

## Annex D: Costs to Private and Public Sectors (profile of costs over 20 years) and key assumptions

This annex sets out the sector specific cost assumptions and their sources used to derive the costs of designating 23 second tranche MCZs over the 20 year IA period. The methodologies used are summarised in section 6.8 onwards of the IA and contain links to detailed methodology papers written for the MCZ Regional Projects. Design of the methodologies involved heavy stakeholder input including unit cost assumptions from industry, affected public agencies and other government departments. Those same assumptions have been used here but in all cases updated and best available data is used and all figures are in 2013 prices. In addition, key representatives from the sectors affected were consulted during the spring and summer of 2014 and responses and information provided was used in site selection for the 2<sup>nd</sup> tranche and to inform the assessment of costs. The management options to derive commercial fisheries and management costs are given in Annex A. All assumptions here will be reviewed following responses to consultation.

Please note: all figures in the following tables are in 2013 prices and £m rounded to 3 decimal places. Therefore, tables may not sum exactly due to rounding. All costs which are one off and do not repeat later in the IA or period or would not repeat beyond the IA period are considered as transitional and such costs are identified below. All other costs, including those one-off costs which repeat periodically (e.g. licence application costs), are not classed as transitional costs as they would continue to be incurred in the future.

### Business Costs

#### Aggregates

Scenario 1: Best Estimate (and High Cost scenario)																						
Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total (£m)	Annual Average (£m)
Licence application costs (£m)	0.000	0.000	0.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.055	0.000	0.055	0.000	0.000	0.000	0.055	0.000	0.000	0.221	0.011
<b>Total (£m)</b>	<b>0.000</b>	<b>0.000</b>	<b>0.055</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.055</b>	<b>0.000</b>	<b>0.055</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.055</b>	<b>0.000</b>	<b>0.000</b>	<b>0.221</b>	<b>0.011</b>
<b>Present Value Costs (£m)</b>	<b>0.000</b>	<b>0.000</b>	<b>0.052</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.038</b>	<b>0.000</b>	<b>0.035</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.031</b>	<b>0.000</b>	<b>0.000</b>	<b>0.156</b>	<b>0.008</b>
Assumptions: Costs are based on additional appropriate assessment costs for considering impacts of aggregate activities on the conservation objectives of MCZ broad-scale habitats on a site specific basis. This equates to £0.027m per future licence application provided by the British Marine Aggregate Producers Association (BMAPA, pers. comm. 2011) and updated by the ONS GDP deflator to £0.028m in 2013 prices. A pre-consultation meeting with industry representatives including BMAPA in May 2014 indicated that approach used in IA is reasonable assuming dredging can continue and that 23 sites proposed for the 2 <sup>nd</sup> tranche are not expected to have significant impacts on the sector. No site specific mitigation such as a restriction of activity was identified for the sites under consideration. Licence applications: 2 applications*£0.028m occurring in years 2017, 2032, 2026 and 2028.																						

Scenario 2: Low cost scenario																						
Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total (£m)	Annual Average (£m)
Licence application costs (£m)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.055	0.003
<b>Total (£m)</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.055</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.055</b>	<b>0.003</b>
<b>Present Value Costs (£m)</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.037</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.037</b>	<b>0.002</b>

Assumptions: Licence applications: Additional appropriate assessment costs for licence applications for strategic resource areas that overlap with or are in close proximity to an MCZ. Additional costs incurred only for 2 strategic resource area future licence applications\*£0.028m in 2027. This is because all other costs associated with scenario 2 for aggregates are baseline costs as they relate to the existence of an MCZ network rather than the 2<sup>nd</sup> tranche specifically.

## Cables

Cables : Best Estimate																						
Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total (£m)	Annual Average (£m)
Licence costs for 18 tranche 2 sites within 12nm (£m)	0.000	0.000	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.007	0.030	0.001
<b>Total (£m)</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.007</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.007</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.007</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.007</b>	<b>0.030</b>	<b>0.001</b>
<b>Present Value Costs (£m)</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.006</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.005</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.005</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.004</b>	<b>0.020</b>	<b>0.001</b>

Assumptions: The UK Cable Protection Committee (UKCPC) has provided an estimate of additional costs to an operator of assessing the impacts of a future cable installation on broad-scale habitats protected by an MCZ of £0.010m and this has been updated to 2013 prices by the GDP deflator (still £0.010m with rounding). Costs are assumed to occur for cables that cross an MCZ within 12nm but not those that are wholly beyond 12nm as they do not require a licence or EIA. As it is not known where or when new telecoms and interconnector cables will occur regional rather than site specific estimates are provided. The best estimate assumes 4 cables every 5 years in total from each of the 99 inshore sites originally recommended (i.e. 16 across all regions over the 20 year IA period) and this is scaled down by 18.2% for the 2<sup>nd</sup> tranche for the 18 inshore sites being recommended i.e. 18/99 = 18.2%. So £0.010m x 4 x 18.2% = £0.007m every 5 years.

