



# Marine Management Organisation

## Analysis of the East Inshore and East Offshore Marine Plans

April 2014



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If referencing this document, please cite it as: Analysis of the East Inshore and East Offshore Marine Plans.

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## 1.0 Introduction

1. The East Inshore and Offshore Marine Plans outline a vision for 2034 and include a number of objectives and policies which reflect the aims of the Marine Policy Statement within these plan areas. Please assume that, unless stated otherwise, where this document refers to 'the marine plans' this means the East Marine Plans only.
2. This document provides a largely qualitative discussion of potential impacts of the marine plans. It discusses current and expected future marine development in the absence of plans and provides an overview of how marine plans might alter future development. It is a largely qualitative discussion with the exception of estimates for some administrative costs. While not a technical, analytical document, it provides useful information for future analysis. This document assesses impacts that solely relate to the East Marine Plan areas and does not consider impacts that relate to the marine planning system as a whole. Its East Marine Plan area focus means it cannot be used as a basis for assumptions about costs and benefits in other marine plan areas, or about the marine planning system as a whole.
3. Defra conducted a marine planning system-wide impact assessment<sup>1</sup> in 2011, which looked at the wider costs and benefits of the marine planning system as a whole. This Analysis of Impacts utilises information and figures from the 2011 Impact Assessment to help guide assumptions and is referenced where it describes further impacts.
4. Where possible these impacts have been quantified. However, it has, in many cases, been challenging to quantify the impacts that are solely attributable to the presence of the marine plans as separate to the costs and benefits that would result from each sector/policy area in the absence of the marine plans. This is due to a number of factors including:
  - Inherent uncertainties caused by the 20 year timescale of marine plans, leading to challenges in formulating robust assumptions on sectoral growth<sup>2</sup>
  - Lack of relevant and specific economic data e.g. to quantify overall growth of sectors brought about by marine plans as opposed to growth that would occur without the plans (such as the benefits that marine plans will bring to coastal communities)
  - As the marine plans are just being adopted and will then be implemented monitored , reviewed and, in time, amended it is difficult to gauge accurate impacts resulting from the plans (for example the extent of direct benefits to industry or specific indirect benefits)
5. All of the above factors are current evidence gaps. It is expected that these gaps will be filled as marine plans develop and the marine planning system matures. The methodology below details how these evidence gaps will be addressed in

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<sup>1</sup> Defra (2011) Impact Assessment of the Marine Planning System

<sup>2</sup> This includes a lack of understanding of the extent to which the benefits of sector growth would accrue nationally as opposed to only the East of England region

order to inform future iterations of marine plans for the East marine areas and for all marine plans produced to cover England's marine areas.

### **1.1 The rationale for government intervention**

6. Increasingly there are competing and conflicting demands for space and resources in the UK marine environment e.g. from renewable energy and aggregate extraction to fisheries, tourism and marine recreation. This increases the risk of one activity coming into conflict with another, or otherwise compromising the ability of a given activity to maximise its contribution to society, which would inevitably result in a decreased economic value in the future. It also increases pressure on marine ecosystems resulting, potentially, in a decline in their functional status, and the socio-economic value derived from them, and deterioration in the quality of the environment.
7. In the form in which it was constituted, the market was not able to deliver the best solution, for example, because the existing structures did not easily permit licensing authorities and other decision-makers to take account of externalities imposed by different marine uses upon each other, as well as upon wider society. Government intervention through marine planning will introduce more integrated forward looking policy, setting the direction for decision making at a local level, to lead to rational and sustainable use of our marine resources. The Marine Management Organisation (MMO), which was vested on 1 April 2010, will develop marine plans for each of the proposed eleven marine areas in England.
8. The East Inshore and Offshore marine areas are the first areas in England for which marine plans have been developed. The East Inshore area includes a coastline that stretches from Flamborough Head to Felixstowe. This document assesses the impact of these two marine plans on different sectors and actors in the plan areas.

## **2. Methodology**

9. This document considers the economic impacts of the East Inshore and Offshore Marine Plans, against that of a baseline in which no such plans are developed. The baseline is, in effect, a prediction of the 'business as usual' scenario which would play out in the marine areas over the forthcoming 20 years in the absence of marine planning.
10. The additional impacts of marine plans (measured against the baseline) fall under the following categories:
  - 1) 'Economic impacts' on industry (for example through increased certainty and greater efficiency leading to earlier award of consent and commencement of operations compared to business as usual)
  - 2) 'Administrative impacts' of changes in administrative costs associated with adopting, implementing and monitoring marine plans for decision makers (for example, costs associated with potentially providing

additional staff time for preparatory work until plans are embedded in the development process, when compared to business as usual)

- 3) 'Wider' social and environmental benefits that marine plans will bring to communities through sustainable development.
11. The costs and benefits represented in this document do not include the cost of developing the marine plans themselves as these are considered 'sunk costs'. It has only been possible to quantify part of the administrative impacts and the rest of the impacts are described qualitatively. The administrative costs are expressed in terms of net present value over 20 years (using 3.5% discount rate as per HM Treasury Green Book guidance).
12. One of the key outcomes of marine plans is to involve decision-makers, users and stakeholders in the creation, monitoring and updating of the marine plans. Potential costs and benefits fall on the MMO, local planning authorities, industry and key stakeholders, including (amongst others) the Stakeholder Focus Group, Inshore Fisheries and Conservation Authorities and coastal partnerships. It is anticipated that the extent to which these actors input to the process will positively correlate with the benefits realised to them. However, it should be acknowledged that the nature of this burden is largely voluntary, as there is no legal requirement to engage in the development and, aside from decision makers, implementation of the marine plans. Moreover, the additional effort of any such engagement by participants should be more than offset by subsequent time and cost savings in their role in particular applications and decisions undertaken within the framework of the marine plans than would have arisen in the absence of these plans.
13. It has not been possible to estimate costs and benefits for many of the impacts within this document. In such cases the impacts are presented in a qualitative manner.
14. The MMO will work with Government and stakeholders to fill the economic data gaps and to gain new evidence on the benefits of policies contained in the marine plans as they are implemented. As marine plans of this nature and scale have not existed in the past, it is only through implementation that evidence on impacts will be derived. The new evidence will give a better foundation upon which to base assumptions for future iterations of the East Marine Plans.
15. In terms of evidence in general, including marine science, the MMO will:
  - prioritise the commissioning of new evidence to inform marine planning, in line with those areas identified in the Strategic Evidence Plan and ensure that where possible, all new evidence is made publicly available;
  - collaborate with partner organisations to ensure relevant research is utilised to improve our understanding of the activities and resources in the marine plan areas;
  - work with partners and stakeholders (both UK and international) to develop our understanding of how marine activities interact both with one another and the wider marine area;

- support and encourage transparency, openness and removal of barriers to data sharing for all stakeholders generating data in the marine plan areas. Evidence supplied to the MMO to enable regulatory decisions to be taken is currently made available through the MMO's public register, and the MMO will continue to encourage applicants to make such evidence publically accessible;
- continue to work closely with relevant partners and initiatives such as the Marine Science Coordination Committee (MSCC) and its groups and the UK Marine Monitoring and Assessment Strategy (UKMMAS), through the Marine Assessment and Reporting Group (MARG) and its sub-groups to seek opportunities to enhance the marine planning evidence base and identify a robust and appropriate mechanism for sharing data;
- continue to arrange data sharing with holders of marine data relevant to marine planning. This will include arrangements with international planning authorities bordering the East marine plan areas to ensure that relevant cross-border evidence is collated wherever possible.



### 3 Impacts of Marine Planning

16. As a baseline, the economy of the East Inshore and East Offshore marine plan areas is estimated to be over £10bn in GVA terms. This figure summarises the total output in GVA terms of all sectors present in the East Inshore and East Offshore marine plan areas. The calculations for this total and the GVA contributions of each sector are detailed in this section. It is anticipated that the East Inshore and Offshore Marine Plans will enable sector growth that would not occur at the same levels in the absence of marine plans by:
  - Increasing certainty in what sort of developments are likely to gain consent and where, making potential developments more attractive to investors
  - Reducing transaction costs incurred by businesses that may arise in the absence of the clarity afforded by the marine plans
  - Signposting to help ensure that developments mitigate negative impacts on each other thus avoiding the administrative and frictional costs that arise from conflict between sectors
  - Signposting the need to consider activities which fall outside of existing licensing or management measures (e.g. some marine recreation activities) by highlighting the importance of co-location and the issue of displacement, contributing to the growth of these smaller sectors alongside the larger industries
  - The inclusion of policies signposting fledgling sectors/technologies and encouraging consideration by other sectors of areas which might be needed for these fledgling sectors/technologies in the future (e.g. Carbon Capture Storage and Wave Energy)
17. The sections below present the baseline and background for individual sectors and the anticipated impacts of the East marine plans on those sectors.



