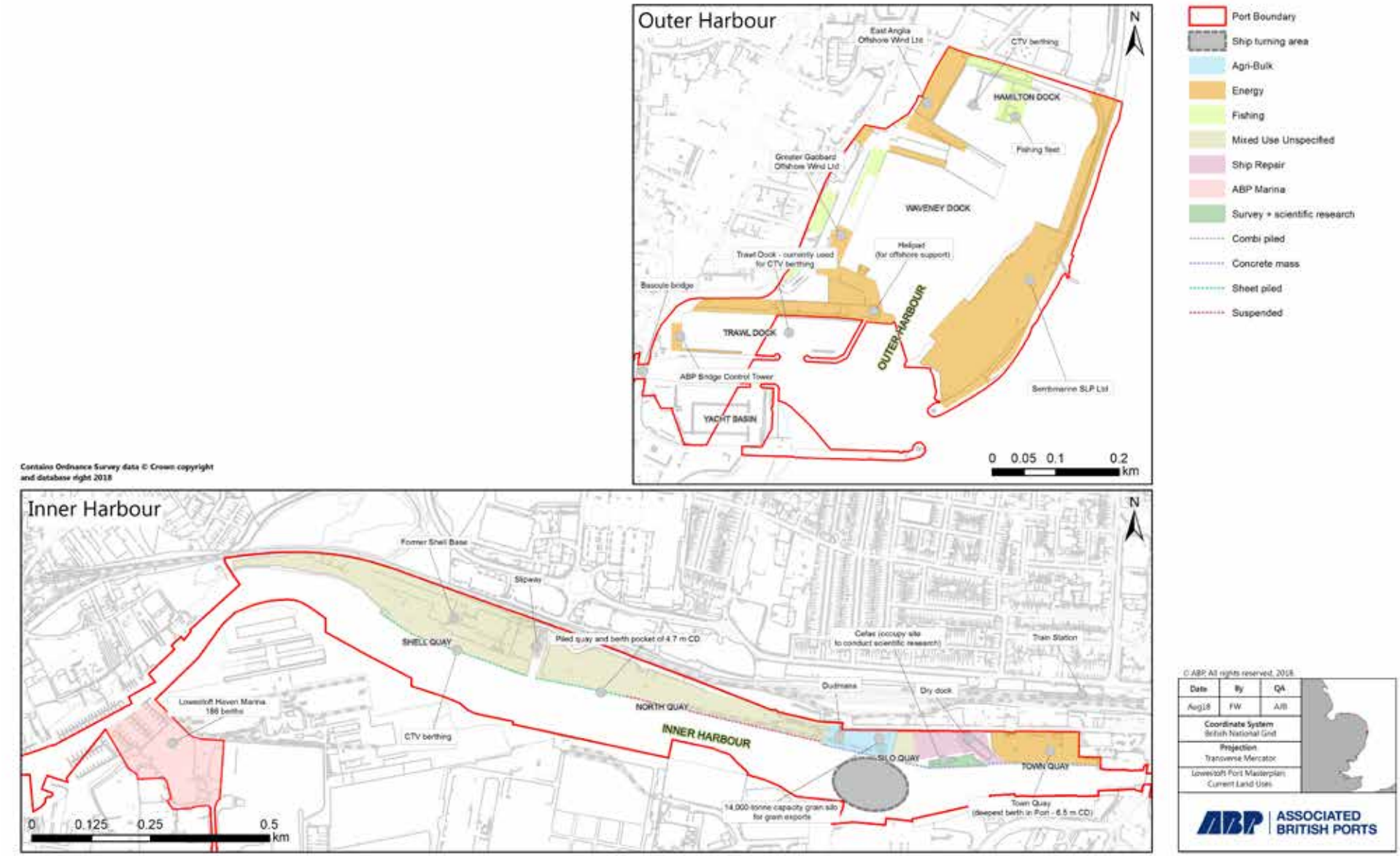
3.7 The Inner Harbour, which comprises some 28 hectares (70 acres), is situated to the west of the Bascule Bridge. Vessels with a beam of up to 22 m can pass into the Inner Harbour, and the deepest berth on Town Quay (Table 1) is able to accommodate vessels up to 6 m in draught.

3.8 ABP's ownership extends, at the far west of the site, to the area around Oulton Broad (hatched on Figure 2).

3.9 Port operations in the Inner Harbour currently include:

- Offshore Wind Farm vessel berths: these quay areas accommodate survey and service vessels;
- Cefas: the base for the Centre for Environment, Fisheries and Aquaculture Science (Cefas), which is the Government's marine science adviser. CEFAS' research vessel operates from Cefas Quay;
- Dudmans: a 14,000-tonne capacity silo and storage facility at Silo Quay operated by Dudman Lowestoft Ltd, which accommodates a range of bulk materials, including grain and cement;
- Peterson: an operational and logistics base that provides a range of warehouse, cargo and logistic services to support the oil and gas and offshore energy sectors;
- Mixed Use Quay: North Quay, a mixed use quay, is the longest quay in the Inner Harbour at c.620 m. The North Quay Terminal allows mobile cranage to be used, together with 16,000 m^2 of storage for forest products, steel, and general cargo; and
- Facilities for ship repairs, including a dry dock located between Town Quay and Cefas Quay.

Figure 3. Port layout



3.10 The vehicular link to the Port is along Commercial Road, which ABP owns from a point west of the Dudmans (Lowestoft) Ltd site at Silo Quay.

3.11 At the western end of the Inner Harbour lies the Haven Marina, which is owned and operated by ABP.

The Port has a range of responsibilities and statutory duties

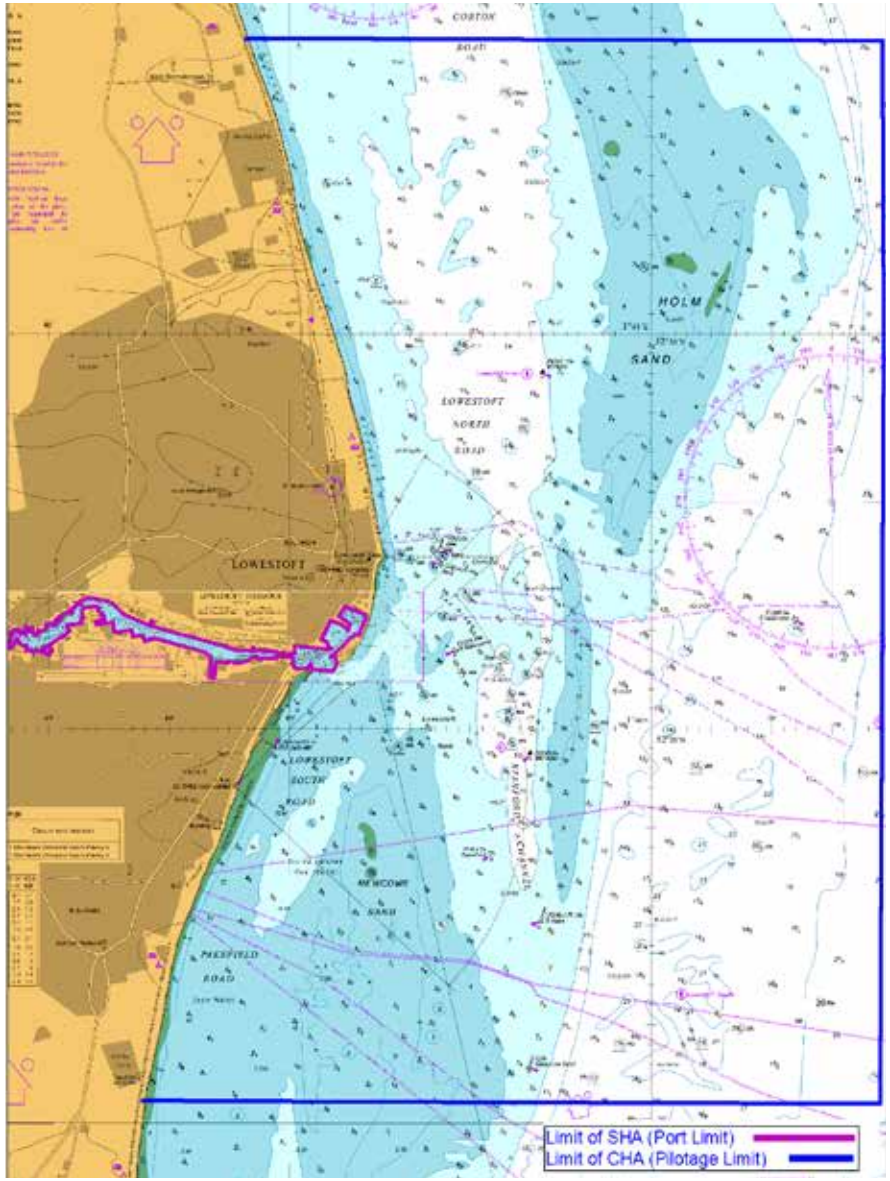
3.12 ABP is the Statutory Harbour Authority (SHA) for the Harbour area at Lowestoft, from the Pier Heads in the Outer Harbour, inwards to Mutford Lock, including all tidal dock areas and Lake Lothing (up to the Mean High-Water Spring Tide level) (Figure 4). The landward boundary for the SHA is Mutford Lock, which separates the harbour authorities of ABP Lowestoft and the Broads Authority.

3.13 ABP is also the:

- Competent Harbour Authority (CHA) with respect to Pilotage. The CHA area includes all the navigable waters within the Port and the seaward approaches (Figure 4); and the
- Local Lighthouse Authority for the SHA area.

3.14 As such, ABP is required to comply with and fulfil numerous statutory duties and obligations in the context of its port operational responsibilities. These include a requirement to mark or light the harbour, remove derelict vessels, maintain security within the port, and keep the Port open to all persons subject to payment of appropriate dues.

Figure 4. Areas of Port jurisdiction, showing Statutory Harbour Authority (SHA) and Competent Harbour Authority (CHA)



The Port of Lowestoft: management and oversight

The Port of Lowestoft is part of ABP's Short Sea Directorate, which comprises four divisions and eleven ports located on the South, East and West coasts of the United Kingdom, handling around 5 million tonnes of cargo every year.

The Director for Short Sea Ports oversees the strategic direction and activities of these ports, with local strategy directed by the respective divisional port management team. In East Anglia, this team is made up of the Divisional Port Manager who is responsible for the three ABP East Anglia ports (Lowestoft, Ipswich and King's Lynn) and the regional management team, which includes representatives from the Health, Safety and Environment, Operations, Commercial, Property, Engineering, Finance, Marine and HR teams.

Historical context

Lowestoft grew because of its integration of rail, canal and marine connections

3.15 As a settlement, Lowestoft can be traced back to the Domesday Book, when it was recorded as being a small village of around 20 families and 160 sheep. There was no access to the sea from Lake Lothing and Oulton Broad, as shown on Figure 5.

3.16 During the 15th and 16th centuries, the town grew as the fishing industry expanded - albeit operating essentially from the beach.

3.17 The construction of the Inner Harbour, which included works to open Lake Lothing to the sea - and a canal through Lake Lothing to Norwich - was carried out by the Lowestoft and Norwich Navigation Company, those works being authorised by the Norwich and Lowestoft Navigation Act 1827[3]. The Inner Harbour was opened in 1831.

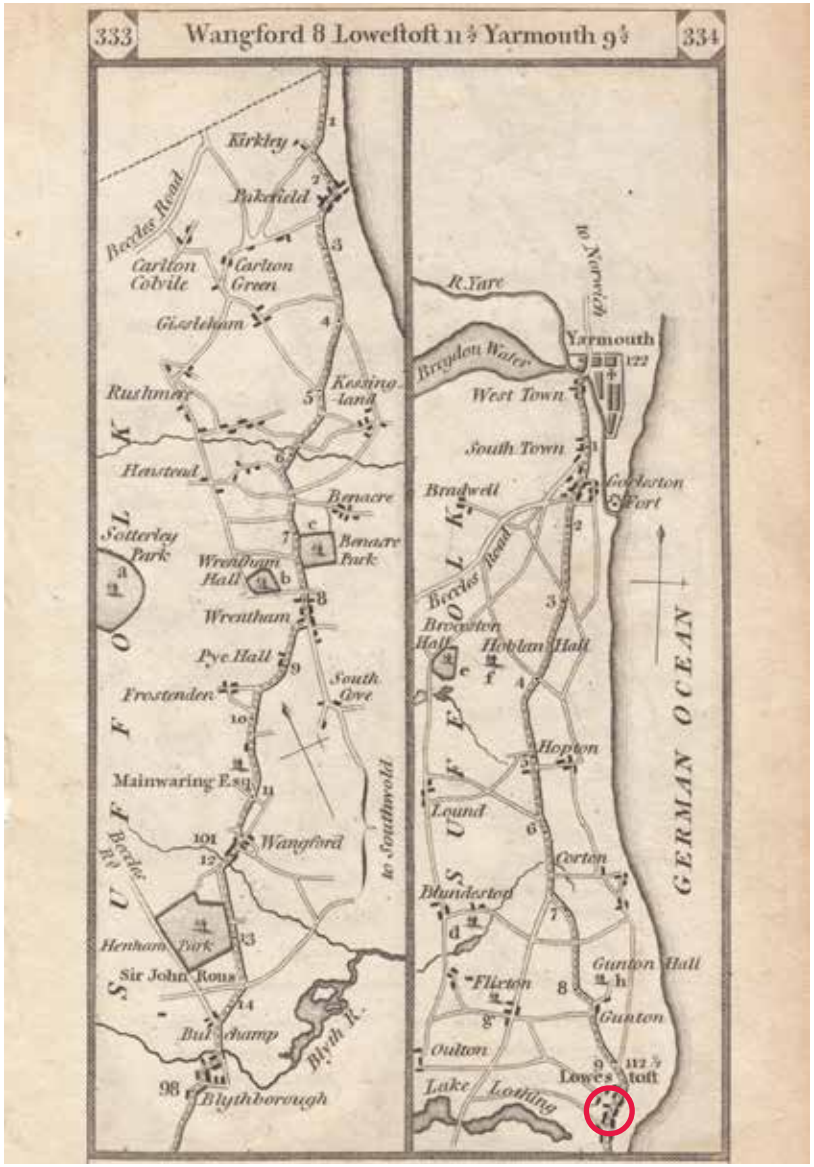
3.18 Following its purchase in 1846 by Sir Morton Peto, the Port was further expanded by the Norfolk Railway Company with the construction of the Outer Harbour, as well as the building of a railway linking Lowestoft with Norwich. In so doing, Lowestoft became an early example of an integrated transport hub, with the owners claiming that fish could reach Manchester the following day.