Cables : Low Cost Estimate																						
Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total (£m)	Annual Average (£m)
Licence costs for 18 tranche 2 sites within 12nm (£m)	0.000	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.004	0.015	0.001
<b>Total (£m)</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.004</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.004</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.004</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.004</b>	<b>0.015</b>	<b>0.001</b>
<b>Present Value Costs (£m)</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.003</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.003</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.002</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.002</b>	<b>0.010</b>	<b>0.001</b>

Assumptions: Unit cost assumptions and scaling as for best estimate described above. The low cost estimate assumes 2 cables every 5 years will affect an MCZ within 12nm (i.e. 8 across all regions over the 20 year IA period) scaled down by 18.2% for the 2<sup>nd</sup> tranche i.e. 18/99 = 18.2%. So £0.010m x 2 x 18.2% = £0.004m every 5 years.

Cables : High Cost Estimate																						
Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total (£m)	Annual Average (£m)
Licence costs for 18 tranche 2 sites within 12nm (£m)	0.000	0.000	0.000	0.000	0.011	0.000	0.000	0.000	0.000	0.011	0.000	0.000	0.000	0.000	0.011	0.000	0.000	0.000	0.000	0.011	0.045	0.002
<b>Total (£m)</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.011</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.011</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.011</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.011</b>	<b>0.045</b>	<b>0.002</b>
<b>Present Value Costs (£m)</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.010</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.008</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.007</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.006</b>	<b>0.031</b>	<b>0.002</b>

Assumptions: Unit cost assumptions and scaling as for best estimate described above. The high cost estimate assumes 6 cables every 5 years will affect an MCZ within 12nm (i.e. 24 across all regions over the 20 year IA period) scaled down by 18.2% for tranche 2 i.e. 18/99 = 18.2%. So £0.010m x 6 x 18.2% = £0.011m every 5 years.

## Commercial Fisheries (UK)

Commercial Fisheries (UK): Best Estimate																						
Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total (£m)	Annual Average (£m)
Gross value added lost (£m)	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.706	0.035
<b>Total (£m)</b>	<b>0.035</b>	<b>0.035</b>	<b>0.035</b>	<b>0.035</b>	<b>0.035</b>	<b>0.035</b>	<b>0.035</b>	<b>0.035</b>	<b>0.035</b>	<b>0.035</b>	<b>0.035</b>	<b>0.035</b>	<b>0.035</b>	<b>0.035</b>	<b>0.035</b>	<b>0.035</b>	<b>0.035</b>	<b>0.035</b>	<b>0.035</b>	<b>0.035</b>	<b>0.706</b>	<b>0.035</b>
<b>Present Value Costs (£m)</b>	<b>0.035</b>	<b>0.034</b>	<b>0.033</b>	<b>0.032</b>	<b>0.031</b>	<b>0.030</b>	<b>0.029</b>	<b>0.028</b>	<b>0.027</b>	<b>0.026</b>	<b>0.025</b>	<b>0.024</b>	<b>0.023</b>	<b>0.023</b>	<b>0.022</b>	<b>0.021</b>	<b>0.020</b>	<b>0.020</b>	<b>0.019</b>	<b>0.018</b>	<b>0.519</b>	<b>0.026</b>

Assumptions: Costs arise when management of some fishing activities change due to the designation of an MCZ relative to baseline management. Gear types affected and management required are specific to the site and the feature which the MCZ is designated to protect. For example, if a feature is sensitive to static gears, such as pots and trapping, then the management scenario is likely require restriction to the particular gear implying landings from the gear will be affected. The scenarios of management are site specific (provided in Annex A) and are based on the sensitivity of features to different gear types and when a site has a 'maintain' or 'recover' General Management Approach (GMA) as discussed in the main body of the IA. Actual management chosen is a regulator decision (MMO and IFCA) and this IA contains a range of illustrative examples for each site. Although costs are calculated on the basis of year of designation (2015), in reality regulators could take up to 2 years to impose management measures as any bye-law must go through due process and may have its own impact assessment. However, as it is not known in which year measures will be in place for a particular site, costs are conservatively calculated from a 2015 basis leading to a potential overestimate.