## 3.1 Possible economic impacts of marine planning by sector

### 3.1.1 Carbon Capture and Storage

#### 3.1.1.1 Background and Baseline

18. The UK marine area is of strategic importance internationally for Carbon Capture and Storage (CCS), due to the high concentration of potential storage sites<sup>3</sup>. The CCS Roadmap<sup>4</sup> identifies possible deployment rates for CCS, and estimates commercial benefits of £3-6.5 billion per year by the late 2020s as well as supporting circa 100,000 jobs by 2030.
19. The East Inshore and Offshore Marine Plan areas present the best opportunity for CCS development within England. The East Plan areas have the potential to provide more than 75% of the UK's storage capacity.
20. It is understood that there are a number of potential projects which may utilise the storage resource within the plan areas<sup>5</sup>. To date, however, none of these projects has achieved a final investment decision and therefore it remains unclear whether all, some or even none of the Projects will commence.

#### 3.1.1.2 Impact of Marine Plans

21. Although the model used for this document was unable to identify quantifiable economic benefits for the CCS sector, there are expected to be benefits associated with the introduction of marine plans.
22. The marine plans signpost that the plan areas present 'the greatest opportunity' for CCS development within England. They highlight the opportunities that CCS offer by way of mitigating climate change plus creation of employment opportunities and signpost the possibilities which are presented by the oil and gas industry (i.e. the reuse of facilities for CCS activity).
23. The policies within the marine plans are explicit with regard to safeguarding areas which hold potential for CCS development due to the fact that such potential storage sites are spatially restricted by physical and geological requirements<sup>6</sup>.
24. CCS is forecast to grow even in the absence of the marine plans. However, given the projected timing of this growth there is the potential that developments outside this emerging sector could potentially crowd it out before it becomes established. The policies within the marine plans encourage developers to avoid developing in areas where the development of CCS is possible, if such

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<sup>3</sup> Defra (2011) Marine Policy Statement

<sup>4</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/48317/4899-the-ccs-roadmap.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48317/4899-the-ccs-roadmap.pdf)

<sup>5</sup> These include planned demonstration projects at Drax Power Station, North Yorkshire – Oxyfuel Unit; Killingholme, North Lincolnshire – New Integrated Gasification Combined Cycle (IGCC) power station (pre-combustion with CCS on the coal-feed); Hatfield, Yorkshire – New IGCC power station; and Teesside, North East England - Pre-combustion coal gasification project.

<sup>6</sup> Inshore and Offshore Marine Plan Document. Figure 15: Potential opportunity for carbon capture and storage

development will prevent carbon dioxide storage. If developers do submit applications which potentially prevent carbon dioxide storage they must include mitigation or minimisation measures or make a case as to why this is not possible.

25. Therefore the presence of the marine plans means that the consideration of mitigation for developments which could potentially pose barriers to, or conflicts with, CCS will be encouraged even in the absence of existing or planned CCS infrastructure<sup>7</sup>. One of the key benefits of a plan-led system is that it helps to ensure that emerging technologies like CCS can still develop. The CCS-positive policies within the marine plans also encourage developers within other sectors to maximise any complementarities.
26. In signposting the potential for growth the marine plans may help to attract developers, by creating certainty for investors that may otherwise be reluctant to invest in this fledging industry.
27. Although unquantifiable at this stage, it is predicted that marine plans should help enable the sustainable growth of this sector while ensuring that any such growth has minimal impact on other policy areas and interests.

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<sup>7</sup> CCS1: Within defined areas of potential carbon dioxide storage, 7 (mapped in Figure 17) proposals should demonstrate in order of preference:

- a) that they will not prevent carbon dioxide storage;
- b) how, if there are adverse impacts on carbon dioxide storage, they will minimise them
- c) how, if the adverse impacts cannot be minimised, they will be mitigated
- d) the case for proceeding with the proposal if it is not possible to minimise or mitigate the adverse impacts.

## 3.1.2 Oil and Gas

### 3.1.2.1 Background and Baseline

28. The total Gross Value Added (GVA)<sup>8</sup> of the sector for the East Marine Plan areas is currently estimated to be £7.7bn with an annual turnover in the region of £13.2bn. These figures are based on the proportion of the UK industry that lies within the plan areas<sup>9</sup>.
29. The plan areas are the most significant for reserves of gas in English waters (there are no producing oil fields), providing 28%<sup>10</sup> of total UK gas production and having the largest footprint and activity level in English waters. The area is also subject to further exploration (through licensing rounds) and decommissioning activity.
30. Although exploitation and further exploration is anticipated to continue into the foreseeable future, gas production is in decline, having peaked in 1999. Projections suggest that by 2020, around 50 per cent of the UK demand for oil and gas will be met domestically<sup>11</sup> (falling from around two-thirds of primary energy demand today) with consequent need for import and storage infrastructure for the remainder. This decline leads to an expectation that there will be further decommissioning activity in the East Marine Plan areas over the life of the marine plans.

### 3.1.2.2 Impact of Marine Plans

31. The marine plans contain a number of policies that are relevant to this sector. GOV1 reflects the MPS assertion that “developments in the marine environment are supported by appropriate infrastructure on land and reflected in terrestrial development plans, and vice versa”. One of the key benefits of marine planning is the opportunity it creates to link development in the marine areas to that on land. The existence of marine plans, which set out a vision for the marine areas, makes it easier for authorities creating land-based plans to take a more holistic view and include capacity for/encouragement of relevant land-based development. This benefit is strengthened further by a specific policy which states a requirement for strategic planning with regard to infrastructure across the land/sea boundary. This could help speed up applications processes from concept to consent that cover both marine and terrestrial planning authorities, lowering transactions costs for developers.
32. Due to the national importance of this sector, it would be given high priority with or without marine plans. However the policies within the plan offer potential economic benefits by the clarity that they lend to existing national policy. The guidance OG2 gives in relation to new oil and gas activity clarifies its preference,

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<sup>8</sup> GVA is the value generated by any unit engaged in a production activity. It is measured at basic prices, excluding taxes (less subsidies) on products.

<sup>9</sup> Figure derived from UK-level figures in, UKMMAS (2010) *Charting Progress 2 Feeder Report: Productive Seas*, <http://chartingprogress.defra.gov.uk/feeder/PSEG-feeder.pdf>. Apportioned based on proportion of activity in the East marine plan areas (38.4%) and inflated to 2012 figures using HM treasury GDP deflators [http://www.hm-treasury.gov.uk/data\\_gdp\\_fig.htm](http://www.hm-treasury.gov.uk/data_gdp_fig.htm)

<sup>10</sup> MMO (2011) Strategic Scoping Report  
<http://www.marinemanagement.org.uk/marineplanning/key/ssr.htm>

<sup>11</sup> Defra (2011) Marine Policy Statement

thereby increasing the information available to all developers at the pre-application stage, potentially negating developers incurring large development costs on projects that may not be preferred to new oil and gas development. OG1 adds value by clarifying the role of regulatory authorities and applicants in relation to dealing with potential conflicts between new activities and existing oil and gas activity and so saves any associated administrative costs attached to such potential competition for space.

### 3.1.3 Renewables - Offshore Wind

#### 3.1.3.1 Background and Baseline

33. Offshore wind energy generation has been active in the East Marine Plan areas since 2004, due to the favourable physical conditions present. The plan areas include 37% of the current English total of installed capacity that is either operational or under construction<sup>12</sup>. The plan areas also include around 60% of planned English Round 1, Round 2 and extensions' energy capacity and over 81% of planned English Round 3 energy capacity.<sup>13</sup>
34. The favourable conditions and the existing and planned activity in the plan areas, alongside the national priority that is attached to securing alternative sources of energy, suggest that a large proportion of planned English capacity would happen in the absence of marine planning. It is possible to use the National Grid's Transmission Energy Capacity (TEC) register, which shows the levels of grid connection applied for by projects, to ascertain a level of capacity that is already under development up to 2021. Given the costs associated with registration on the TEC register, it can be assumed that these are the most likely projects to be developed in the absence of marine plans. Providing that planning permission is granted the majority of the approximately 18GW of offshore wind capacity envisaged to be installed by 2020 under DECC's Renewable Energy Roadmap<sup>14</sup> could come from the East marine plan areas. This growth in offshore wind will generate significant levels of GVA over the course of the next 20 years with significant associated direct and indirect jobs growth.

#### 3.1.3.2 Impact of Marine Plans

35. As marine planning is new and has not yet been implemented in English waters, it is not possible at this time to accurately quantify the economic impact the marine plans may provide.
36. However, the marine plans have a series of positive and supportive policies in place for offshore wind, notably WIND1-2 and EC3 which are all specific to offshore wind and it is anticipated that these policies will contribute towards the sustainable growth of this sector. These policies afford a level of protection to current offshore wind installations and leases (WIND1), and outline a level support for applications brought forward from Round 3 zones (WIND2).
37. Specific policies for other sectors also anticipate the growth of offshore wind in the plan areas, providing reference to the mechanism by which offshore wind can resolve conflicts for space (OG2), and providing guidance on how shipping interacts with other activities where there may be potential for conflicts over usage of space (PS2).