3.19 As the Port grew, so did Lowestoft's important fishing industry, together with its marine engineering and shipbuilding business. Shipbuilding at the Port, which included the construction of vessels for the Royal Navy, continued into the 1980s. Indeed, the navy used the Port as a base during the two world wars.

3.20 Today, whilst the fishing industry has to an extent declined, the Port is benefitting from a new set of 21st century economic drivers – namely the offshore wind sector. The Outer Harbour is now a busy energy hub – operating at almost full capacity and exciting potential exists for the Port in terms of both servicing new offshore wind projects as well as seizing the opportunities presented by other sectors such as oil & gas, marine aggregates, bulks and general cargoes.

[3] *https://www.suffolkarchives.co.uk/places/lowestoft-harbour/*

Figure 5. 1796 map of Lowestoft



Source: http://www.lowestofthistory.com/pic/a0027_1796_a.jpg

Port of Lowestoft timeline

1827
Parliament passes the Norwich and Lowestoft Navigation Act, allowing construction of the Port of Lowestoft and canal

1831
Harbour at Lowestoft opens

1847
Sir Morton Peto purchases the harbour at Lowestoft and builds a railway line to the town – Norfolk Railway Company Outer Harbour opens

1913
Best year on record for Lowestoft's herring catch

1916
Lowestoft is shelled by the German navy in the First World War

1942
A daylight bombing raid by a single Nazi plane kills 63

1953
Lowestoft is badly affected during the North Sea flood

1980s
Intense trawling means fish stocks become increasingly depleted, with Lowestoft fish companies closing throughout the decade

1995
14 Lowestoft fishing vessels decommissioned owing to quota put on plaice, one of Lowestoft's prime fish

2013
Greater Gabbard Offshore Wind Farm Operations and Maintenance base opened by Michael Fallon MP

2016
Offshore substation for Dudgeon Offshore Wind Farm constructed at Lowestoft by Sembmarine SLP

2017
Scottish Power Renewables announce offshore wind farm construction base at the port of Lowestoft

4. POLICY OPPORTUNITIES AND CONSTRAINTS

4.1 This chapter sets out a summary of some of the current key elements of policy that are of relevance to the main issues that are likely to face the Port in the period covered by the Master Plan.

Land use planning

The National Policy Statement for Ports (NPSfP) makes clear the role of ports in growing the UK economy

4.4.2 The national policy governing ports in the UK currently consists of the National Policy Statement for Ports (NPSfP), which was published in January 2012. The NPSfP makes it clear that ports play an essential role in respect of the UK economy. It specifically draws attention to the fact that ports have a vital role to play in the construction and servicing of offshore energy installations, ensuring the security of energy supplies being a critical consideration for the country. Ports have an important part to play in this context and need to be responsive to changes to the varying types of energy supply and to the need to support the development and maintenance of offshore energy operations.

4.3 As far as future port development is concerned, the NPSfP sets out the Government's view that any exclusion of the possibility of providing additional port capacity would be an acceptance of the imposition of limits on economic growth - an outcome that Government believes would be strongly against the public interest.

4.4 In considering the need for future capacity to cater for various forms of port activity – including the provision of capacity to support the development of offshore sources of renewable energy – the NPSfP makes it clear that the decision maker should start with a presumption in favour of consent being granted for such development.

The National Planning Policy Framework aims to support economic growth wherever sustainable

4.5 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are to be applied. The framework makes clear that the purpose of the planning system is to contribute to the achievement of sustainable development.[4]

4.6 Indeed, one constant theme underlying the policies within the NPPF is that significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development.

4.7 In this context, the NPPF also support the promotion of sustainable transport. Amongst other things, it is explained that planning policies should identify and protect opportunities which could be critical in developing infrastructure to widen transport choice.

The Local Plan seeks to encourage industries related to offshore renewables

4.8 A new Waveney District Local Plan has recently been adopted by Waveney District Council (adopted 20 March 2019).

4.9 The vision of the Local Plan[5] is for Lowestoft to be a *"clean, attractive and vibrant town with an enhanced economy and reduced deprivation."* The plan recognises that *"Lowestoft, along with Great Yarmouth will be important centres in the construction, operation and maintenance of offshore renewable projects*" as well making clear that - *"The Port of Lowestoft will be an offshore renewables centre of excellence supporting the employment of a significant number of people"*. [6]

4.10 There is a commitment within the plan to:

- Continue to promote the creation of a cluster of business in the offshore renewables, engineering and oil and gas sectors; and

[4] *Ministry for Housing, Communities & Local Government (2018) and updates https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data file/6077/2116950.pdf*
[5] *Waveney District Council (2018), Waveney Local Plan – Final Draft Plan March 2018*
[6] *Waveney District Council (2018), Waveney Local Plan – Final Draft (Vision on page 21) http://consult.waveney.gov.uk/gf2.ti/f/911330/35229029.1/PDF/-/Waveney_Local_Plan__Final_Draft.pdf*

- Protect and support the enhancement of port related activities, particularly those which support the growing offshore renewables and engineering sectors.

4.11 ABP participated in the process leading to the adoption of the new Local Plan, and in summary, we -

- Support the Council's evidence that future development associated with meeting the needs of the offshore energy sector is likely to be significant;
- Highlight, in accordance with all available evidence, that the statutory Port is well placed to meet these identified needs; and
- Point out that as the Outer Harbour is now, in effect, full, there will be an increased need for the Inner Harbour to accommodate the predicted level of growth from the offshore energy sector.

The Minerals Core Strategy identifies the Port as providing aggregate wharfage

4.12 The Suffolk County Council Minerals Core Strategy (2008) identifies the Port as a location for the provision of facilities for the marine landing of aggregates.[7]

4.13 Policy 6 of the Core Strategy seeks to protect such facilities, requiring that *'when proposals are made which would result in the loss of an existing port or rail handling facility, applicants will be required to demonstrate to the Minerals Planning Authority that those sites no longer meet the needs of the aggregates industry*', or where this cannot be demonstrated, to make available alternative facilities.

Economic development strategy

The Clean Growth Strategy and Industrial Policy sees clean growth is seen as one of the UK's 'grand challenges'

4.14 The UK Industrial Strategy[8] aims to seize opportunities arising from the 'fourth industrial revolution' around clean growth.

[7] *Extant Plans are soon to be superseded by the emerging Suffolk Minerals and Waste Local Plan – currently in its final stages of preparation. However, older plans are still in force (Minerals Core Strategy in 2008, and subsequently the Waste Core Strategy in 2011).*

[8] *BEIS (2017) Industrial Strategy: building a Britain fit for the future https://www.gov.uk/government/publications/industrial-strategy-building-a-britain-fit-for-the-future*

4.15 In October 2017, the Government published the Clean Growth Strategy[9] setting out proposals that aim to accelerate the pace of "clean growth" in the UK - delivering increased economic growth and decreased emissions for decarbonising all sectors of the UK economy through the 2020s.

4.16 It is self-evident that the offshore wind energy sector has an important part to play in enabling the UK to reach its clean growth objectives.

The New Anglia Local Economic Partnership Strategic Economic Plan identifies growth sectors and places where the Port can contribute

4.17 The New Anglia Local Enterprise Partnership (NALEP) was established in 2011 for the area that covers both Suffolk and Norfolk.

4.18 The NALEP Strategic Economic Plan (2017) identifies five 'high impact' growth sectors for the East Anglian region which have the potential to grow rapidly in terms of jobs and productivity. These are advanced manufacturing/ engineering and energy, where the Port has a role to play, together with agri-tech, Information & Communication Technologies (ICT)/digital, and life sciences.

4.19 The Plan also identifies a further four 'underpinning sectors' for the regional economy. The Port of Lowestoft and logistics sector is identified as being one of those underpinning sectors.

4.20 In addition, Lowestoft is designated as a national Centre for Offshore Renewable Engineering (CORE) by the Government, to help attract investment, particularly in wind farm assembly and manufacturing activities.

4.21 Assisted Areas are recognised in European State Aid rules as being less economically advantaged places that would benefit from additional support for development. The Lowestoft area has been given Assisted Area status, which means that projects can be given more support from public sector sources such as New Anglia's Growing Business Fund.

[9] *BEIS (2017) Clean Growth Strategy https://www.gov.uk/government/publications/clean-growth-strategy*

The Suffolk Growth Strategy and East Suffolk Economic Growth Plan seek investment in offshore energy

4.22 Alongside the LEP, Suffolk County Council also plays a role in promoting economic investment in Lowestoft through the county-wide inward investment service – Invest in Suffolk. The Suffolk Growth Strategy, produced by the Council, acknowledges Lowestoft as Suffolk's second largest port and a major base for the construction, maintenance and servicing of offshore energy production and an area which provides an opportunity for growth in relation to the energy sector.[10]

4.23 At district level, the East Suffolk Economic Growth Plan 2018-2023 outlines how partners will accelerate economic growth through maximising the area's competitive advantage in the energy sector. [11]

4.24 The Plan recognises the role of the Port in servicing the growing offshore renewable sector. A key priority identified as part of the Plan is to attract inward investment focused around existing and emerging sectors and supply chains. The Plan commits to attracting international investment and creating opportunities for local people. It lists Lowestoft as a 'priority place'.

Marine policy

The East Inshore and East Offshore Marine Plans seek to realise the potential for wind energy

4.25 The Marine Management Organisation (MMO) has responsibility for preparing marine plans. Lowestoft is located within the East Inshore Marine Plan area,[12] which conforms with the Marine Policy Statement.[13]

4.26 A key element of the 'economic' objective of the plan is to realise the potential of renewable energy, particularly offshore wind farms, which are likely to be the most significant transformational economic activity over the next 20 years in this area, whilst also helping to achieve the United Kingdom's energy security and carbon reduction objectives.

4.27 *'Offshore wind renewable energy infrastructure'* is specifically identified as a particular policy topic area. In respect of offshore wind farms, the Plan has a policy which states that - *'Proposals for offshore wind farms, inside Round 3 zones, including relevant supporting projects and infrastructure, should be supported'* (Policy WIND2).

4.28 The Plan recognises that the Port has been identified as a Centre for Offshore Renewable Engineering (see paragraph 1.20) a national initiative which highlights the importance of offshore wind energy projects.

4.29 *'Ports and Shipping'* is a further specific policy area in the plan. Its economic significance is highlighted and policies are put in place to ensure marine access to port facilities are protected from inappropriate development and that current and future activities and opportunities at ports and harbours are properly protected.

[10] *Suffolk County Council (2013) Suffolk Growth Strategy https://www.suffolk.gov.uk/assets/council-and-democracy/our-aims-and-transformation-programmes/Suffolk-Growth-Strategy.pdf*
[11] *East Suffolk (undated) East Suffolk Economic Growth Plan 2018-2023 http://www.eastsuffolk.gov.uk/assets/Business East-Suffolk-Growth-Plan.pdf*
[12] *MMO (2014). East Inshore and East Offshore Marine Plans. HM Government. This covers the area of sea stretching from Flamborough Head to Felixstowe*
[13] *HM Government (2011). UK Marine Policy Statement.*

5. ENVIRONMENTAL OPPORTUNITIES AND IMPLICATIONS

5.1 This chapter sets out the environmental issues affecting the Port.

Habitats

Future Port development will be sensitive to nearby internationally designated sites

5.2 The Southern North Sea possible Special Area of Conservation (pSAC), the Outer Thames Estuary Special Protection Area (SPA), the Broads SAC, Broadland Ramsar and the Broadland SPA are adjacent to the Port.

5.3 These critically important nature conservation protected areas are identified on Figure 6.

Figure 6. Environmental designations

5.4 ABP takes care to ensure that no development undertaken at the Port is allowed to threaten the integrity of these protected areas, complying at all times with the relevant environmental consenting regimes.

The Water Framework Directive

The Port will engage with regulatory authorities before development is undertaken

5.5 Port activities must not adversely affect the ecological and chemical status of local waterbodies. Before any development can be undertaken which could affect the marine environment, ABP always engages with all of the relevant regulatory bodies (including the Marine Management Organisation and the Environment Agency) to ensure that any risks are removed or mitigated.

Noise

Impacts will be minimised during and following development

5.6 The Port has to operate 24 hours a day, 7 days a week if it is to provide an acceptable standard of service to its customers in a competitive market economy. ABP does recognise, however, that port operations do have the potential to generate noise.

5.7 ABP has, as a consequence, developed a project management process that ensures that any proposed development is designed in such a way as to minimise potential nuisance impacts, both during construction and operation.

Air quality

We will assess opportunities to improve air quality where appropriate

5.8 Generally, Lowestoft local air quality is good, and Waveney District Council does not have any designated Air Quality Management Areas (AQMAs), the closest being in Norwich, around 30km north-west of the Port.

5.9 ABP recognises, however, that this should not be taken as an invitation to "do nothing". We will continue, as is our best practice, to identify, assess and implement if appropriate, opportunities to enhance air quality within the Port though technological advances as and when those opportunities present themselves.

Flood defence

Most of the Port is situated within Environment Agency Flood Zone 3

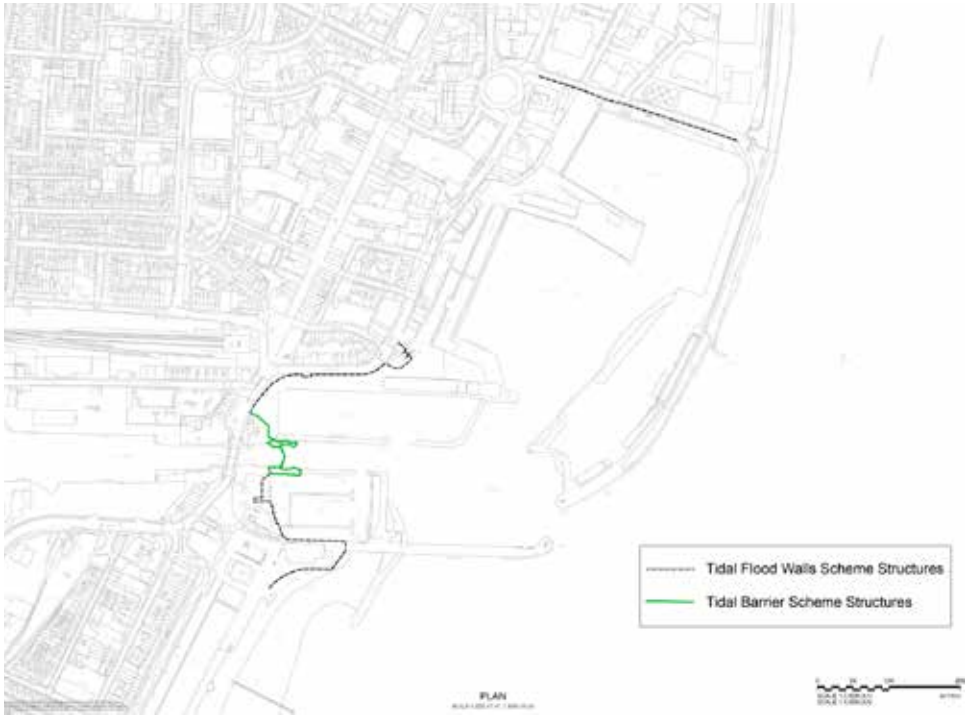
5.10 Flood Zone 3, shown in Figure 7, is an area of floodplain which could be subject to flooding under a 1 in 200-year event or less.

5.11 The Lowestoft Flood Risk Management Project (LFRMP) – which ABP fully supports, provided its construction and operation does not impede and act to the detriment of port operations – would include the following:

- A tidal flood barrier (including lock gates) across the Lake Lothing entrance channel immediately downstream of the A12/A47 Bascule Bridge; and
- The construction of flood defences around the Outer Harbour on the landside. (As shown in Figure 8).

Figure 7. Extent of Environment Agency Flood Zone 3 at Lowestoft

Figure 8. Proposed Flood Defences



Climate change

Climate change may alter the flood risk profile for the Port

5.12 Between now and 2036, mean sea level is expected to rise by between 0.1 and 0.15 m at Lowestoft. Over the longer term (to 2100), a sea level rise of 0.7 m is predicted. This will inevitably increase the risk of flooding events.[14]

5.13 ABP has put in place a scheme to manage the changing profile of flood risk in the context of climate change, which feeds into our Business Resilience and Continuity Plans. This will be reviewed and updated as appropriate once the new flood defences are in place so as to enable the Port to adapt to change as it arises.

[14] *Palmer et al, 2018. UKCP18 Marine report. Met Office*

6. ACCESS TO THE PORT

6.1 Both inland and marine access is important to enable cargoes and people to move efficiently to and from the port. (See Figure 9).

Site safety, security and access control

UK ports operate in a highly regulated environment

6.2 ABP is required to maintain strict compliance with UK, EU and international safety legislation and guidance, so as to ensure the safe management of the various activities that take place within its ports. To this end, ABP has established clear systems, structures and specific objectives across all of its port operations and employs dedicated health and safety professionals in each of its regions. ABP takes its health and safety responsibilities extremely seriously and sees it as central to its operations and the effective management of its facilities.

6.3 Port security is a key consideration for every port operator. As well as regulating access across the whole of the Port estate in its capacity as the SHA, specifically in terms of security, ABP is required to observe and comply with the:

- The Port Security Regulations 2009; and
- International Ship and Port Facility Security Code (ISPS).

6.4 Compliance with and implementation of both the Regulations and Code could lead in times of increased national security to the need to raise security levels at the Port with the establishment of Temporary Restricted Areas within the port estate in accordance with the ISPS Code.

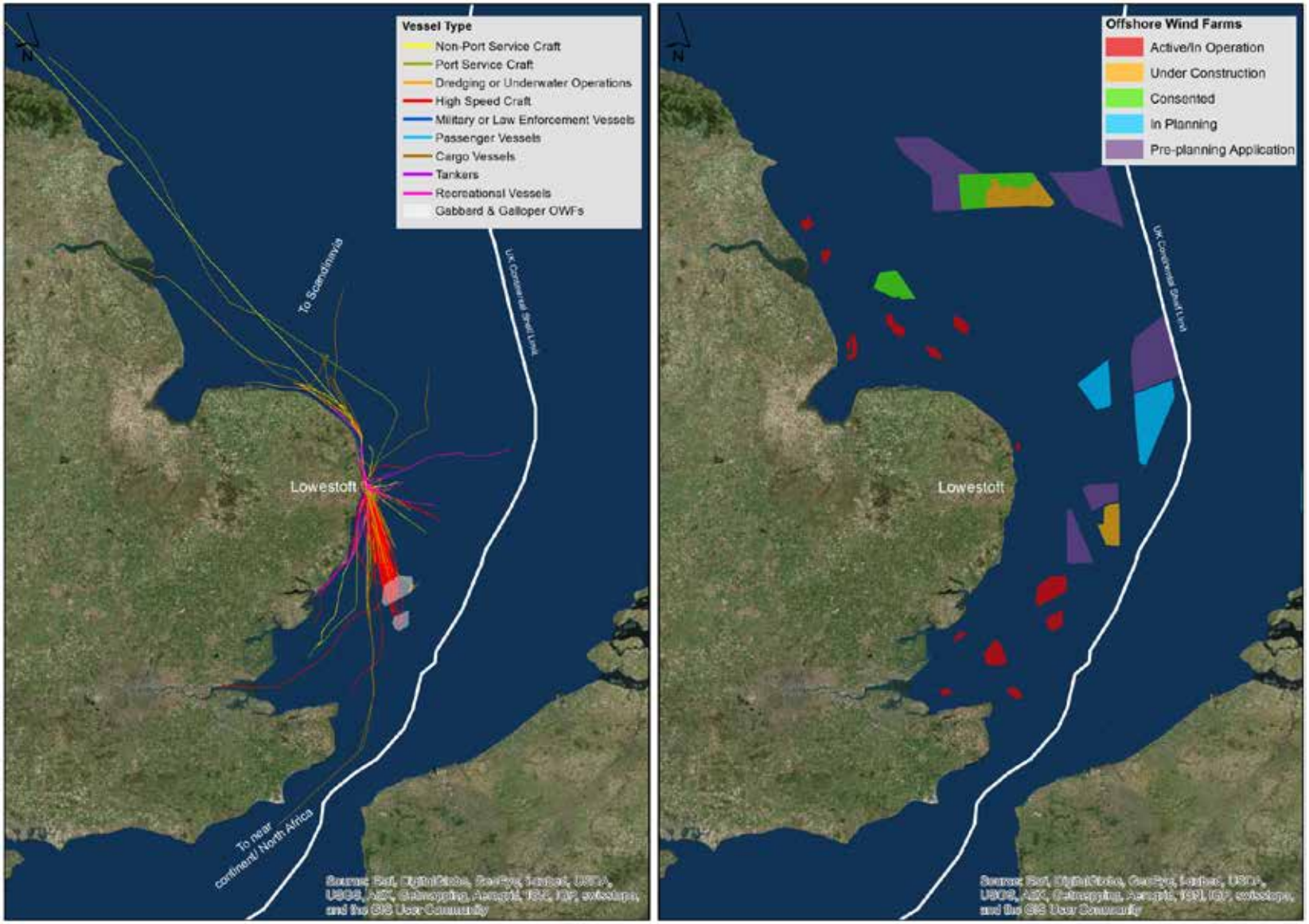
6.5 The long term safety and security of ports involves close collaboration with a number of regulatory agencies, including:

- The Department for Transport;
- The Health and Safety Executive (HSE);
- The Maritime and Coastguard Agency (MCA);
- UK Borders Agency;

Figure 9. Key local access routes to the Port of Lowestoft

Source: OS MasterMap and OS Open Data. Figure produced by Turley

Figure 10. Vessel traffic to/from Lowestoft in 2015 based on AIS records and showing Greater Gabbard and Galloper OWFs; planned and operational wind farms in the southern North Sea up to Round 3



- The Local Authorities; and
- The Office of the Rail Regulator.

Access by transport modes

Marine access: Lowestoft is well positioned for growth

6.6 Lowestoft is located within 200 km of the continental ports of Rotterdam and Zeebrugge. In light of its easterly maritime location, it is well positioned to service a number of existing operational – and indeed proposed - offshore wind farms, all of which are readily accessible by Crew Transfer Vessels ("CTVs") – (see paragraph 7.27), as demonstrated by the intensity of High Speed Craft movements between the Port and the Greater Gabbard and Galloper OWFs. (Figure 10).

Rail access: rail connections run adjacent to the Port

6.7 There are two rail connections to Lowestoft. Firstly, the East Suffolk line connects Lowestoft to Ipswich, which converge to the west of the Port; and secondly, the Wherry Line which connects Lowestoft to Norwich (Figure 9). The rail line runs to the immediate north of the Port. ABP is working actively with Network Rail, with a view to reinstating a rail freight terminus at the Port (see Chapter 7).

Road access upgrade requirements are understood

6.8 Lowestoft is connected to Great Yarmouth by the A47, which is also the main route to Norwich and Peterborough (Figure 9). The A12 carries traffic south to Ipswich and London. Moving west, the A143 links Beccles and Bungay to Lowestoft.

6.9 In terms of highway improvement, the DfT considers that – *"Ports in the North East Anglia and Wash area are relatively far from the strategic road network – the A47 is a key route where upgrades are required".*[15]

6.10 The New Anglia LEP has also identified the A47 corridor as needing development and the LEP Economic Strategy states that the LEP is -

"committed to securing the full dualling of this major artery between East Anglia and the Midlands, which would unlock growth along its route…as well as supporting links between Lowestoft, Great Yarmouth and Norwich".[16]

[15] *DfT (2018), England's Port Connectivity: the current picture https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/701352/england-port-connectivity-the-current-picture.pdf (26)*
[16] *New Anglia LEP (2017), Norfolk and Suffolk Economic Strategy. A strategy for growth and opportunity (https://newanglia.co.uk/wp-content/uploads/2017/10/New-Anglia-Economic-Strategic-Brochure-V3.pdf) (29)*

3

PART 3 : COMMERCIAL OPPORTUNITIES

In this part of the Master Plan, we concentrate on how the current and future commercial opportunities in Lowestoft might inform our plans for change

Industrial pipes being shipped for reprocessing as part of a sustainability project

7. COMMERCIAL OPPORTUNITIES

7.1 In this chapter, we briefly review the commercial opportunities available to the Port of Lowestoft. These are critically important, because we believe that strategic plans must be based on sound commercial thinking, alongside a clear understanding of risks and constraints.