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<sup>12</sup> MMO (2013), Strategic Scoping Report for marine planning in England, Available online at: <http://www.marinemanagement.org.uk/marineplanning/key/documents/ssr-august2013.pdf>

<sup>13</sup> MMO (2013), Strategic Scoping Report for marine planning in England, Available online at: <http://www.marinemanagement.org.uk/marineplanning/key/documents/ssr-august2013.pdf>

<sup>14</sup> DECC (2011). Renewable Energy Roadmap. Available online at [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/48128/2167-uk-renewable-energy-roadmap.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48128/2167-uk-renewable-energy-roadmap.pdf)

38. The general policies supporting economic development activities (EC1 and EC2) also support offshore wind development, due to the potential it has to generate GVA and jobs.
39. As a result of these policies, it is predicted that the marine plans should encourage both new offshore wind developments (which might not have happened in the absence of the marine plans) and should bring forward planned developments in a more timely fashion (reducing any transaction costs), by highlighting the range of considerations for other sectors, society and the environment.
40. In addition the policies within the plans concerning co-location and displacement encourage developers to use the plan areas more efficiently and effectively. This will potentially reduce the amount of conflict that would otherwise occur thus resulting in administrative saving as a result of the marine plans.

### 3.1.4 Renewables - Wave and Tidal Energy

#### 3.1.4.1 Background and Baseline

41. The UK is leading the way in harnessing wave and tidal stream resources for energy generation, with the DECC Renewable Energy Roadmap predicting that these resources could provide up to 27GW of installed energy capacity by 2050.<sup>15</sup> Whilst many of the technologies for harvesting these resources are still under development, full-scale prototypes have been deployed, as part of a move towards eventual commercial readiness. The East Marine Plans identify areas of tidal stream resource off the coast of Norfolk and to the north of the Humber estuary. The plan areas hold 2GW out of a total of 13GW of tidal stream resource in English waters.<sup>16</sup> There are currently no plans for tidal development in the plan areas. There is uncertainty in defining the area of the resource and types of technology needed to harness tidal energy too. These factors mean that the baseline does not predict future development of tidal energy without the marine plans.

#### 3.1.4.2 Impacts of Marine Plans

42. TIDE1 specifically addresses future development of tidal energy. This policy identifies, through a policy map, areas of potential tidal resource and affords protection to these. It does so by requiring other activities to consider the impact they may have upon the resource areas. It sets a preference for activities to have no impact upon the potential resource. However, if they do have an impact upon the resource, it sets a preference for minimising and mitigating impacts, with the least preferable outcome being an activity setting out the case for why it must proceed and can't minimise or mitigate impacts.
43. The policy encourages early engagement by proponents of other development with the regulatory authorities who would consent a development, plus those involved in leasing the seabed for development (The Crown Estate). This will help to ensure that any development would be fully appraised of the potential for use of the tidal resource area, either for tidal or other developments, and would therefore allow more informed judgement as to the potential for any development to be consented at an early stage. This in turn is likely to lower costs of unsuccessful applications, lower transactions costs as a whole and help ensure that the resource will still be able to be realised when tidal technologies are ready to be deployed. This policy is therefore likely to increase the chances of tidal development happening, whilst lowering the chances of unsuccessful applications for other developments, with resultant savings for businesses.

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<sup>15</sup> DECC (2011). Renewable Energy Roadmap. Available online at [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/48128/2167-uk-renewable-energy-roadmap.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48128/2167-uk-renewable-energy-roadmap.pdf)

<sup>16</sup> HMG (2014) East Inshore and East Offshore Marine plans.



### 3.1.5 Telecommunications Cables

#### 3.1.5.1 Background and Baseline

44. Activity within this sector relates to the laying and operation of cables for communications purposes. Submarine cables carry 95% of the world's information traffic, including telephone internet and data. The East Marine Plan areas contain 20% of English submarine cables by length, second only to the North East marine plan areas<sup>17</sup>. Over recent years, the growth in the use of the internet, and the need for faster connections speeds has led to significant growth in the laying and use of telecommunications cables. Cables can have an impact on other sectors, for example in situations where a cable crosses an area of seabed that has another resource, such as aggregates, but the presence of a cable precludes accessing the aggregates resource.
45. For telecommunications cables, the current activity in the sector in the plan areas is estimated to be worth £360m in GVA<sup>18</sup>, though this figure has considerable uncertainty attached to it, as they may not relate solely to activities in the marine areas (i.e. they may include landward activity too). Future growth in the sector is predicted, though it is unclear exactly how this will relate to the plan areas, for example whether it will lead to increased capacity being needed over and above that already in place. For this reason it is predicted that growth will mirror that of the UK economy as a whole.

#### 3.1.5.2 Impact of Marine Plans

46. The marine plans identify that the major issues associated with current levels and the predicted growth of cabling activities are the number of cables in the plan areas, the area covered by these cables, the potential for impacts on other activities and the implications for landward cabling activities, including the need to coordinate these with terrestrial authorities.
47. CAB1 addresses impacts on other activities by reflecting industry preferred practice in requiring cable developments to bury cables wherever possible. This signposts that regulatory authorities should consider protection measures in instances where cables can't be buried, in order to ensure adequate protection for cables but also to ensure minimisation of impact on other activities. By including this preferred practice in the plans, certainty is given to both cabling activities and to others users that impact will be minimised, thus reducing conflicts and saving any administrative costs that would be attached to such conflicts.
48. Other relevant policies that apply to the aggregates sector include GOV1 which aims to ensure that the connection with terrestrial planning is made, to minimise delays to projects and help ensure coordinated decision making. This in turn contributes towards maximising economic potential of developments. In addition

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<sup>17</sup> Strategic Scoping Report MMO (2013)

<http://www.marinemanagement.org.uk/marineplanning/key/documents/ssr-august2013.pdf> p116

<sup>18</sup> Based on UK-level figures from UKMMAS (2010) *Charting Progress 2 Feeder Report: Productive Seas*, <http://chartingprogress.defra.gov.uk/feeder/PSEG-feeder.pdf>, apportioned based on level of activity in the East plan areas (12.8%) and inflated to 2012 using HM Treasury GDP deflators [http://www.hm-treasury.gov.uk/data\\_gdp\\_fig.htm](http://www.hm-treasury.gov.uk/data_gdp_fig.htm)

DD1 and PS2 highlight the need to avoid cabling crossing navigation channels, which need to be dredged regularly to maintain draught. Although this is also best practice, by flagging this need in the marine plans and through the provision of maps (a regularly updated version of which can be accessed through the planning portal<sup>19</sup>) the marine plans help to minimise costs to cabling businesses arising from damaged cabling. They also help to negate the need for any changes to navigation channels which in turn could save any potential mitigation/compensation costs that may fall upon the cabling industry as a result.

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<sup>19</sup> MMO Marine Planning Portal <http://planningportal.marinemanagement.org.uk/>

## 3.1.6 Aggregates

### 3.1.6.1 Background and Baseline

49. The East Marine Plan areas account for over half of aggregate production, by weight, from English waters. The plan areas also contain almost half of the production licences, though many of those licences are due for renewal by 2017<sup>20</sup>. A number of exploration areas also exist within the plan areas. The British Geological Survey has identified areas of high potential for aggregate resource within the East marine plan areas, beyond existing licensed and exploration areas. British Marine Aggregate Producers Association (BMAPA) members work with The Crown Estate to minimise the area of seabed licensed and dredged, through the introduction of active dredge area zones and Regional Active Dredge Area (RADA) charts. This helps minimise the potential for conflict with other activities.
50. There is increasing demand for marine-won aggregates which are used primarily in construction projects, along with demand (for example along the East Inshore marine plan area coast) for aggregates for beach recharge. The GVA of the sector in the East plan areas is estimated to be approximately £26m in 2012/13<sup>21</sup>.

### 3.1.6.2 Impact of Marine Plans

51. The marine plans have a number of policies that relate to aggregate extraction, including three sector-specific policies, AGG1-3.
52. These policies afford a level of protection to areas where aggregate extraction licences already exist, signal that developments are discouraged in areas where The Crown Estate has leased the seabed for exploration activity pertaining to aggregate extraction<sup>22</sup>, highlights the areas of potential high resource for aggregates extraction, and sets out the preference for how other activities should treat those areas<sup>23</sup>.
53. The level of detail in the marine plans, including in the accompanying maps, reduces uncertainty and allows developers to be fully aware of requirements that regulatory authorities are likely to ask for before approving any application. This lessens the chances of inappropriate developments coming forward and either potentially shortens development timescales (thus reducing administrative costs) or saves costs attached to failed applications.

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<sup>20</sup> MMO Marine Plans for the East Inshore and Offshore Plan Areas

<sup>21</sup> Based on UK-level figures from UKMMAS (2010) *Charting Progress 2 Feeder Report: Productive Seas*, <http://chartingprogress.defra.gov.uk/feeder/PSEG-feeder.pdf>, apportioned based on total area dredged in the East plan areas as a percentage of the UK total (58.4%) and inflated to 2012 using HM Treasury GDP deflators [http://www.hm-treasury.gov.uk/data\\_gdp\\_fig.htm](http://www.hm-treasury.gov.uk/data_gdp_fig.htm)

<sup>22</sup> Except those that are compatible with aggregate extraction, or in exceptional circumstances

<sup>23</sup> The policy would prefer other activities not to prevent aggregate extraction, but if there are impacts on extraction, how these impacts will be minimised or mitigated. Where it is not possible to minimise or mitigate impacts, developers will be expected to state the case for proceeding with their development, taking account of other policies within the marine plans and other considerations in national policy.

54. The policies also provide clarity to other activities regarding requirements for development both inside and outside exploration areas and gives certainty to aggregates prospectors, helping to enable timely business decision making which in turn facilitates potential savings to industry by further reducing administrative costs.
55. This level of certainty also gives a positive signal for renewal of licences, contributing to the ability of the aggregates industry to plan their future and thus helping to contribute towards the sectors growth.

### 3.1.7 Ports & Shipping

#### 3.1.7.1 Background and Baseline

56. The economic success of both ports and shipping sectors is governed by global trade patterns and as these change frequently, they must be able to be adaptable and flexible to respond to world trade patterns, as well as domestic priorities.
57. The East Marine Plan areas are important in the UK for shipping. 12% of ports in England including one of the UK's busiest ports (Grimsby/Immingham) are located within the East Inshore plan area<sup>24</sup>. Over 30% of the marine plan areas are covered by shipping movement of over 100 transits per year. The numerous ports and harbours cover a range of characteristics and sizes, from strategically important industrial clusters (as mentioned above) to operations based in Areas of Outstanding Natural Beauty (AONB) such as the Port of Wells that support a range of activities including recreation, fishing and offshore wind farms. The GVA of the ports and shipping sectors in the East plan areas is £1.229bn (£528m from ports and £701m from shipping)<sup>25</sup>.
58. The marine plan areas include International Maritime Organisation (IMO) routes, established under the UN Convention on the Law of the Sea (UNCLOS). These are established to maintain navigational safety in busy areas or due to prevailing hydrographic features. Navigational safety is a key issue for shipping and is equally important beyond IMO routes as well as in the approaches to ports and harbours. There is a need for all users and developers to ensure that development and other activities are progressed in such a way as to not hinder navigation. For both sectors to thrive economically, safety of navigation is imperative.
59. UK ports operate as competitive, commercial entities. They compete both with one another and with neighbouring European ports. Maintaining this commercially competitive basis is an important consideration. Furthermore, in many cases ports are empowered within defined jurisdictions as harbour authorities affording a level of autonomy over development.

#### 3.1.7.2 Impact of Marine Plans

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<sup>24</sup> Strategic Scoping Report MMO (2013)

<http://www.marinemanagement.org.uk/marineplanning/key/documents/ssr-august2013.pdf> p116

<sup>25</sup> Shipping figures derived from UK figures apportioned to the East plan areas by %deadweight of ships in the plan areas (10.6%), taken from datasheet PORT0601 in Dept. for Transport (2011) *Port Freight Statistics: 2010 final figures*, September 2011 <http://www.dft.gov.uk/statistics/releases/port-freight-statistics-2010-final-figures/>, multiplied by shipping figures from UKMMAS (2010) *Charting Progress 2 Feeder Report: Productive Seas*, <http://chartingprogress.defra.gov.uk/feeder/PSEG-feeder.pdf> and inflated using HM Treasury GDP deflators [http://www.hm-treasury.gov.uk/data\\_gdp\\_fig.htm](http://www.hm-treasury.gov.uk/data_gdp_fig.htm)

Ports figures derived from UK figures apportioned to the East plan areas by %deadweight of ships in the plan areas (10.6%), taken from datasheet PORT0601 in Dept. for Transport (2011) *Port Freight Statistics: 2010 final figures*, September 2011 <http://www.dft.gov.uk/statistics/releases/port-freight-statistics-2010-final-figures/>, multiplied by ports figures from UKMMAS (2010) *Charting Progress 2 Feeder Report: Productive Seas*, <http://chartingprogress.defra.gov.uk/feeder/PSEG-feeder.pdf> and inflated using HM Treasury GDP deflators [http://www.hm-treasury.gov.uk/data\\_gdp\\_fig.htm](http://www.hm-treasury.gov.uk/data_gdp_fig.htm)

60. Due to the management systems currently in place (as described above) the marine plans largely aim to identify where other activities can be managed to provide opportunities for growth in the ports and shipping sectors, while minimising any negative impacts on these other activities.
61. Policies PS2 and PS3 provide clarity on the importance of protecting the economic interest of ports and seek to prevent encroachment through development or other activities around ports and harbours that may restrict future growth. The policies will raise awareness amongst other marine sectors as to where applications should be avoided or where mitigation/co-location should be considered in order to accommodate future port expansion. This will provide the ports industry with certainty regarding potential expansion.
62. Policy GOV1 encourages integration across marine and terrestrial planning so that developments which have implications in both the marine and terrestrial environments (such as those pertaining to and with potential implications for ports) should be assisted by consideration of marine plan policies by terrestrial authorities and vice versa. This will potentially reduce transaction costs for developers as marine plans become embedded in decision making.
63. PS2 and GOV3 seek specifically to support growth beyond existing measures and mechanisms by ensuring encroachment upon important shipping routes is minimised and by guiding growth in other sectors to avoid displacement of shipping.

## 3.1.8 Fisheries

### 3.1.8.1 Background and Baseline

64. In mid-2005 the East Marine Plan areas had 419 licensed fishing vessels, 75% of which were under 10m. Despite the small contribution of the East plan areas to total fishing catches, there are wider benefits associated with the small-scale fishing currently undertaken. Small scale fishing can make a significant economic and social contribution to the lives of individuals and coastal communities, for example, by providing jobs, attracting tourists, providing high-quality fresh fish and maintaining the character and cultural identity of small ports throughout the area.<sup>26</sup>
65. In 2012 the plan areas contributed 2% of the UK's total shellfish and fish landings by UK vessels indicating a relatively small contribution to the UK's total fishery production.<sup>27</sup> However, over half of the plan areas (56%) are defined as high intensity spawning areas for plaice, with over a third of the areas being high intensity spawning areas for sandeels and whiting, and over 11% of the areas a high intensity nursery ground for cod. Additionally, a large amount of fish processing and retailing takes place within the Inshore plan area.<sup>28 29</sup>
66. The total GVA of the sector is currently estimated to be £10m, with an annual turnover in the region of £81m. This figure is based on the tonnage of fish landed in the East Inshore plan area.<sup>30</sup>
67. The Common Fisheries Policy (CFP) provides the main framework for the management of fisheries in EU waters and is supported by national and locally applied legislation including byelaws delivered at local level through the Inshore Fisheries and Conservation Authorities (IFCA) and others. The reformed CFP came into force in January 2014 but the extent of the changes that may result from this are yet to be determined.
68. Other key issues identified include displacement, impacts on navigational safety and access to onshore facilities. In addition, as there is a significant variety and

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<sup>26</sup> Defra (2007) Fisheries 2027 The long term vision for sustainable fisheries

<http://archive.defra.gov.uk/foodfarm/fisheries/documents/fisheries2027vision.pdf>

<sup>27</sup> Based on the proportion of landings at ports within the East plan area reported in TABLE 3-14 Landings into UK Ports by vessels 2008 to 2010, MMO Fishery Statistics,

<http://www.marinemanagement.org.uk/fisheries/statistics/annual.htm>

<sup>28</sup> Figures derived from UK figures in Marine Management Organisation (2012) *UK Sea Fisheries Statistics 2010*, <http://www.marinemanagement.org.uk/fisheries/statistics/annual.htm> and apportioned based on % of tonnage landed in East plan area ports (2%) and % of GVA attributable to fishing (5.3%) in UK-level GVA figures for the Agriculture, Forestry and Fishing sector. Apportionment figure derived from table 3.14 in UK Sea Fisheries Statistics and GVA figure derived from table 1.2 UK Sea Fisheries Statistics.

<sup>29</sup> It should be noted, however, that fish landed within the plan area, may not necessarily be caught within the plan areas. Conversely, fish caught in the plan areas, may not be landed in the plan areas.

<sup>30</sup> Figures derived from UK figures in Marine Management Organisation (2012) *UK Sea Fisheries Statistics 2010*, [http://www.marinemanagement.org.uk/fisheries/statistics/annual\\_archive2010.htm](http://www.marinemanagement.org.uk/fisheries/statistics/annual_archive2010.htm) and apportioned based on % of tonnage landed in East plan area ports (11%). Apportionment figure derived from table 2.2a in UK Sea Fisheries Statistics. Figure inflated to 2012 using HM Treasury GDP deflators [http://www.hm-treasury.gov.uk/data\\_gdp\\_fig.htm](http://www.hm-treasury.gov.uk/data_gdp_fig.htm)



volume of development and activity in the plan areas which is predicted to increase over the lifetime of the marine plans, particularly in terms of marine renewables and other offshore installations, this growth if unmanaged could potentially 'squeeze out' fishing activity.