Historic and future change

Sectors serviced by the Port have shifted over time

7.2 The profile of the Port is changing in what is today, undeniably, a volatile and unpredictable market economy with its attendant risks and opportunities.

7.3 Although the Port has seen a gradual reduction in the number of large cargo vessels over the past few years – which the Department for Transport considers to be those vessels greater than 100 gross tonnes - with a decline from over 500 in 2011, to around 250 in 2016 (Figure 11), the number of large cargo vessels serving the Port is currently increasing.[17]

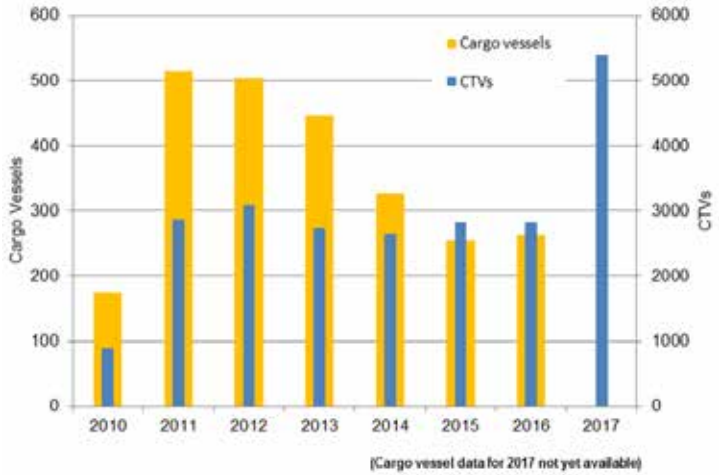
7.4 ABP has also witnessed a marked increase in CTV movements over the same period. These vessels, designed to service the off-shore wind farms, began operating from the Port in 2012, supporting the Greater Gabbard OWF project. Over the last few years, Galloper Offshore Wind Ltd has operated a large number of CTVs from the former Shell Base in the Inner Harbour.

7.5 In 2017, the Port had some 5,500 CTV movements.

7.6 In 2018, construction began on the East Anglia ONE project, which will further increase the number of CTVs operating from Hamilton Dock in the Outer Harbour.

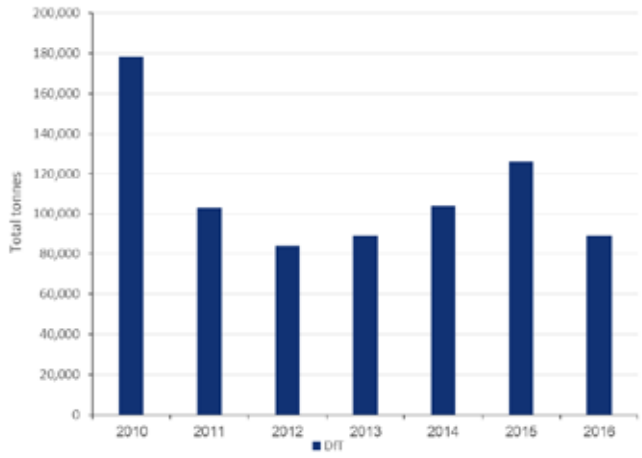
7.7 The commercial opportunities presented to the Port by the existing – and indeed continuing - growth of the offshore wind sector, has offset the effects of the decline in total tonnage handled by the Port. The DfT does not break down total tonnage statistics into its component parts for smaller ports such as Lowestoft, but we do know that fluctuations in total tonnage over the 2010 to 2016 period were primarily caused by volatility in agribulks markets, where

Figure 11. Vessel arrivals at the Port (2010-2017)



Source: DfT Port Freight Statistics and ABP vessel traffic data

Figure 12. Total tonnage handled by Lowestoft port (2010-2016)



Source: DfT Port Freight Statistics

[17] *DfT Port Traffic Statistics: Administrative Rules*

natural variations in harvest quality drove adjustments in grain prices and consequential tonnage exported, together with a slight decline in aggregates activities at the Port in 2013.

7.8 Fluctuations in business are, however, an ever-present challenge for every port operator faced with the need to service exiting business sectors whilst at the same time having to anticipate, and make provision for, new opportunities – subject always to the need to balance the risks of premature capital commitment whilst operating in such a volatile and unpredictable market economy.

The Port can expect to face new drivers of change in future

7.9 Some key drivers of change are as follows.

- Vessel size. In general, the size of commercial vessels is increasing. This is due essentially to a highly competitive market driving the economies of scale offered by larger vessels.
- Vessel automation. Some 60% of an offshore wind farm's operating costs can arise solely from vessel operation and research is currently being undertaken as to whether these costs could be reduced with innovation and increased automation.[18] For example, the Engineering and Physical Sciences Research Council (EPSRC) is currently researching the use of Unmanned Aerial Vehicles (UAVs) for use in windfarm inspection, whilst the use of drones for visual inspection and the transfer of spare parts to windfarms is expected to be a regular feature in the future.[19]
- Brexit. The implications of Brexit for the Port are difficult to predict. ABP has, however, been planning for all eventualities. It is our understanding that Brexit is unlikely to significantly affect UK demand for offshore wind energy, given wider commitments to the Paris Agreement. On the whole, ABP believes that the Port is less likely to be affected by Brexit than may be the case with some other ports, as Lowestoft does not embrace the high volume, high turnaround trades most affected by delays at the border, specialising instead in discrete service sectors.

[18] *4COffshore (10 May 2018) WASP to demonstrate usefulness of automated vessels https://www.4coffshore.com/news/wasp-to-demonstrate-usefulness-of-automated-vessels-nid7678.html*
[19] *Cranfield University (2018) Maintaining offshore wind farms using advanced drones, AI & advanced modelling https://www.cranfield.ac.uk/research-projects/home-offshore*

A Diving Support Vessel moored in the Port of Lowestoft

7.10 On the other hand, exciting opportunities are being presented in terms of bulks, aggregates and the energy sector, such as the recent introduction of Peterson - all of which are outlined in this Master Plan. We discuss these opportunities below.

Wind energy sector opportunities

Offshore wind energy will be a key plank in delivering the UK's government's carbon reduction commitments – a key objective being to provide 30GW of capacity by 2030

7.11 As the sector has matured, technological improvements in foundation construction and turbine efficiency have led to considerable savings in cost which in turn has led to a fall in wind energy costs. This has left the industry in a strong position to expand.

"We will work with industry as they develop an ambitious Sector Deal for offshore wind. Provided costs continue to fall, this could result in 10 GW of new capacity built in the 2020s"

HM Government Clean Growth Strategy

7.12 Today, over 7GW of fully installed capacity already meets some 6% of the UK's electricity demand[20], and a number of major Round 3 offshore wind projects are now in the development pipeline. [21]

7.13 The UK's recent Contracts for Difference (CfD) auction in autumn 2017 attracted bids for two new offshore wind contracts (Triton Knoll and Hornsea Project Two) – projects which look to the development of larger, more powerful turbines at lower prices.[22]

7.14 This signals a positive outlook for the UK offshore wind industry. The Government is clearly placing considerable confidence in the ability of the sector to help to deliver the country's carbon reduction commitments.

Major investments are planned off the East Anglian coast

7.15 The East Anglia Round 3 Zone is located immediately to the east of Lowestoft. It represents the principal market for new offshore wind opportunities over the next decade (Figure 13). The anticipated development programme is set out in Figure 14. The East Anglia Zone consists of six proposed wind farm projects, four of which are being led by Scottish Power Renewables and two by Vattenfall.[23] Together, these projects could provide some 7 GW of clean power.[24] Details are as follows.

- East Anglia ONE. This is the most advanced wind farm in the East Anglia Zone. It is a £2.5 billion, 714 MW development located approximately 60 km offshore from Lowestoft, in the south of the East Anglia Zone. Offshore construction began in April 2018 and the wind farm is due to be complete by the end of 2020/21.The Port of Lowestoft is the construction co-ordination and O&M base for this project.
- East Anglia THREE. This is the second project Scottish Power Renewables is developing in the East Anglia Zone. Consent for the 1200 MW project was received in 2017. Construction is anticipated to commence in 2022.[25]
- Other East Anglia Zone projects. The remaining projects are at a less advanced stage, although consenting work is well underway. It is anticipated that offshore construction work on these projects will commence in the mid-2020s.

7.16 In 2018, The Crown Estate announced details of a new offshore wind seabed leasing round (termed 'Round 4'). At the time of writing consultation is still ongoing. However, the Crown Estate has proposed five seabed regions within which developers are expected to have the opportunity to identify and propose sites. One of these seabed regions is 'East Anglia', located immediately offshore from Lowestoft[26].

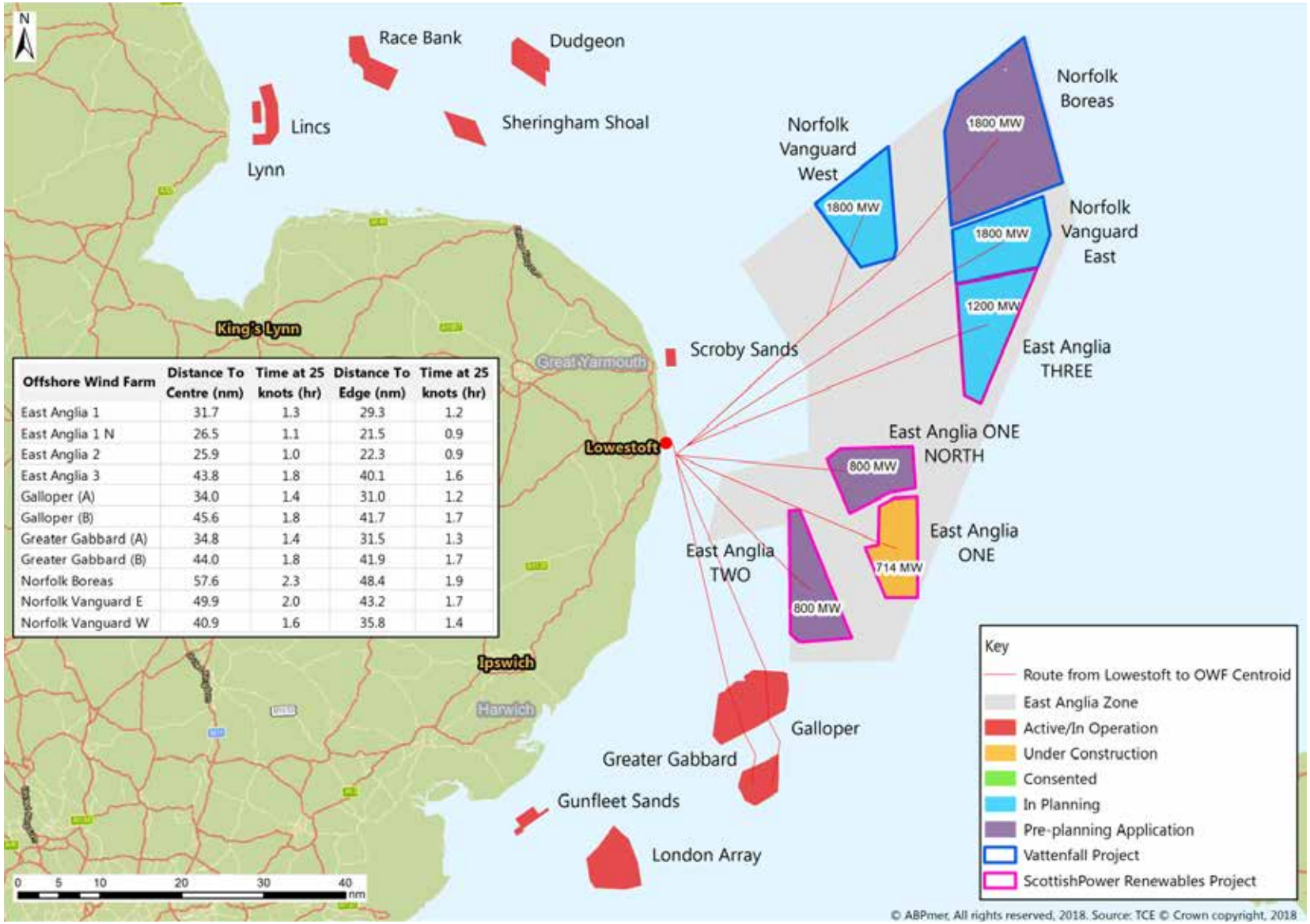
7.17 In addition to the Round 4 opportunity described above, the Crown Estate has also completed its initial assessment of offshore wind extension applications, confirming that eight proposed projects, representing up to 3.4GW of potential new capacity, have satisfied the application criteria. A number of Southern North Sea projects are on this list, including both Galloper OWF and Greater Gabbard OWF (just to the south of Lowestoft).[27]

7.18 The development of new, and the expansion of existing, offshore wind farms provides a wide range of long-term growth opportunities for the Port of Lowestoft over the ensuing years to 2050 and beyond. These will arise in a number of broad forms, including:

- Construction co-ordination: this requires vessel berthing and landside space (primarily for offices) to co-ordinate the construction of the offshore elements of the project. Construction co-ordination, by its very nature, is time limited and a typical construction period is around two to three years.
- Operations and Maintenance (O&M): O&M, on the other hand, are ongoing processes which create a long-term stream of work for the Port, involving wind turbine technicians, engineers, marine co-ordinators and administrative staff. O&M requires both landside space within the Port estate and suitable and adequate berths for support vessels.

20 *renewableUK (2018) UK Offshore wind capacity set to double following Government announcement. https://tinyurl.com/ybjt4n32*
21 *The Crown Estate (2018). Offshore Wind Potential New Leasing February 2018 Update*
22 *The Crown Estate (2018). Offshore Wind Potential New Leasing February 2018 Update*
23 *RenewableUK (2017). Offshore Wind Project Timelines*
24 *RenewableUK (2017). Offshore Wind Project Timelines*
25 *RenewableUK (2017). Offshore Wind Project Timelines*
26 *Crown Estate (2018). 'The Crown Estate shares further detail on plans for Round 4'*
27 *Crown Estate (2018). The Crown Estate completes initial assessment of offshore wind extension applications*

Figure 13. Planned and operational wind farms off the coast of East Anglia

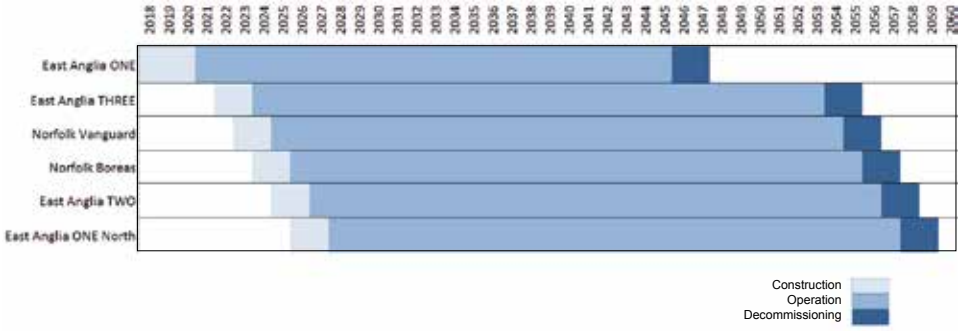


Offshore Wind Farm	Distance To Centre (nm)	Time at 25 knots (hr)	Distance To Edge (nm)	Time at 25 knots (hr)
East Anglia 1	31.7	1.3	29.3	1.2
East Anglia 1 N	26.5	1.1	21.5	0.9
East Anglia 2	25.9	1.0	22.3	0.9
East Anglia 3	43.8	1.8	40.1	1.6
Galloper (A)	34.0	1.4	31.0	1.2
Galloper (B)	45.6	1.8	41.7	1.7
Greater Gabbard (A)	34.8	1.4	31.5	1.3
Greater Gabbard (B)	44.0	1.8	41.9	1.7
Norfolk Boreas	57.6	2.3	48.4	1.9
Norfolk Vanguard E	49.9	2.0	43.2	1.7
Norfolk Vanguard W	40.9	1.6	35.8	1.4

Source: ABPmer

- Repowering: looking further ahead, increases in activity in connection with 'repowering' of projects are also anticipated. A typical windfarm has a 20-25 year design life, after which repowering - which may involve the reinstatement or the reconstruction of foundations, mast and turbine, and possibly the adjustment or renewal of cable configurations - may be necessary.

Figure 14. East Anglia Round 3 Zone: indicative project timescales (excluding future repowering)



The Port plays an important strategic role in generating economic value for the region

7.19 The Port already has a strong record of serving the offshore wind farm sector with a number of developers choosing the Port as their primary base. As well as Scottish Power Renewables, Greater Gabbard Offshore Wind Ltd and Galloper Wind Farm Ltd, ABP is maintaining a close dialogue with other windfarm developers in relation to their future development plans in the East Anglia Zone.

7.20 We also fully appreciate that the location of construction co-ordination and O&M bases at the Port provides wider strategic linkages to the supply-chain, thereby contributing to the region's economic development.[28]

7.21 Thus, in addition to the wind farm developers already established at the Port, other supply chain customers are also located in the Port. For example:

- ENGIE Fabricom is currently undertaking a project to remediate grout connections on the Greater Gabbard Windfarm;
- Sembmarine SLP Engineering Ltd offers extensive facilities for the construction of large topside-deck structures and jackets;
- Iceni Workboats are based in the town and operate from the Port; and
- Windcat Workboats has also recently signed a long-term lease with ABP for its new marine engineering facility at the Port.

7.22 More generally, the Port is also home to a substantial fleet of offshore standby/support vessels, with facilities available for ship repairs, including a dry dock operated by SMS (Lowestoft) Ltd.

7.23 The Port is also used as a mobilisation base for North Sea wind farm support vessels.

The opportunities for the Port of Lowestoft

7.24 To inform the Master Planning process, we have assessed the potential future demand for berthing and consequential landside space requirements, specifically in relation to the predicted needs of the growing wind energy sector.

7.25 We have had to balance our thinking in the context of the risk of committing capital on a speculative basis whilst taking into account, in line with Government's stated energy objectives, what we consider to be the prudent assumption that additional offshore wind projects will be brought forward during the life of the Master Plan – many of which will be serviced from the Port.

7.26 As part of the exercise, we have considered the following project elements:

- Vessel choice;
- Demand for landside space;
- Project timing;
- Size and number of projected turbines; and
- Existing owner commitments to competitor ports.

[28] *EDGE Economics (2016). Port of Lowestoft; Economic Study.*

Vessel choice

7.27 The decision by a windfarm operator as to whether to use CTVs or the much larger Service Operation Vessels (SOVs) for its operating model, will inevitably influence berth configuration.

- **CTVs** – these are relatively small vessels, that make daily trips to the windfarm, returning to port as and when work on the turbines has been completed. CTVs operate on a strict time basis as required by the turbine operators. As such, they generate a high demand for dedicated berth space to the exclusion of other users.
- **SOVs** – these are large vessels that effectively act as 'mother ships' and stay at sea for several weeks, providing accommodation to technicians. SOVs generate a lower demand for berth space, because they return to port less frequently, but by reason of their size, require a deeper berth. When they do return – typically after a period of a fortnight or so – they generally stay in port for around 24 hours before returning to the off-shore windfarms.

7.28 As a broad rule, CTV-led operating models become unviable when the commute time between the port and a windfarm exceeds approximately two hours each way. Accordingly, windfarms located 75km (around 40 nautical miles) or more from a port are likely to adopt a SOV-led model.[29] Distances from Lowestoft to planned and operational wind farms off the coast of East Anglia are set out in Figure 13.

The demand for landside space

7.29 This will be dependent on the number of wind farms built off East Anglia, and the wider industry supporting wind farms in the southern North Sea and English Channel as a whole.

7.30 To assist in our forward planning, ABP commissioned BVG Associates to consider:

- The types of activities that could be attracted to the Port;
- The probability of those activities actually locating to the Port; and
- The consequent space required for each activity.

Figure 15. Projected CTV berth demand at the Port (excluding demand arising from repowering, which would be additional)

7.31 In brief, BVG identified numerous activities involved in the construction, operation and decommissioning of offshore wind farms, which could potentially be located at the Port.[30] Those with a high likelihood of wishing to have a presence at the Port range from environmental survey companies, to remotely operated underwater vehicle (ROV) operations and turbine cleaning to vessel maintenance facilities.

How can ABP respond to these opportunities?

7.32 Demand for berthing and landside space from the offshore wind sector is increasing and it is not anticipated that it will reach its peak in Lowestoft until the 2030s. [31]

Meeting CTV berthing demand

7.33 We estimate, on the basis of the information currently available, that over the next twenty years or so we are likely to see a demand for some 30 to 50 CTV berths in total.

[29] *4C Offshore (2015). Wind Farm Service Vessels (WFSVs) – An Analysis of Supply and Demand.*

[30 & 31] *BVG Associates (2018). Offshore wind opportunities in the Port of Lowestoft: An independent report for Associated British Ports*

7.34 Given that the Outer Harbour - which currently has a capacity of 26 berths available for CTV's - is already operating at almost full capacity, the remaining demand will and can be met through berths along Shell Quay and North Quay in the Inner Harbour.

7.35 In this regard:

- Shell Quay can accommodate up to approximately 18 vessels (using access pontoons); and
- The middle/western end of North Quay can provide up to a further 26 berths (using access pontoons).

Meeting SOV berthing demand

7.36 It is estimated that around 4 to 5 projects using a SOV servicing model may choose to be based at Lowestoft over the period of the Master Plan. It is difficult to determine what the exact berthing requirements would be since, owing to the relatively infrequent visits of SOVs to port, but it is reasonable to assume that multiple users could share a single berth. However, it is probable that at least 2 dedicated SOV berths may be required.[32]

7.37 This demand can be met as follows:

- One new SOV berth can be created in the Outer Harbour, either on the southern side of the Hamilton Peninsula or through the construction of a solid pier in Waveney Dock.
- Town Quay could be used for SOV berthing.

Meeting landside space demand

7.38 To support the direct and indirect needs arising from this sector, we are looking at a total landside demand of around 8 ha (12 acres) over the next 15 years or so - all of which can be met in the Inner Harbour. [33]

Our 'Energy Hub' concept

7.39 As the offshore energy market expands – potentially into areas as yet unexplored – ABP as the statutory port operator will have to ensure that, in line with government policy, we have the flexibility to meet the unexpected.

A Bridge sections weighing almost 2,000 tonnes being transported from Port of Lowestoft (Sembmarine SLP) to the Culzean gas field in 2018

7.40 As a consequence, we have been putting together proposals – which we are now in the first stages of implementing - for an 'Energy Hub' at the Inner Harbour's Shell Quay. This is being envisaged essentially to accommodate the demands of future offshore wind operators, of whatever size or type.

7.41 It is being taken forward very much on the basis that ABP has to position itself not just to be able to accommodate the needs of the offshore wind sector, but to be able to attract operators to the Port in the first place. Operators will expect the necessary facilities to be in place and suitably accessible in advance of the commencement of operations.

7.42 Our proposals for the Port's Energy Hub are outlined in more detail in Chapter 8.

32 & 33 BVG Associates (2018). Offshore wind opportunities in the Port of Lowestoft: An independent report for Associated British Ports

A view of the Inner Harbour showing the Dudman grain silos in the foreground

Oil and gas industry opportunities

The Port's proximity to the southern North Sea oil and gas fields means it is a prime location for this sector

7.43 Opportunities arising from the oil and gas sector are as follows.

- Platform supply: as with the wind energy sector, the Port is well located for operations and maintenance of platform supply vessels (PSV).
- New facility construction: there are substantial oil and gas resources to be extracted in the Southern North Sea, with up to 3 billion barrels to be recovered from the waters off East Anglia.
- Extended life: Oil and gas facilities have a design life of around 35 years. This can be extended if the appropriate maintenance and repair is undertaken at regular intervals. The Port is ideally located to provide operational support in this respect.
- End of life: it is anticipated that more than £17 billion will be spent on decommissioning between 2017 and 2025.[34] This will provide huge commercial opportunities, which the Port is well-placed to deliver.

How can ABP respond to these opportunities?

7.44 The Master Plan assumes that existing oil and gas activities in the Outer Harbour of the Port remain in place.

7.45 ABP is joining the EEEGR (East of England Energy Group) Late Life and Decommissioning Special Interest Group, which will assist in the collaborative and informed process going forward enabling us to identify and respond to market opportunities.

Agribulks opportunities

The Port of Lowestoft is very well located for the grain trade

7.46 The agribulks sector falls essentially into three distinct areas: animal feed, grain, and fertiliser. Grain constitutes the Port's primary agribulks trade,

Port of Lowestoft North Quay, showing historic quayside rail lines and the railhead

34 Oil & Gas UK (2017), Decommissioning Insight 2017, (8, 12, 33) https://oilandgasuk.co.uk/wp-content/uploads/2017/11/Decommissioning-Report-2017-27-Nov-final.pdf

although there is some capability in animal feed.[35] The UK's main grain and oilseed production region runs in a belt down the eastern side of the country and includes Eastern England (East Anglia, Bedfordshire, Hertfordshire, Essex), the East Midlands and Yorkshire and Humber. [36]

7.47 The Port already has agribulks handling facilities, including 14,000-tonne capacity grain silos at Silo Quay operated by Dudman (Lowestoft) Ltd. In 2016, the Port exported 90,000 tonnes of grain.

7.48 In addition, there is a forecast 1% growth in UK wheat production over the next decade, and wheat output is forecast to increase by 1.3%.[37]

How can ABP respond to these opportunities?