### **3.1.8.2 Impact of Marine Plans**

69. The current data available on fisheries is varied and unfortunately does not provide a complete view of fishing activity with a high degree of accuracy. In addition the effect of the recent review of the Common Fisheries Policy, which is a key driver for this sector, has yet to be released and as such it has not been possible to identify any quantitative benefits of the marine plans to the fisheries sector. However possible benefits are explored below.
70. The marine plans contain policies (FISH1 & FISH2) which should contribute to sustainable growth in this sector and ensure that existing activity is considered during the licensing or consent for any new activity and these are explored below.
71. GOV 2 aims to ensure that opportunities for co-existence of activities is maximised. This will encourage applicants to identify where their activities complement that of the fisheries sector. If they cannot supply evidence to this end GOV 3 requires that applicants submit supporting information that would illustrate any potential displacement impacts and suggested measures to minimise or mitigate them. This policy sets out a clear, transparent and consistent process within which any potential displacement can be determined. In economic terms, this means a reduction of displacement impacts such as greater travel time to maintain catch levels and fuel costs of travelling longer distances that might have happened in the absence of marine plans.
72. In addition to promoting co-location and encouraging the mitigation of displacement the marine plans contain policies specific to safeguarding fishing activity. FISH1 asks that developments do not prevent fishing activities on, or access to, fishing grounds. In helping to maintain access to fishing grounds FISH1 helps alleviate any extra costs that would be incurred in accessing new fishing grounds or in navigating obstacles to existing fishing grounds.
73. FISH2 contributes to the maintenance of stocks therefore allowing continued realisation of economic benefit from fishing activity.
74. These policies will contribute to the continued sustainable growth of this sector by helping to mitigate against conflict with other marine users, in turn affording economic benefit to the fisheries sector and other sectors which carry out activities in the East marine plan areas.

### 3.1.9 Aquaculture

#### 3.1.9.1 Background and Baseline

75. The East Inshore Marine Plan area is the most productive area nationally for aquaculture and as such has the potential to make a significant contribution to the growth of aquaculture in English waters. In 2010 this area accounted for around 41.25% of English shellfish production and 51.4% of English mussel production (both via aquaculture). There are nationally significant private, Regulated and Several fisheries (mussel, oyster and cockle) within the Wash and along the North Norfolk coast. Aquaculture in the East Inshore Plan area currently comprises only shellfish aquaculture activity<sup>31</sup>.
76. The aquaculture sector is complemented by a number of supporting activities, including the manufacture of prepared feed for the farms and the specialised construction, installation and decommissioning of fish farms. Other secondary industries include the processing, distribution and sale of shellfish for consumption.
77. There are estimated to be 17 businesses undertaking aquaculture activities in the plan areas, employing approximately 130 persons directly. Additionally there are an estimated 300 jobs that are indirectly related to the industry, including<sup>32</sup> processing of fish and retail of products<sup>33</sup>.
78. The total GVA of the sector is currently estimated to be £2.6m, with an annual turnover in the region of £4.6m.<sup>34</sup> The long term trend for the aquaculture industry is expected to be one of continued growth.<sup>35</sup>

#### 3.1.9.2 Impact of Marine Plans

79. The East Inshore Marine Plan area has the potential to make a significant contribution to the growth of aquaculture in English waters given the large estuaries and sheltered sites and marine plans should help to realise this potential. Due to a lack of available data the model used for this analysis did not identify any quantifiable significant economic impact to the Aquaculture sector associated with the marine plans however there are a number of qualitative impacts explored below.

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<sup>31</sup> The lack of fin fish aquaculture is due to a lack of fast flowing rivers that are needed for intensive growth.

<sup>32</sup> Data obtained from CEFAS by personal communications in 2012. These figures are summarised statistics from the data they are required to send to the EU on aquaculture tonnages harvested.

<sup>33</sup> Defra (2012) Planning for Sustainable Growth in the English Aquaculture industry  
<http://www.defra.gov.uk/consult/files/120112-aquaculture-consult-doc.pdf>

<sup>34</sup> Figures derived from figures in UKMMAS (2010) *Charting Progress 2 Feeder Report: Productive Seas*, <http://chartingprogress.defra.gov.uk/feeder/PSEG-feeder.pdf>, apportioned based on % of shellfish production (65%) in East plan areas, taken from MMO (2011) Evidence and Issues Report: Overview,

[http://www.marinemanagement.org.uk/marineplanning/areas/documents/east\\_evidence\\_issues\\_overview.pdf](http://www.marinemanagement.org.uk/marineplanning/areas/documents/east_evidence_issues_overview.pdf). Figure inflated to 2012 levels using HM Treasury GDP deflators [http://www.hm-treasury.gov.uk/data\\_gdp\\_fig.htm](http://www.hm-treasury.gov.uk/data_gdp_fig.htm)

<sup>35</sup> MMO (2013) Strategic Scoping Report

<http://www.marinemanagement.org.uk/marineplanning/key/ssr.htm>

80. In 'Planning for sustainable growth in the English Aquaculture Industry'<sup>36</sup>, the Aquaculture Plan Consultation Group identifies a number of barriers to the growth of the aquaculture industry including 'complex and potentially expensive consenting processes' which span the marine/land boundary and low investor confidence. Policy GOV1 goes towards mitigating the former (consequently reducing transaction costs for business) by signposting a need for provisions to be made for developments in the marine areas to be supported by the appropriate infrastructure on land.
81. The latter barrier can be mitigated through the certainty that marine plans lend to the potential for aquaculture development in the East plan areas. Policy AQ1 provides certainty to the aquaculture industry that sites identified as being ideal for aquaculture should be explicitly considered in the decision-making process and will not be compromised without good cause. This should provide the aquaculture industry and potential investors with certainty regarding potential resource and so help to instil confidence in investors.
82. Furthermore policy AQ1 builds on GOV2 and GOV3 (both of which relate to maximising opportunities for co-existence) requiring that in the specified areas, Public Authorities should ask for explicit consideration of the potential impacts on future aquaculture activities. This should also include consideration of the impacts of development or activities on water quality and therefore the potential impacts on aquaculture. If an applicant is not aware of the constraints present within areas considered important for aquaculture, the plans state that the Public Authority should advise them. It is anticipated that all of these policies and the benefits outlined above should help enable sector growth that would not occur at the same levels in the absence of marine plans, both in terms of encouraging new development and accelerating the development of planned projects.

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<sup>36</sup> Defra (2012) Planning for Sustainable Growth in the English Aquaculture industry  
<http://www.defra.gov.uk/consult/files/120112-aquaculture-consult-doc.pdf>

### 3.1.10 Tourism and Recreation

#### 3.1.10.1 Background and Baseline

83. Tourism<sup>37</sup> and recreation<sup>38</sup> are recognised as important sources of income for coastal communities, the recreational boating industry alone contributing an estimated £1.042 billion to the UK economy in 2009/10. Tourism is one of the top three national growth sectors for the economy<sup>39</sup>.
84. Coastal tourism and marine recreation are key sectors within the plan areas with an estimated combined contribution of £0.7bn in 2012/13.<sup>40</sup> There are many marinas, RYA training and racing areas in the plan areas<sup>41</sup> and wildlife watching is becoming an increasingly popular activity for visitors to the East of England<sup>42</sup>. In Suffolk, the coast is an important factor for people in deciding to visit the area<sup>43</sup>.
85. Apart from recreational boating, the majority of tourism and recreation activities occur in the inshore area. The area covered by the marine plans contain a number of nationally designated coastal areas, such as Areas of Outstanding Natural Beauty and The Broads and these bring direct economic benefits to the tourism and recreation industry through attracting visitors.
86. Aspects of this sector are seasonally constrained and so any additional disruption during peak times could have adverse impacts on tourism and recreation.

#### 3.1.10.2 Impact of Marine Plans

87. Issues identified through the development of the East Marine Plans include the potential for displacement of tourism and recreation due to increases in new activities and the cumulative effect of other activities. Through analysis of local plans and discussions with local planning authorities in the plan areas, diversification of tourism was identified as an important growth area<sup>44</sup>.

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<sup>37</sup> Tourism is defined by the World Tourism Organisation (WTO) as comprising the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes. This definition has been adopted by the UK Government.

<sup>38</sup> In this context tourism and recreation activities include but are not limited to; surfing, diving, sea angling, boating, swimming, boat-trips, accommodation and food outlets, bird watching, and other beach activities.

<sup>39</sup> HM Government (2011). Marine Policy Statement

<sup>40</sup> Tourism figures derived from actual GVA figures reported for tourism-related businesses in all seaside resorts in the east Plan areas, taken from ONS Annual Business Survey figures and inflated to 2012 levels using HM Treasury GDP deflators [http://www.hm-treasury.gov.uk/data\\_gdp\\_fig.htm](http://www.hm-treasury.gov.uk/data_gdp_fig.htm). Recreation figures derived from UK figures apportioned to East Plan area (11.9%) based on UKMMAS (2010) *Charting Progress 2 Feeder Report: Productive Seas*, Defra on behalf of UKMMAS, 2010, <http://chartingprogress.defra.gov.uk/feeder/PSEG-feeder.pdf>, using GVA figures from the same document and then inflated to 2012 levels using HM Treasury GDP deflators [http://www.hm-treasury.gov.uk/data\\_gdp\\_fig.htm](http://www.hm-treasury.gov.uk/data_gdp_fig.htm).

<sup>41</sup> MMO (2012). Evidence and Issues report. Figure 4.24

<sup>42</sup> MMO (2012). Evidence and Issues report. Page 176

<sup>43</sup> www.

[choosesuffolk.com/tourismpartnership/pageDownloads/65566654Suffolk%20Visitor%20Survey%20Report%20Draft.pdf](http://choosesuffolk.com/tourismpartnership/pageDownloads/65566654Suffolk%20Visitor%20Survey%20Report%20Draft.pdf)

<sup>44</sup> MMO (2012). Evidence and Issues report. Page 176

88. In view of this the policies within the marine plans aim to guide industry to specific locations, to designs which will minimise impacts, to offer mitigation of these impacts where they cannot be avoided and to reflect the aspirations of terrestrial plans for this sector. They aim to promote the growth of the tourism and recreation sector (both directly and indirectly) and help this sector to diversify in line with the ambitions of many of the local authorities in order to improve the local economies of the coastal communities.
89. The marine plans add specific value with regard to a plan area-wide vision for this sector. 17 of the 27 Local Authority plans considered in the preparation of the marine plans contain policies on tourism and recreation. This illustrates the importance of this sector to the plan areas and adjacent coastal areas. The marine plans encourage relevant authorities to use the policies set out in the marine plans to coordinate work and collaborate on projects in order to maximise the economic benefit of marine related tourism and recreation.
90. In addition to the policies which are directly related to recreation and tourism there are policies which pose potential benefits to this sector.
91. Marine plans have been designed to enable the holistic management of the marine areas including the consideration of recreation and tourism activities, many of which fall outside licensing or management measures. GOV3 is concerned with displacement and aims to address such activities. This policy is intended to mitigate indirect impacts as the level of competition for marine space increases. It advises developers and relevant authorities that where collocation with other activities is not possible mitigation of any possible displacement (which in the case of smaller scale marine recreation may result in the activity halting all together) must be considered.
92. Although there are no quantifiable economic benefits at this stage, it is anticipated that through the indirect implications of 'safeguarding' and promoting growth in this sector, the policies within the marine plans will not solely benefit the sector but also help to enhance the economic stability of coastal communities by safeguarding jobs and attracting visitors into the region.

### 3.1.11 Military Defence

#### 3.1.11.1 Background

93. The primary objective of the Ministry of Defence (MoD) is to provide military defence and, where appropriate, security for the people of the UK and Overseas Territories. The MoD, including Her Majesty's (HM) Armed Forces and the Royal Fleet Auxiliary, maintains and deploys the operational capability required to maintain security in UK waters. Defence activities that utilise the marine environment, directly or indirectly, in support of operational capability include operational vessels and aircraft, HM Naval bases, surface and sub-surface navigational interests, underwater acoustic ranges, maritime exercises, amphibious exercise, coastal training ranges and coastal test and evaluation ranges.<sup>45</sup>
94. Relatively little military activity occurs in the East Marine Plan areas, partly due to the lack of naval bases along the coast. However, there are several relatively small military practice areas within the plan areas that are used by a combination of Royal Navy, Army and Royal Air Force activities for practice in air-to-air combat manoeuvres, bombing, submarine exercise and firing danger areas. The UK has a military low flying system which supports training below 2,000 feet throughout UK airspace except in controlled airspace dedicated to civil aviation traffic and over major built up areas. This includes the coastline along the East, and part of the East Inshore area closest to land.
95. Whilst there is clearly economic activity present in the plan areas, it has not been possible to estimate the level of activity due to an absence of publically available information.

#### 3.1.11.2 Impacts of Marine Plans

96. Due to the nature of military defence activities it is not expected that marine plans will have any economic impact on any such activity in the East marine plans areas.

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<sup>45</sup> Defra (2011) Marine Policy Statement

## 4.0 Administrative Impacts

### 4.1 Baseline Administrative Impacts

97. In undertaking activities within the East Marine Plan areas it is necessary for the vast majority of activities to seek permission from the relevant decision maker prior to commencement. Permission can come in a number of different forms, but typically a licence and/or a lease will be required prior to the activity commencing. Under this existing regime obtaining leases and licences imposes a burden on industry and costs both time and money. Costs are also incurred by the decision maker in determining licence applications, and by stakeholders in offering their views on such applications.
98. However, regulation should not be seen as simply a burden. The benefits of robust regulation are significant. Effective and proportionate regulation can help protect consumers, employees and the environment and build a fairer society. If regulations are designed correctly, these benefits will outweigh the costs associated with the administrative effort related to obtaining permissions.
99. In the plan areas there are a number of activities across all economic sectors listed in the Marine Policy Statement which require permissions. The costs and benefits associated with obtaining such permissions have not been calculated in this analysis due to the lack of publicly available information on:
- The quantity of applications made in the plan areas
  - The effort involved in obtaining each of the permissions
100. However, in recognition that there are estimated to be substantial administrative costs currently incurred by various actors in obtaining and determining permissions we have sought to estimate the costs associated with obtaining and determining marine licences in the East plan areas.
101. In 2011/12 the MMO determined 351 marine licences for a range of activities including construction works, disposal of dredged material and removals. Of those licences issued, 61 (17%) were within the East plan areas. An estimate of the total administrative cost associated with such licences is shown in Table 1 below. The table shows the costs associated with the administrative burden of making, considering and determining applications for marine licences. The table does not include the costs associated with undertaking associated assessments (i.e. Environmental Impact Assessment).

**Table 1: estimated Costs of East Plan Areas Marine Licences (2011/12)**

Tier of Licence	Quantity Issued	Estimated Cost to Industry <sup>1</sup>	Estimated Cost to the MMO <sup>2</sup>	Estimated Cost to Consultees <sup>3</sup>	Estimated Total Costs
Tier 1	43	£16,598	£18,920	£0	<b>£35,518</b>
Tier 2	12	£186,372	£78,408	£109,116	<b>£373,896</b>



Tier of Licence	Quantity Issued	Estimated Cost to Industry <sup>1</sup>	Estimated Cost to the MMO <sup>2</sup>	Estimated Cost to Consultees <sup>3</sup>	Estimated Total Costs
Tier 3	6	£254,106	£40,344	£120,414	<b>£414,864</b>
<b>TOTAL</b>	<b>61</b>	<b>£457,076</b>	<b>£137,672</b>	<b>£229,530</b>	<b>£824,278</b>

Notes:

- 1) Based on an average cost of £386 for Tier 1 application, £15,531 for Tier 2 application and £42,351 per Tier 3 application.
- 2) Based on an average cost of £440 for Tier 1 application, £6,534 for Tier 2 application and £6,724 per Tier 3 application.
- 3) Based on an average cost of £0 for Tier 1 application, £9,093 for Tier 2 application and £20,069 per Tier 3 application.

Source: Licence information provided by the MMO. Costs are estimated by Eunomia using the Standard Cost Model and based on work completed for Defra and the MMO on the introduction of Marine Licences for Dredging activities.

102. Based on ascribing average costs to the MMO, industry and consultees, it is estimated that, under the existing regime and in the absence of marine plans £0.8m was spent within the East plan areas on obtaining and determining marine licences in 2011/12. This figure does not include the costs, for example, of undertaking an Environmental Impact Assessment (EIA), which in most instances are needed in support of an application. It is likely therefore that the costs associated with obtaining and maintaining marine licences are higher than is suggested in the table above.
103. One of the expected outcomes of marine planning is that it should reduce costs associated with applications by providing some certainty, thereby lowering costs incurred from rejected applications. This in turn should help to lower the costs associated with the licensing system.

## 4.2 Impact of Marine Plans

104. Although there are administrative implications for both the public and private sectors relating to marine plans their introduction will not pose additional administrative burden to either.
105. The marine plans are expected to deliver administrative savings to businesses and individuals through reduced administrative burdens (these have already been described under section 3). For industry, this means that when proposals come forward for developments within the plan areas, there will be a better understanding of the likely outcomes of applications for consent. Less cost should be incurred when obtaining permissions as there is less risk of applications being challenged by regulators and stakeholders, if they are in alignment with the marine plans. This may also reduce the number of applications which are withdrawn and ensure that permissions can be gained in a shorter timescale than they would otherwise.

106. One of the key outcomes of marine plans is to involve decision-makers, users and stakeholders in the creation, monitoring and updating of the marine plans and the benefits stated above will rely on actors making their time available to input into the marine plans and therefore incurring a cost. However, it should be acknowledged that the nature of this burden is largely voluntary, as there is no legal requirement to engage in the development and, aside from decision makers, implementation of the marine plans. It is expected that as a result of the effort involved in engaging with the introduction and maintenance of the marine plans, significant benefits are expected to accrue on all actors.
107. The vast majority of the administrative costs associated with the marine plans relate to the MMOs task of administering, monitoring and updating the marine plans in order to realise the benefits set out in preceding chapters. These are an unavoidable aspect of setting up a brand new marine planning system and will be afforded through the MMO's core budget.