7.49 The Master Plan assumes that existing activities at the Port remain in place.

7.50 Agribulks as a whole are a volatile market, with so much depending on weather and demand. ABP is, however, no stranger to the vicissitudes of a fluctuating and uncertain market, and as far as the Port is concerned, it is well positioned to meet both existing and future demands in its current configuration.

Aggregates opportunities

Sourcing, extracting and delivering marine aggregates is becoming an increasingly important consideration for the UK's economy

7.51 Research by the Mineral Products Association suggests that, UK-wide *"the contribution made by traditional land-won sand and gravel sources is likely to continue to decline, being replaced by a combination of marine sand & gravel and crushed rock substitution."* [38]

7.52 The seabed adjacent to the East Anglia coast is one of the most intensively dredged areas of seabed in the whole of the UK, with 6.25 million tonnes dredged in 2016.[39] Figure 16 shows that the majority of extracted marine aggregates were delivered to the London and South-East market. This reflects the importance of landing material close to the market, with transport via vessel more cost effective than road.

7.53 In addition, however, aggregate usage patterns are changing to meet the rise in major infrastructure projects. This means that there are emerging opportunities for the handling, both import and distribution, of aggregates at the Port.

7.54 Rather than being centred on London and the South East, additional major aggregate demands are arising across the country.

How can ABP respond to these opportunities?

7.55 This has the potential to increase demand for rail-connected aggregate landings at the Port, either for use directly on HS2, or indirectly, to meet existing demand. There is also the medium/longer term opportunity offered by Sizewell C construction and the ongoing roads programme.[40]

Emerging opportunities in fisheries

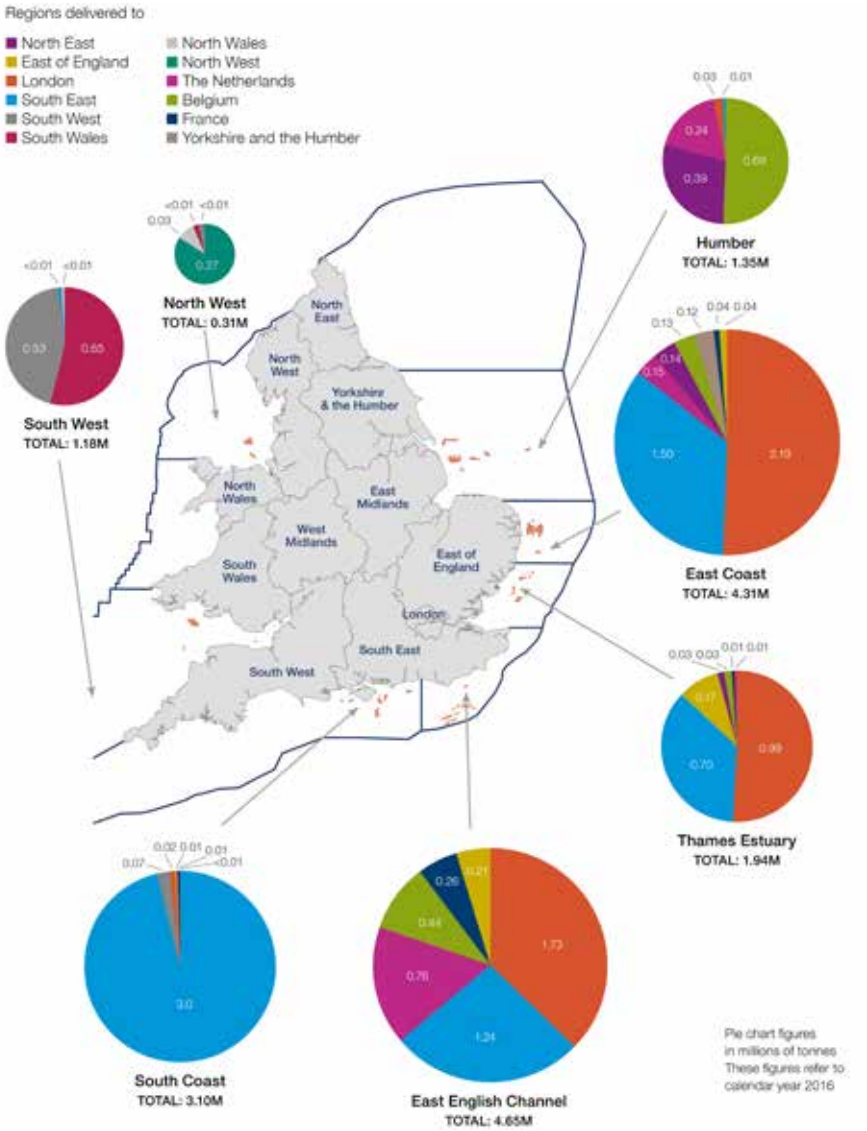
The UK has some of the best fishing grounds in Europe

7.56 The industry has always played an important part in the life of the Port. The Government's White Paper, Sustainable Fisheries for Future Generations, aims to ensure that the UK fleet can increase their share of the available catch. [41]

7.57 This points to opportunities for growth in the fishing industry in Lowestoft and ABP will support the industry as opportunities arise. There are three principal considerations:

35 *ABP Agribulks Sector Plan (June 2017 update) (10)*
36 *Lloyds List Intelligence (2018) UK seaborne trade*
37 *Informer data quoted in Hatch for ABP (2018) Agribulks*
38 *Mineral Products Association (2016) Long-term aggregates demand & supply scenarios http://www.mineralproducts.org/documents/MPA_Long_term_aggregates_demand_supply_scenariors_2016-30.pdf*
39 *The Crown Estate (2017). Marine Aggregates: Capability and Portfolio 2017*
40 *Mineral Products Association (2016) Long-term aggregates demand & supply scenarios http://www.mineralproducts.org/documents/MPA_Long_term_aggregates_demand_supply_scenariors_2016-30.pdf*
41 *Department for Environment, Food and Rural Affairs (July 2018) Sustainable fisheries for future generations https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/722074/fisheries-wp-consult-document.pdf*

Figure 16. Aggregate extraction and delivery by dredge region



Source: The Crown Estate

- The share of the catch available to the UK fleet may grow, subject to Brexit outcomes;
- After Brexit, the UK may require vessels to demonstrate strong links to the UK, which would be a positive for Lowestoft; and
- Vessel sizes are becoming larger, which will become a limiting factor for some ports in terms of port infrastructure and channel depth.

How can ABP respond to these opportunities?

7.58 ABP will retain the area of the Port currently reserved for the fisheries industry and will maintain a watching brief for opportunities emerging from the UK's departure from the EU.

7.59 Alongside other agencies and bodies in East Anglia Suffolk Coastal and Waveney, District Councils are working together to develop a long-term strategy for the future of the regional fishing industry. The objective is to explore how the economic and social benefits of the fishing industry can be captured and optimised locally and regionally.

7.60 ABP will continue to work alongside stakeholders to maximise the fishing industry opportunity available to the Port.

4

PART 4 : PLANS FOR CHANGE

In this part of the report, we use the analysis to drive our plans for change in Lowestoft. We also look at the impacts of those changes

Fishing vessels in the Port of Lowestoft Outer Harbour

8. THE PLANS FOR CHANGE

8.1 In this part of the Master Plan, we outline our plans for the development of the Port to 2036. We have divided plans into two time periods:

- The short and medium term: Years 0-10 (2018-28); and
- The longer term: Years 10-20 (2028-38).

8.2 It is not possible to be definitive as to the precise sequencing of the steps required to take us to our vision of the Port in 2036. This is because ports, by their nature, operate within a fluctuating national and international market and have to be in a position to respond to new opportunities whenever they arise

The short and medium term: Years 2018-28

8.3 The Outer Harbour is already nearing capacity. We are making every effort to maximise the use of land in the Outer Harbour, but opportunities are becoming increasingly limited.

8.4 With the need to service the expanding off-shore wind market – an expansion which we are already witnessing – additional berthing requirements for the O&M sector will have to be accommodated within the Inner Harbour, although as is explored in section 9, this is predicated on marine accessibility being the same as it is today, a situation that will no longer exist if the Lake Lothing Third Crossing is constructed.

8.5 During the mid/late 2020s, we anticipate that the Port will witness an unprecedented growth phase driven essentially by offshore wind development in the southern sector of the North Sea.

8.6 These developments are likely to include Round 3 projects in the East Anglia Zone, possible Round 4 projects, as well as extensions to existing (operational) wind farms.

8.7 A summary of potential developments and land uses over the period 2018 to 2028 is set out in Figure 17.

We expect the concept of an Energy Hub to be realised in the next few years

8.8 Whilst clearly still at a formative stage, an architect's impression of the development is provided at Figure 18. The former Shell Base site on Shell Quay at the western end of the Inner Harbour is an ideal location, with large developable areas and quayside frontage suitable for offshore wind support vessel berthing. Demolition of the existing buildings with a view to preparing the required development land has already commenced.

8.9 The relatively shallow water depths in this part of the harbour do not represent a constraint for CTVs and, depending on customer demand and requirements, finger pontoons may be installed to facilitate loading/ unloading operations.

8.10 We believe the Port will provide an attractive location for (amongst others) wind farm construction/ O&M coordination facilities and/or supply chain activities.

8.11 We also expect to see an increased need for space at the Port for environmental survey companies, Remotely Operated Underwater Vehicles (ROV) specialists, blade inspection and repair companies as well as companies specialising in above-water asset inspection.[42] Flexible facilities could be offered to a range of tenant companies, using the cluster development techniques used successfully at the Orbis site in Lowestoft.

8.12 Although the precise configuration of terrestrial and berthing infrastructure is still to be settled, we anticipate that the Energy Hub will be able to offer:

- Fuel bunkering;
- Crew facilities;
- Spare part and component storage space;
- General warehousing;
- Office space;
- Vessel battery charging; and
- R&D/ training/ teaching facilities for local stakeholders such as Cefas and East Coast College.

[42] BVG Associates (2018). Offshore wind opportunities in the Port of Lowestoft: An independent report for Associated British Ports

We see Town Quay developing for SOV and PSV use

8.13 We believe that there is likely to be an increasing demand for SOV berthing. These vessels serve the wind farms that are further afield and are, as a consequence, considerably larger than the shorter distance CTVs. A SOV is typically 70-100 m length. In addition to longer berths, they will also require greater water depths than CTVs.

8.14 Town Quay has proved a suitable location for accommodating these vessels in the past and, subject to demand, we intend to improve existing shoreside facilities to support such vessels. These improvements would include:

- Waste reception;
- Fuel bunkering;
- High pressure water pumps (to enable faster refilling of tanks);
- Crew transfer services (e.g. shuttle buses etc.);
- Car parking (for crew/ technicians); and
- Storage.

8.15 It is envisaged that Town Quay will also be used by PSVs, serving North Sea oil and gas fields. These vessels are typically around 50 m length and, similar to SOVs, are likely to require associated shore side support facilities.

Battery installations and roof mounted solar panels will continue to reduce the Port's carbon footprint

8.16 As the Port estate is redeveloped over time, ABP will install roof mounted solar panels to reduce the Port's carbon footprint. The long-term objective will be to feed battery storage facilities, which will allow the quick charging of the expected fleet of battery powered vessels working from the Port, particularly from the Energy Hub.

Oil and gas industry work is likely to continue

8.17 ABP will continue to support the oil and gas industry, and further demand in this respect may arise from the creation of new oil and gas fields, or from life extension/end of life activities.

8.18 This demand may be met through Sembmarine SLP's existing operations on Hamilton Yard, resulting in limited anticipated change to the existing configuration of the Port relating to the oil and gas sector.

We expect a growth in aggregate operations at the Port

8.19 We anticipate an increasing demand in the aggregates sector. To meet this demand, we intend to make provision for aggregate landing on North Quay which has berth pockets capable of accepting aggregate dredgers, landside space suitable for the temporary storage of aggregates and can be rail connected.

8.20 Access to the rail head is key for all aggregate opportunities, since this will be the most economically viable means for transportation of material from the Port. If aggregate is landed at North Quay Berths 6 or 7 (i.e. the deepest berths at the western end of North Quay), the material could be delivered by conveyor to the Network Rail yard close to the eastern end of North Quay.