### 4.3 Additional Administrative Impacts

108. As a result of the introduction of marine plans there will be a number of new administrative impacts associated with the MMO, industry and other consultees undertaking activities which they would not otherwise undertake. The most obvious of these is the production of the East Inshore and Offshore marine plans themselves. However, this activity is considered a 'sunk cost', as these costs have already been incurred by the MMO and various stakeholders, though as discussed above, any costs incurred by stakeholders are voluntary and, in helping establish the marine plans, will lead to lower costs associated with future applications and decisions. Therefore, the following activities have been identified which are due to be undertaken by the MMO over the marine plans period (2013/14 to 2032/33):
- monitoring of the marine plans;
  - undertaking periodic reviews of and reporting on marine plans; and
  - undertaking amendments to marine plans where reports indicate this is necessary under the agreement of the Secretary of State<sup>46</sup>
109. A description of the activities, alongside an estimate of the costs associated with their undertaking is included in the following sub-sections. The estimates are informed by the 2011 Impact Assessment<sup>47</sup> but also take account of experience gained by the MMO in developing marine plans.
110. The following analysis is for the East marine plans only. As a result, some of the previous assumptions can be refined, i.e. that
- Review and amendment will involve more than simply amendment every six years (to include review and reporting every three years)
  - Review and reporting every three years mean that the amount of activity required for amendment (and associated costs) is unlikely to be as great as previously anticipated and unlikely to be required every six years

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<sup>46</sup> Where reports indicate that amendment(s) to the plans may be needed the Secretary of State will consider whether an amendment should be made or whether any new information/evidence should become a relevant consideration alongside the plans

<sup>47</sup> Defra (2011) Impact Assessment of the Marine Planning System

- Dealing with two plans (East Inshore and East Offshore) through one process will bring savings

#### 4.4 Monitoring and Review of Marine Plans

111. The MMO is responsible for measuring progress towards securing marine plan objectives, particularly through the effects of the plan policies, identifying the role of any agencies which will be required to contribute to progress assessments and working with those organisations contributing relevant monitoring information. The 'monitoring plan' should be the mechanism which assists the MMO in its duty to keep the marine plans under review.
112. In undertaking the monitoring duties, it is expected that the MMO will incur an annual cost. The cost is estimated<sup>48</sup> to be £75,000 per year for the East Marine Plans for the period 2013-2015. It is expected that a gradual increase in monitoring costs will occur as the marine plans become more prescriptive, in line with the continued development of the evidence base. As such it is predicted that these costs will rise to £100,000 per year from 2025 onwards, giving a Net Present Value of £1.2m over the 20 years that the plan covers. However there is still uncertainty regarding the level of cost associated with monitoring and it is expected that once in place the implementation of marine plans will help to address this evidence gap. It is also assumed that monitoring programmes undertaken for the purpose of other requirements/drivers will make a substantial contribution towards the evidence needed.
113. Alongside and informed by their ongoing monitoring, marine plans will require review and potentially amendment or replacement throughout their life as priorities and policies develop and change in light of new evidence and analysis. Such amendments will be determined through the effectiveness of the application of the marine plans and their policies. Monitoring and resultant evolution of marine plans is essential in ensuring that they remain fit for purpose and take account of and incorporate any new drivers or influences where necessary.
114. Under the Marine and Coastal Access Act (2009), the marine plan authority is required to periodically review marine plans. There are two separate review and reporting duties required by the Act<sup>49</sup> which aim to ensure that the marine plans and the marine planning system are monitored and so remain relevant.
115. The first duty requires that the MMO keep the effects and effectiveness of marine plans under review and report on this not more than three years after each plan is adopted, with subsequent reports following not more than 3 years after publication of the last. The report produced should include the progress towards achieving any objectives set out for that region in its marine plan. The report must be published and laid before Parliament and it is required that after each report the MMO should recommend to the Secretary of State whether or not the plan needs to be amended or replaced.

<sup>48</sup> Defra Impact Assessment of the Marine Planning System (2011)

<sup>49</sup> Marine and Coastal Access Act (2009) Part 3 (61).

116. Whilst it is not possible to predict with a lot of certainty, experience of the planning process so far suggests that unless such a report highlights significant changes (e.g. substantial new evidence which impacts on policies/objectives in the plan) that an amendment of the plans will not be required. Where amendment is not needed any new evidence will be considered as a 'relevant consideration' by public authorities alongside the policies within the marine plans.
117. Table 2 represents the estimated costs attached to this review and subsequent report. The range within this table represents two scenarios. One where no significant issues arise during review and the other assumes that evidence gathered highlights issues which may result in the need for amendments to the plans. Table 3 shows the estimated costs that would be incurred should an amendment to the plans need to be made. It should be noted that these figures would be subject to change depending on the extent of the amendment required. These costs are based on best estimates, utilising information from the Defra Marine Planning Impact Assessment where appropriate, as the process has not yet been undertaken for marine plans.
118. It should be noted that where the costs illustrated in Table 2 will happen every time there is a review (every 3 years), the costs outlined in Table 3 will only happen when such a review leads to an amendment of the marine plans. It is difficult to predict how often that will be needed. There may be a trade off between how much effort goes into the 3 yearly reviews and how often more involved 'amendment' is required. It is possible that, as the first marine plans to be produced, the East marine plans may require to be amended considerably sooner than the main assumption made in this document (at 12 years). Given these uncertainties, there could be one or two amendments over a twenty year period. For the purpose of this document we have anticipated that an amendment will be required once and have calculated NPVs for an amendment at 6 years (2019) or 12 years (2025), to cover the eventuality that the East Marine Plans could be amended sooner.
119. The second reporting duty is the requirement that the MMO must report at least every six years until 2030 on how it has used, and intends to use, its marine planning powers. The report should include details of the marine plans they have prepared and adopted and their intentions as to the amendment of existing plans and preparation of additional plans.
120. This document details only potential costs relating to the first reporting duty as it is in this 3 yearly review that the detail of the East Marine Plans will be assessed leading to amendment where necessary.
121. In undertaking reviews of the marine plans, there are a number of activities which might need to be undertaken, these include:
- amending the marine plans
  - updating the Sustainability Appraisal
  - updating the Statement of Public Participation
  - consultation with stakeholders

- undertaking an Independent Investigation<sup>50</sup>.
- amending supporting material such as the Implementation and Monitoring plan.

122. Costs relating to reviewing and amending marine plans are forecast to be incurred by the MMO. Industry, Local Authorities and other consultees may also incur costs, though these will be on a voluntary basis, as discussed in paragraph 108 and would be small by comparison to those that apply to the MMO.

123. It is anticipated that a total of 6 reviews at 3 yearly intervals will take place over the lifetime of the marine plans after their adoption, assumed to be in the financial year 2013/14. Previous assumptions<sup>51</sup> did not account for review and reporting every three years and rolled up these costs into an overall amendment costs (every six years). Tables 2 and 3 separate these out and break them down into review and reporting (Table 2) and amendments (Table 3). Review, reporting and amendment will involve both staff time and updating of data/information.

124. For the purpose of the estimating costs, it is assumed that only one of these three yearly reviews (the 2nd review in year 6 of the plans' life, or the 4th review in year 12, for the purpose of generating NPV figures) will result in potentially extensive amendments to the plan (see 117-118). Compared to previous assumptions, it is considered that there are savings to be gained from amending two plans through one process; whilst these are difficult to predict accurately, it is assumed that at best costs are halved and at worst reduced by a third. Estimates in Table 3 are therefore based on 50% and 66% respectively of the overall amendment costs set out in Defra's Marine Planning System 2011 IA but having first removed the costs of review and reporting as laid out in Table 2 (covering all six reviews).

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<sup>50</sup> The cost of an Independent Investigation will fall to Defra rather than the MMO

<sup>51</sup> Defra Impact Assessment of the Marine Planning System (2011)

**Table 2: Estimated Review and Report Costs Associated with the East Marine Plans (per review)**

Description of Activity	Assumptions	Total Cost per Review (£) <sup>52</sup>
<b>Review of plans</b> (including stakeholder engagement, data collation from multiple sources, analysis of data and management time)	Staff costs for 4FTEs working for 2-5 months. All FTEs costed at an average of £50,000/year including oncosts. Assumes that additional data costs are incurred as a result of review work in the range of £30,000-50,000	£63K -133K
<b>Compiling Report</b> (including writing, editing and securing passage through Secretary of State/laying before Parliament)	4FTEs working for 2-3 months	£33K -50K

**Table 3: Estimated Amendment Costs to the MMO (additional to review and reporting as detailed in Table 2) associated with the East Marine Plans<sup>53</sup>**

Description of Activity	Assumptions	Total Cost <sup>54</sup>
<b>Amendment including consultation</b> <ul style="list-style-type: none"> <li>• drafting amendments,</li> <li>• testing and consulting with stakeholders and government,</li> <li>• formal public consultation</li> </ul>	Costs will be somewhere between 50% and 33% lower than cost in Defra's Marine Planning System IA, due to savings made by developing plans through one process.	£385K-622K
<b>Sustainability Appraisal</b>	Costs will be somewhere between 50% and 33% lower	£48K - £63K

<sup>52</sup> 2010 prices, in keeping with using assumptions from Defra's Marine Planning System 2011 IA, which used 2010 prices

<sup>53</sup> Independent investigation costs are not included here as this cost falls to Defra rather than the MMO

<sup>54</sup> 2010 prices, in keeping with using assumptions from Defra's Marine Planning System 2011 IA, which used 2010 prices

	<p>than cost in Defra's Marine Planning System IA, due to savings made by developing plans through one process</p> <p>As marine plans become more specific or prescriptive so this cost will rise in proportion.</p>	
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125. In total, the reviewing, reporting and amendment duties, based on the assumption of undertaking six reviews, and one amendment during the 20 year life of the East Marine Plans, are estimated to be £720K -£1.4m in net present value terms. This comprises a total of £420K to £805K for the six reviews and £295K to £580K for the amendment. The figures omit the cost of any Independent Investigation which will be met by Defra.

126. All figures presented assume significant savings can be made from having developed the East Marine Plans as one process that has led to two plans, as against the figures presented in Defra's Marine Planning System Impact Assessment, which assumed two processes would be needed

127. Other actors including industry, local authorities and other consultees are likely to be involved in the review and amendment of the plans. Their involvement will be requested in informal and public consultation and in inputting into an amended Sustainability Appraisal. However, it should be noted that the effort incurred by these actors will be voluntary as there is no requirement to partake in the review and amendment of the marine plans, but that they do stand to benefit from helping to ensure that marine plans remain fit for purpose as described above.



## 4.5 Summary of Administrative Impacts

128. As demonstrated in the previous sub-sections it is expected that there will be significant administrative impacts associated with the introduction of the East marine plans most of which will fall on the MMO and have been accounted for in budget projections.

129. Alongside the administrative benefits associated with the marine plans, there are also expected to be costs. The vast majority of these are expected to fall on the MMO in monitoring and reviewing the marine plans. Voluntary costs are also anticipated to industry, local authorities and other consultees in inputting in to the process, though as noted above, the extent of any increase in time input relative to the baseline may be lower than is set out here. Table 4, shown below, summarises the administrative burden expected to be incurred by each of the actors.

**Table 4: Summary of the Administrative Impacts which fall to the MMO associated with Reviewing, Reporting on, Amending and Monitoring the East Inshore and Offshore Marine Plans**

	Reviewing and Reporting	Amending	Monitoring	Total
20 Year Net Present Values (presented as ranges)	£420-805K	£295-580K	£1.2m	£1.9-2.6m

130. It is expected that, through their implementation, marine plans will yield significant new data that can be used to better understand the full administrative costs of marine plans, allowing areas where assumptions are used above to be supplanted by actual costs.

## 5.0 Social Impacts

131. The East Marine Plans contain a number of social policies (SOC1-3). There are other supporting documents to these East marine plans, including studies carried out on a national scale which explore the social impacts of marine plans<sup>55</sup>. At this stage of producing the first marine plans it is difficult to extrapolate the economic benefits that will undoubtedly be afforded by the social benefits which are identified and explored in these other documents. Wider benefits can be found in Defra's Impact Assessment of the Marine Planning System.
132. SOC2 and SOC3 relate to heritage and seascape policies and may have a social impact, through protection of socio-cultural assets, such as designated wreck sites. SOC1 encourages developers to consider the social impacts of proposals, by preferring projects that bring social benefits, particularly those pertaining to health and access to the coast.
133. EC2 relates to a clear socio-economic benefit by giving an unambiguous preference for projects that bring higher employment benefits over projects of the same activity that bring lower employment benefits, where a choice must be made. EC2 also encourages maximisation of employment benefits in areas close to the plan areas. As employment and the economic benefits it brings are key to reducing social problems as those associated with deprivation, it can be expected that EC2 should bring social as well as economic benefits.
134. There are also expected to be wider democratic benefits associated with the marine plans. Public involvement in the marine plans process provides anyone with an interest in our seas and coasts the opportunity to contribute to how the East plan areas are managed. There may also be terrestrial impacts associated with the introduction of the marine plans. Marine planning is likely to inform terrestrial planning, and vice versa. The integration with the terrestrial planning system policies may enable communities to identify opportunities that to date may not have otherwise been realised.

## 6.0 Environmental Impacts

135. In addition to administrative, economic and social impacts, there are also expected to be significant environmental impacts associated with the East Marine Plans. Marine planning aims to maximise our use of the marine space, albeit within environmental limits. This ensures that we gain the most for society and the economy, without compromising the goods and services that lead to the economic and social gains. A good example of this is the safeguarding of spawning and nursery grounds to ensure sustained economic and social gain from them.
136. Due to significant uncertainty associated with both the magnitude and costs associated with the environmental impacts, it has only been possible to qualitatively describe the impacts. This analysis supports the Sustainability Appraisal<sup>56</sup> (SA) which has been conducted in parallel to the production of the

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<sup>55</sup> MMO (2011) Socio Economic Study

<http://www.marinemanagement.org.uk/marineplanning/key/se.htm>

<sup>56</sup> MMO (2014) Sustainability Appraisal for the East Inshore and East Offshore Marine plans

East marine plans. The SA considers the environmental impacts (amongst others) in further detail. Wider benefits can be found in Defra's Impact Assessment of the Marine Planning System.

137. The marine plans have an objective of achieving a healthy, resilient and adaptable marine ecosystem. The marine plans highlight, or signpost, existing policies and measures aimed at ensuring compliance with, amongst others, the Marine Strategy Framework Directive (MSFD) and the Water Framework Directive (WFD). This will ensure that efforts, both ongoing and planned, to achieve compliance will be supported by the plans, and therefore strengthened.
138. In addition to strengthening existing and future marine plans and policies, the marine plans are also expected to go further by specifically ensuring that cumulative impacts (those associated with multiple activities within a small spatial locality) are considered by decision making authorities. In particular the policy ECO1 states that:

**ECO1:** *“Cumulative impacts affecting the ecosystem of the East marine plans and adjacent areas (marine, terrestrial) should be addressed in decision-making and plan implementation.”*
139. It is likely, therefore, that as a result of the plan policy there will be less cumulative impacts when compared to the baseline.
140. In addition it is also likely that, when compared to the baseline, there will be a lower risk of hazardous substances being rereleased in the marine environment due to the policy ECO2. The policy states:

**ECO2:** *“The risk of release of hazardous substances as a secondary effect due to any increased collision risk should be taken account of in proposals that require an authorisation.”*
141. It is anticipated that the marine plans will therefore contribute to maintaining and in some cases increasing the levels of good and service that the marine environment can sustainably support, with resultant economic benefit.

## 7.0 Conclusion

142. Increasingly there are competing and conflicting demands for space and resources in the UK marine environment. This increases the risk of one activity coming in to conflict with another. It also increases pressure on marine ecosystems resulting, potentially, in a decline in their functional status, and the socio-economic value derived from them, and deterioration in the quality of the environment.
143. This document aims to provide an understanding of the economic impacts, associated with the East Marine Plans. The impacts of these marine plans are measured by assessing the additional costs and benefits from the introduction of marine plans compared to a baseline that looks at a projected scenario of marine activities in the absence of such marine plans. As a baseline, the economy of the East Inshore and East Offshore marine plan areas is estimated to be over £10bn in GVA terms.
144. Where possible these impacts have been quantified. However, it has, in many cases, been challenging to quantify the impacts due to a lack of evidence. The evidence required to quantify impacts will be forthcoming in the future in the course of implementing, reviewing and monitoring these marine plans. This will provide a significant contribution to filling some of the evidence gaps that exist currently and limit the ability of this document to quantify the costs and benefits of the East Marine Plans.
145. It has been possible to quantify the administrative impacts associated with the marine plans estimated to be £1.9-2.6m (net present value over 20 years), summarised in Table 4 above. The total administrative costs are a range, reflecting uncertainty in the effort required for review/reporting/amendment processes and the amount of savings that can be made from amending two plans through one process.
146. The East Marine Plans, taken as a whole, should enable sector growth that would not occur at the same levels in the absence of marine plans, both in terms of encouraging new development and accelerating the development of planned projects by:
- Increasing certainty in what sort of developments are likely to gain consent and where and so making potential developments more attractive to investors
  - Reducing transaction costs incurred by businesses that may arise in the absence of the clarity afforded by the marine plans.
  - Signposting to help ensure that developments mitigate negative impacts on each other thus avoiding the administrative costs that arise from conflict between sectors.
  - Signposting the need to consider activities which fall outside of existing licensing or management measures (e.g. some marine recreation activities) by highlighting the importance of co-location and the issue of displacement,

contributing to the growth of these smaller sectors alongside the larger industries.

- The inclusion of policies signposting fledgling sectors/technologies and encouraging consideration by other sectors of areas which might be needed for these fledgling sectors/technologies in the future (e.g. Carbon Capture Storage and Wave Energy).

147. More specifically, these marine plans will directly benefit sectors, society and the environment through specific policies that support sustainable development. There are also indirect benefits through an understanding of possible impacts of activity in one sector on other sectors or the marine ecosystem.

148. The introduction of marine plans in England, starting with the East plan areas, will provide the strategic foresight that ensures that society gains as much benefit from the marine areas, whilst ensuring sustainable marine management.