8.21 An architect's impression has been provided at Figure 19.

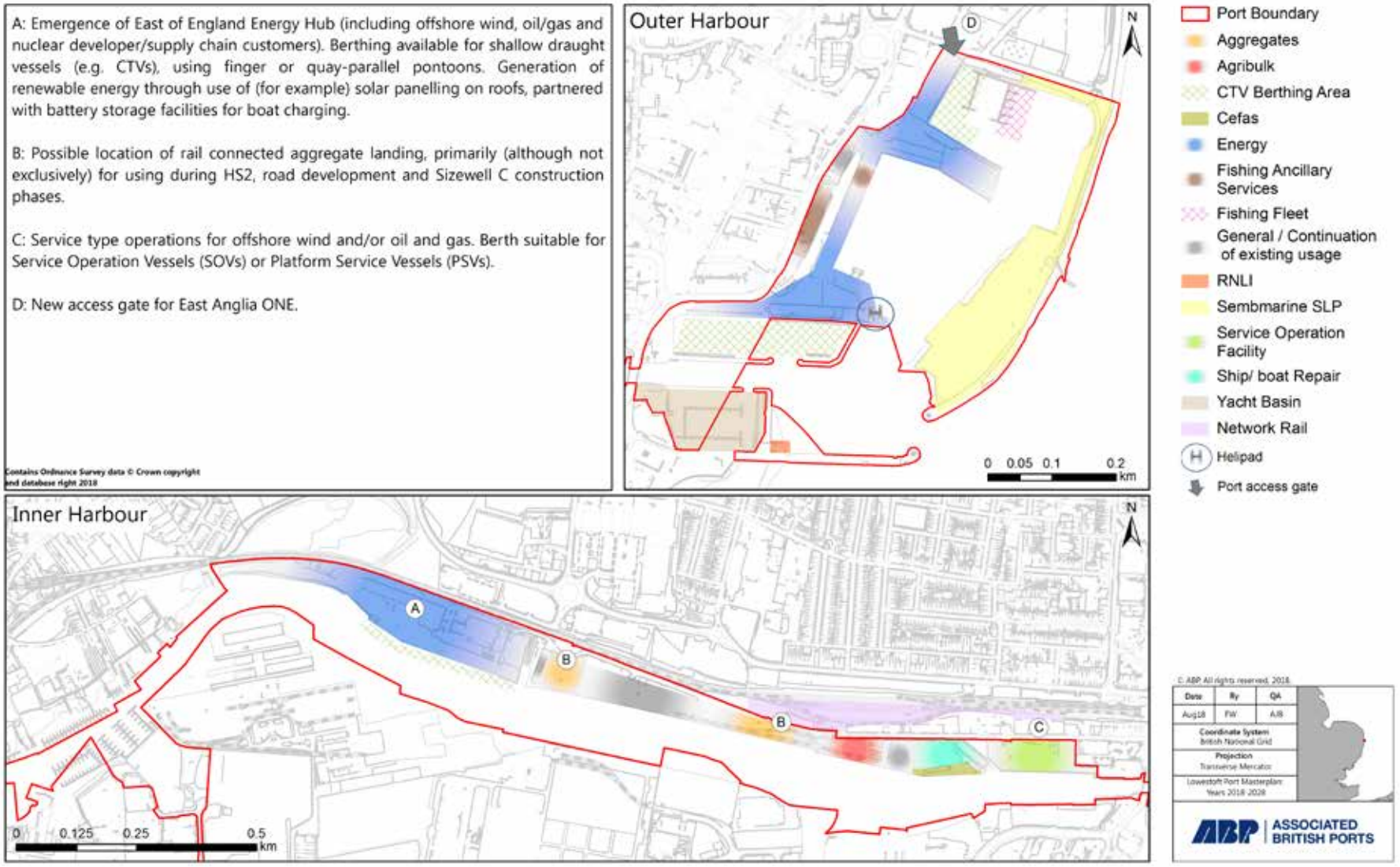
Fisheries growth

8.22 In the current political climate, there is a strong possibility that fishing quotas will increase in the future, with greater stocks landed in British ports. This could potentially lead to an expansion of the fishing fleet at the Port and/or use of larger vessels.

Lowestoft Haven Marina

8.23 ABP owns and operates the Lowestoft Haven Marina at the far west of the Inner Harbour. In due course, we will look at spatial options for the Marina, further developing its use and potential for leisure craft.

Figure 17. Developments and land use over the period 2018 to 2028



Source: ABP

Figure 18. Architect's impression of the East of England Energy Park at Shell Quay

Source: ABP

Figure 19. Architect's impression of the rail-connected Aggregates Hub at North Quay

Source: ABP

The longer term: Years 2029-36

East Anglia Offshore demand will drive development

8.24 By the late 2020's, the East Anglia Offshore Wind Farm Zone will be fully developed, with additional offshore wind projects also coming online. As a result, the Outer Harbour will be a busy area for offshore wind, with CTVs operating from Hamilton, Waveney and Trawl Dock throughout the year.

8.25 Demand for landside space will continue to rise throughout this period, broadly in line with increases in the operational capacity of wind turbines off East Anglia. In particular, supply chain customers will be increasingly attracted to the Port, in part due to agglomeration effects but principally due to the proximity to market.

8.26 A summary of potential developments and land uses over the period 2029 to 2036 is set out in Figure 20.

The Inner Harbour will be in demand

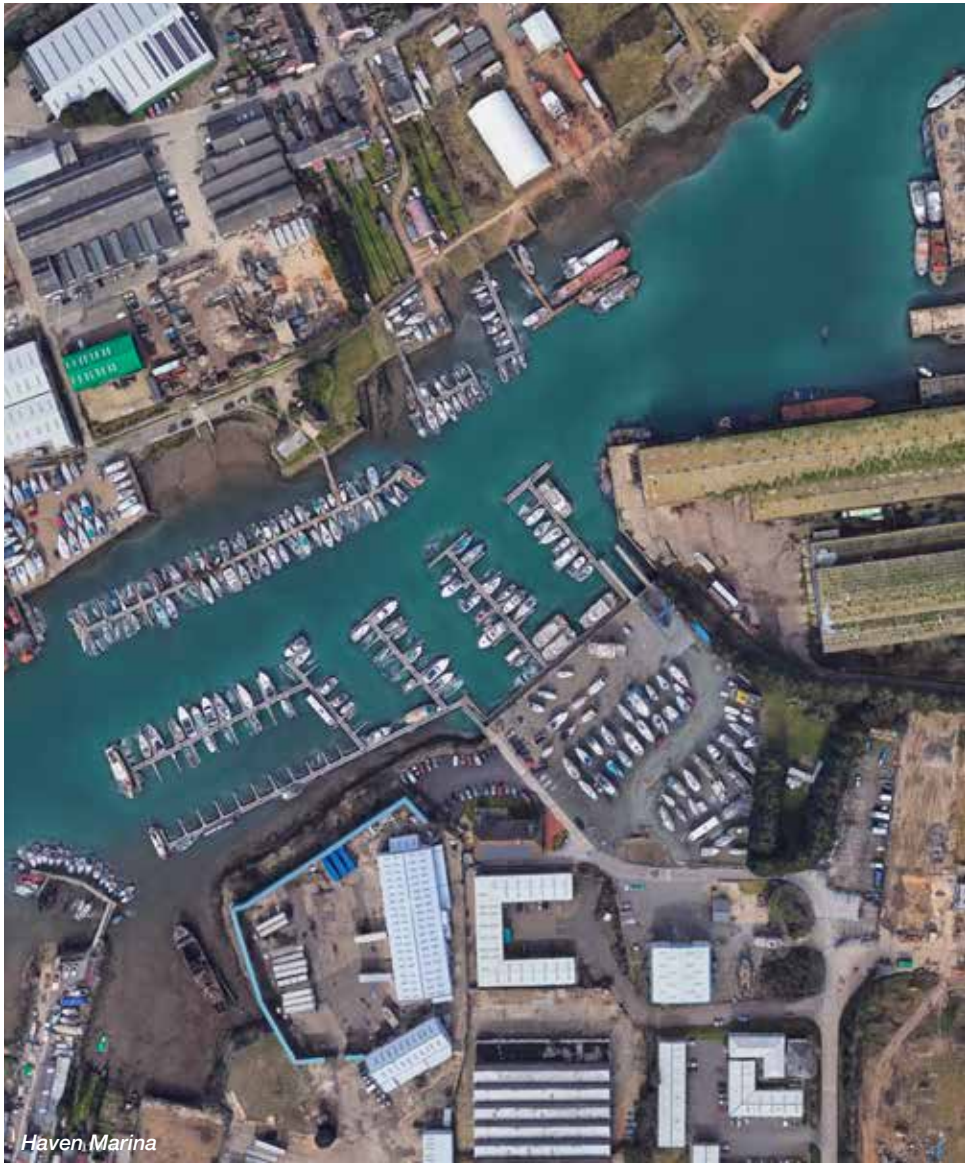
8.27 In the Inner Harbour, berths for both CTVs and SOVs will be in demand, and much of North Quay and Shell Quay will be a thriving Energy Hub.

8.28 We anticipate that the demand for landside space (primarily from the offshore wind industry but also from other energy sectors) will result in the easterly expansion of the East of England Energy Hub, outwards from Shell Quay and on to North Quay.

8.29 In addition, we believe that vessel servicing requirements are likely to grow, bringing the existing boat repair facilities back into use. The large number of vessels operating out of the Port will make it an ideal location for boat repair facilities. Following upgrades, the currently unused slipway at the eastern end of Shell Quay would be an ideal asset to support this industry.

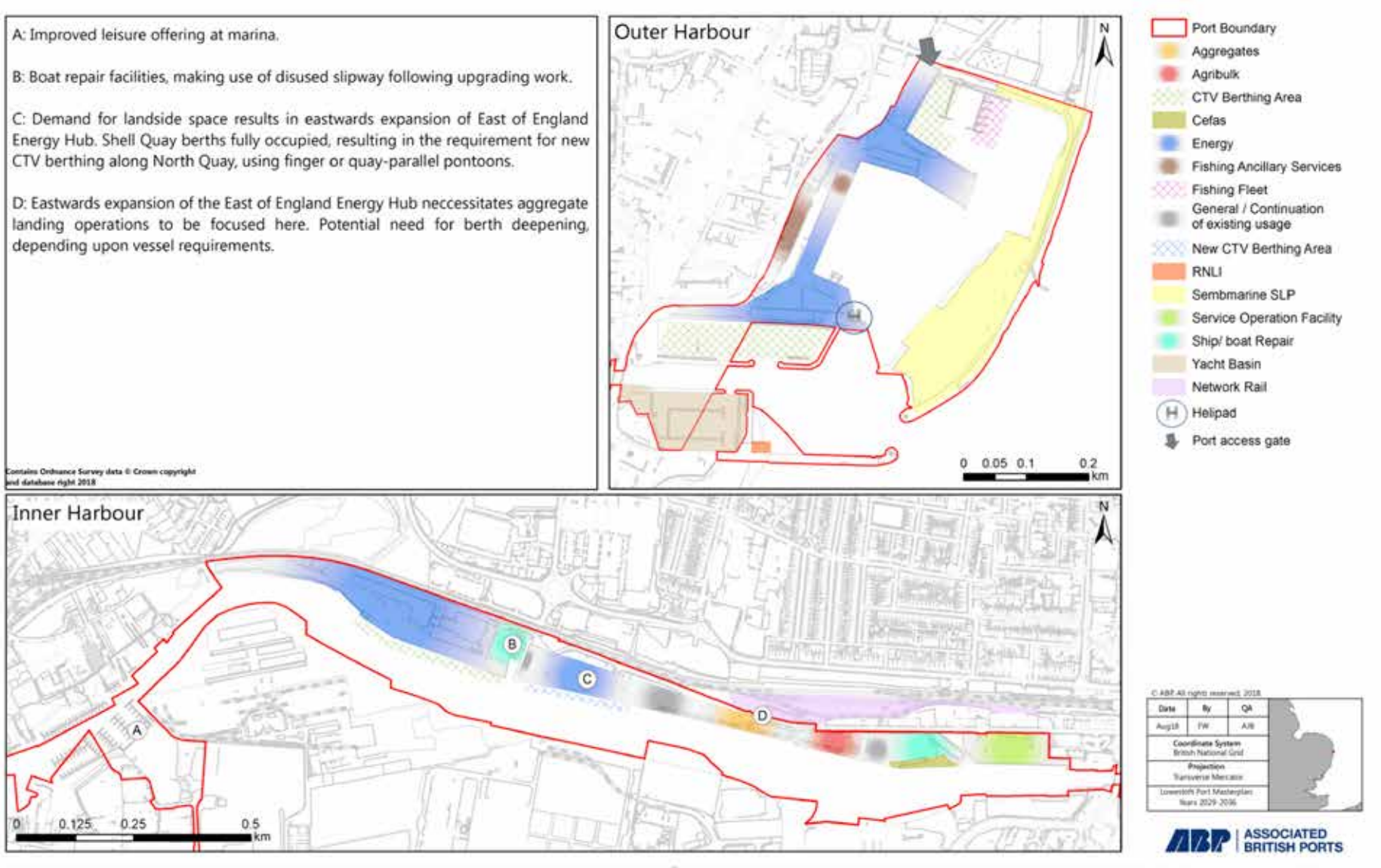
The Haven Marina

8.30 During this period, improvements at the marina will be evident.



Source: Imagery ©2019 Google, Map data ©2019 Google

Figure 20. Developments and land use over the period 2029 to 2036



Source: ABP

9. MEETING FUTURE CHALLENGES

The Lake Lothing Third Crossing

9.1 At the time of preparing this Master Plan, ABP is faced with the serious challenge presented by Suffolk County Council's proposal to construct a bridge through the middle of the Port, known as the Lake Lothing Third Crossing (LLTC) (Figure 21). The bridge, if approved, will bisect the Inner Harbour at a height of only 11 metres for passing vessels (to allow for a critical air safety between the top of a vessel's superstructure and the bottom of the bridge).

Serious detriment

9.2 The construction of the bridge in its proposed location and at its proposed height will act to the serious detriment not just to existing port operations, but the Port's future growth – and thereby to the detriment of Lowestoft and its economy as a whole.

Safety hazards

9.3 In addition, by constructing a bridge in the middle of an operational port, the County Council will be introducing into the Port a serious safety hazard – to vessels – to the crew of those vessels – to occupiers and operators within the Port estate – as well as users of the bridge in terms of potential vessel collision, vehicle accidents, loss of visibility by funnel smoke, water pollution, etc.

9.4 Whilst ABP does not oppose the principle of a third crossing of Lake Lothing to ease traffic congestion in Lowestoft, it objects to the current proposed location of the bridge which, if approved will be, as far as ABP is aware, the only bridge that crosses through the middle of an operational port at a height of 11 metres – a point which of itself points to the wholly ill-conceived nature of the proposal.

9.5 It is interesting to note that in South Wales, Welsh Government propose to construct a six-lane motorway relief road for the M4 through the middle of the Port of Newport – albeit at a bridge height of 25 metres. Welsh Government accepted the need to mitigate as that their proposal would act to the serious

Figure 21. Lake Lothing Third Crossing proposals

Source: Suffolk County Council

detriment of the Port – restricting vessel access to an entire part of the Docks, which will potentially be the case with the proposed Lake Lothing crossing. As a consequence, Welsh Government have agreed to mitigate the damage that will be caused to the Port of Newport by the bridge by relocating tenants, repurposing existing berth space and constructing a new quay to replace the utility of quay space lost by the construction of the bridge.

9.6 If ABP is to protect the future commercial well-being of the Port – and indeed a local economy increasingly dependent on the Port - it has no choice but to oppose the Third Crossing unless Suffolk County Council are prepared to offer genuine mitigation to place against the damage that will clearly be caused to the Port by the construction and later operation of the bridge.

Dusk at a busy inner harbour

Source: ABP

10.ECONOMIC IMPACTS OF CHANGE

The economic impacts of port development

10.1 The UK is reliant on ports for the movement of around 95% of the total volume of UK trade and around 75% of its value.[43] ABP's ports, including the Port of Lowestoft, are vital transport hubs enabling local and national businesses to trade with the rest of the world.

10.2 The ports industry makes a significant contribution to the UK's economy, supporting thousands of jobs and acting as a catalyst for economic activity. At Lowestoft, the Port supports key employment sectors, including offshore wind, oil and gas production, agriculture, construction, and scientific research.

10.3 ABP has commissioned Edge Economics to undertake an economic study of the Port. Inevitably, any such study must be based on certain assumptions as to the strength of the market over the ensuing years, but on the basis of what is known and anticipated, Edge Economics have come to the following conclusions:

- Employment in offshore wind related activity in 2018 is around 138 jobs (direct, indirect and induced). The total economic contribution in 2018 – which includes all sectors - is estimated at 523 jobs (direct, indirect and induced). Expressed in GVA terms, this is in range of £31 million - £37 million. [44]

- In 2036, assuming no bridge is constructed, Edge estimate that employment in offshore wind-related activity could be 1,080 jobs (direct, indirect and induced). The total contribution – which again includes all sectors - could be 1,581 jobs (direct, indirect and induced). Expressed in GVA terms, this is in range of £122 million - £177 million.[45]

- In a no-bridge scenario, the proportion of total employment associated with offshore wind related activity is expected to increase from around 26% in 2018 to 68% in 2036. The proportion of total GVA associated with offshore wind related activity is expected to increase from 35% in 2018 to 84% in 2036, using the upper range of GVA. [46]

Industrial pipes being shipped for reprocessing as part of a sustainability project

- Assuming the LLTC is approved and constructed, however, employment associated with offshore wind related activity over the period to 2036 is expected to grow at a reduced rate. Offshore wind related employment is expected to increase from 138 jobs in 2018 (direct, indirect and induced) to 375 jobs in 2036. This growth is much more modest than the growth projected under the no-bridge scenario, which sees growth in the sector from 138 jobs in 2018 to 1,080 in 2036 and demonstrates the real potential of the LLTC proposal to undermine the benefits to the local and regional economies.

- The average level of employment associated with other activity at the Port is expected to remain broadly unchanged over the period to 2036. Direct ABP employment is expected to remain unchanged from 2018 levels, with increased activity levels being accommodated through growth in productivity per worker.

43 DfT (2012). National Policy Statement for Ports. www.dft.co.uk.

44 & 45 Edge Economics (2018) Port of Lowestoft: Economic Study (15)

46 Edge Economics (2018) Port of Lowestoft: Economic Study (15)

11. THE SOCIAL AND COMMUNITY IMPACTS OF PORT DEVELOPMENT

11.1 The Port plays an important part of the Lowestoft community. As well as being a source of direct and indirect employment, it provides support for the community through a variety of activities, some of which are outlined later in this chapter.

11.2 The Port is keen to work in partnership with East Suffolk Council, Suffolk County Council and New Anglia LEP, alongside local further and higher education providers to ensure that the local community is equipped with the skills base to support the future growth of the Port.

ABP and the community

11.3 The Port is strongly committed to the local community. This commitment ranges from supporting local charity work to helping to raise the profile of Lowestoft and region more generally.

ABP and the RNLI

11.4 ABP recognises the vital work of the Royal National Lifeboat Institution (RNLI) in their work in maintaining maritime safety. The Port allows the RNLI at Lowestoft to use its facilities at no cost for routine boat maintenance.

ABP and local schools

11.5 ABP recognises the importance of educating future generations in science, technology, engineering and mathematics (STEM) and marine subjects, and in engaging school children. The Port has been involved in careers fairs, advising students about the different apprenticeship schemes ABP run, as well as discussing the different departments in the company. Further, the Port takes part in mentoring GCSE students at Wymondham College and organises engineering visits to the Bascule Bridge. During 2017, two Lowestoft employees were nominated for their work with local schools at an awards ceremony held by Suffolk County Council. 2018 is the second year the Port has hosted an engineering internship, with projects including port optimisation and marine diversity.

ABP and Suffolk Day

11.6 ABP actively supports Suffolk Day, Heritage Day and various Maritime Commemoration days. The Growing Wild project is supported at the Marina and Port office, with the Port office housing the smallest garden in ABP, at the base of the port's flag pole. Lowestoft Haven Marina hosts local boat shows promoting Lowestoft as the southern gateway to the Norfolk Broads.

ABP and local charities

11.7 ABP recognises the enormous contributions made by the various charities active in Lowestoft and the surrounding area. In 2016, the Port won the ABP Chairman's Award for Engineering, and was given £1000 to donate to a charity of the Port's choice – it donated £500 each to BEAT – a leading UK charity for eating disorders – and to the Fishermen's Mission, which reaches out to both active and retired fishermen. In addition, the Port organises an annual Dragon boat race, raising funds for local charities and Macmillan Cancer Research.

ABP and Suffolk Wildlife Trust

11.8 The Port is a Silver level corporate member of the Suffolk Wildlife Trust and actively supports events held by the Trust.

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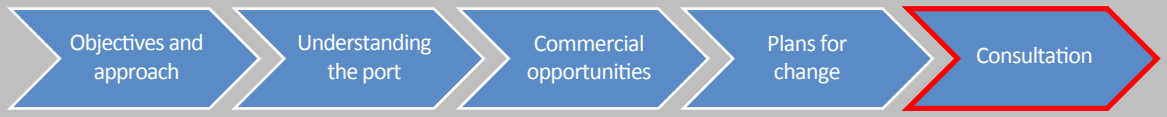
PART 5 : CONSULTATION

We are seeking other perspectives about the way forward



Classic sailing ship at the Port of Lowestoft 2017

12. THE CONSULTATION PROCESS

Our approach to public consultation

12.1 We are publishing this draft Master Plan to enable consultation to be undertaken with key stakeholders and the wider public, to ensure that their views are considered before the final Master Plan is published.

12.2 The Consultation Draft Port of Lowestoft Master Plan 2018–2036 is available to download from http://www.abports.co.uk/Our_Locations/Short_Sea_Ports/Lowestoft/

12.3 Dates for the consultation period will be published on the website. Stakeholders are invited to provide feedback on any issues contained in this Master Plan via email to lowestoft.Master Plan@abports.co.uk or in writing to: Consultation Office, Port of Lowestoft, Port House, Commercial Road, Lowestoft, Suffolk NR32 2TE.

12.4 This draft of the Master Plan will then be amended, as appropriate, to take account of the responses and comments received before then being formally adopted by ABP.

Implementation review and update

12.5 The Master Plan is a living document. As such, its underlying assumptions will be reviewed at regular intervals to ensure its relevance in a fluctuating and competitive market.

12.6 We believe that a review on a five-yearly timescale as suggested by DfT Guidance would be appropriate, but we will monitor the position carefully.[47]

12.7 Interim progress tracking will be undertaken internally.

[47] *DfT (2008) Guidance on the Preparation of Port Master Plans (18)*

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APPENDICES

Workers at the Port of Lowestoft

APPENDIX 1: STRATEGIC ENVIRONMENTAL ASSESSMENT AND THE HABITATS REGULATIONS

The DfT Master Plan Guidance indicates that it is for each port to determine whether, in producing a Master Plan, it is affected by the requirements of the Strategic Environmental Assessment Directive, the Habitats Regulations (HR) and relevant aspects of the Water Framework Directive (WFD).

Strategic Environment Assessment

Within national planning policy guidance, it is acknowledged that it is now common practice - in respect of statutory development plans produced by a relevant local planning authority - for the requirements of the Strategic Environmental Assessment (SEA) process for Plans and Programmes to be incorporated into a Sustainability Appraisal (SA).

There is no strict legal requirement for a Port Master Plan to have a sustainability appraisal. This is because the requirement for such an appraisal, as set out in section 19 of the Planning and Compulsory Purchase Act 2004, relates solely to development plan documents prepared by local planning authorities.

Furthermore, there is also no strict legal requirement for a Port Master Plan to be subject to SEA. This is because such a Master Plan does not fall within the definition of 'plans or programmes' to which the relevant SEA legislation applies.

That said, we recognise that this Master Plan is not produced in isolation and we wish to ensure that the Port of Lowestoft Master Plan contributes to the achievement of sustainable development.

In preparing this Master Plan, ABP has had regard, in so far as it is relevant to the Port, to the formal SA / SEA process which has been undertaken as part of the recently adopted Waveney Local Plan.

The proposals within this Master Plan are located on two sites which are the subject of separate policies within the adopted Local Plan and which - along with all other policies in the emerging Local Plan - have been the subject of a SA / SEA.

The appraisal undertaken by the planning authority identified a series of 17 sustainability objectives - covering environmental, economic and social matters - against which the effects of the emerging policies of the plan were considered. The appraisal undertaken concluded that the policies affecting the Port would generate a series of positive and neutral effects in respect of the 17 different sustainability objectives identified. No negative effects in respect of these objectives were determined.

The proposals set out within this Master Plan are considered to be in accordance with the emerging policies within the Local Plan. The conclusions of the SA / SEA undertaken by the local planning authority in respect of these policies can, in ABP's opinion, therefore also be applied to the proposals set out in this Master Plan.

Habitats Regulation Assessment and the Water Framework Directive

Similarly, whilst this Master Plan identifies a number of development proposals and activities during the Plan period, it is considered that it would be premature at this stage to assess these proposals in accordance with the requirements of either the HR or the WFD - although ABP fully accepts that this is an exercise that will have to be undertaken at the appropriate time.

APPENDIX 2: ABP ENVIRONMENTAL POLICY AND MANAGEMENT

ABP has an Environmental Policy and Compliance Management System in place to help manage risk, promote resource efficiency and ensure environmentally responsible development.

Our aim is to manage ABP's obligations to the environment in a morally responsible manner, whilst developing port business to meet the needs of customers in a way which has due regard for environmental, economic and social sustainability.

We have established an environmental policy and compliance management system that targets efforts in a coordinated way and provides support and guidance to each business unit. The key themes of our approach to environmental management can be summarised as:

- Managing risks: we review each stage of our operations and activities and assess their impact on the environment, introducing control measures where required and where practical. We assess operational risks by reviewing best practice information and guidance, developing risk assessments, and undertaking audits of our operations. We also seek to ensure that we are prepared for an emergency incident, with well tested plans in place.

- Resource efficiency and carbon reduction: carbon management, improved resource efficiency and waste minimisation are key business priorities for us and we are focused at looking for continual improvements.

- Developing responsibly: we ensure that our developments are designed to minimise environmental risk and impacts during both the construction and operation phases.

- Responsibilities and training: our team is committed to improving our knowledge of the environment around the Port and we ensure training and support is provided to employees across a wide range of environmental subjects from introductory programmes to more detailed specialised training in areas such as energy awareness and waste management.

ASSOCIATED BRITISH PORTS