Assumptions: Estimates of the value of landings taken from each MCZ by the UK fleet between 2010 and 2012 were generated using IFCA sightings data for the under 10m fleet and satellite VMS data for the over 10m fleet. It provides information on the spatial distribution of the value of landings by broad-scale gear types 'static' and 'mobile'. For the purposes of the IA and in the absence of further information, it is assumed that mobile gears are bottom abrading (i.e. bottom trawls and dredges) which is likely to lead to an overestimate of costs on the sector since some will be midwater gears which are unlikely to be affected by management. Fishing revenues are converted into Gross Added Value (GVA) using average Seafish multipliers for each gear type 'mobile' and 'static'. This is based on 2010-2012 Seafish Fleet Economic Survey data on industry revenues and costs. GVA ratio is the percentage of revenue that constitutes GVA and for mobile it is assumed to be 37% and static 45%.

The best estimate is the 50th percentile, i.e. the mid-point of the range of management scenarios, for mobile gear types where they were considered equally likely to be imposed and the 25th percentile, i.e. at the lower end of the range of management scenarios, for static gear types where the high cost scenario is considered unlikely. The default of 75% displacement (and 25% loss in GVA) of fishing activity is based on low overlap of the MCZs with core fishing grounds for the best estimate. Fishing revenues for each site were sense checked with local IFCA and the MMO. Although this displacement assumption did not receive significant challenge for the first tranche IA and in pre-consultation for the second tranche, all assumptions will be tested at consultation and figures refined as necessary.

Commercial Fisheries (UK): Low Cost Estimate																						
Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total (£m)	Annual Average (£m)
Gross value added lost (£m)	0.000 <sup>1</sup>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000
Total (£m)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000
Present Value Costs (£m)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000

Assumptions: Low cost scenario is the lowest potential management scenario (detailed in Annex A for each site) and assumes 25% of gross value added affected by management is lost, as with the best estimate scenario. As the majority of low cost management scenarios for sites proposed for designation in the 2nd tranche are 'no additional management' actual GVA assumed lost per year is low (£292).

Commercial Fisheries(UK): High Cost Estimate																						
Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total (£m)	Annual Average (£m)
Gross value added lost (£m)	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	7.073	0.354
Total (£m)	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	0.354	7.073	0.354
Present Value Costs (£m)	0.354	0.342	0.330	0.319	0.308	0.298	0.288	0.278	0.269	0.259	0.251	0.242	0.234	0.226	0.218	0.211	0.204	0.197	0.190	0.184	5.202	0.260

Assumptions: High cost scenario is the highest potential management scenario (detailed in Annex A for each site) and assumes no displacement of fishing to other areas, i.e. 100% of overlapping fishing GVA is lost.

<sup>1</sup> Note: there is a small estimated cost of £292 GVA lost per year under the low cost scenario which does not show in rounding.

## Oil and Gas and Carbon Capture and Storage

Oil and Gas and CCS: Best Estimate																						
Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total (£m)	Annual Average (£m)
Additional costs to future applications in Licensed 26 <sup>th</sup> Round Blocks (£m)	0.149	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.513	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.662	0.033
Additional costs to future CCS apps. (£m)	0.000	0.000	0.000	0.027	0.000	0.000	0.000	0.027	0.000	0.000	0.000	0.027	0.000	0.000	0.000	0.027	0.000	0.000	0.000	0.000	0.107	0.005
Additional cost to decommissioning licences (£m)	0.000	0.000	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.006	0.025	0.001
Additional costs to future applications in Licensed 27 <sup>th</sup> and 28 <sup>th</sup> Round Blocks (£m)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.193	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.193	0.010
<b>Total (£m)</b>	<b>0.149</b>	<b>0.000</b>	<b>0.000</b>	<b>0.027</b>	<b>0.006</b>	<b>0.000</b>	<b>0.000</b>	<b>0.027</b>	<b>0.000</b>	<b>0.712</b>	<b>0.000</b>	<b>0.027</b>	<b>0.000</b>	<b>0.000</b>	<b>0.006</b>	<b>0.027</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.006</b>	<b>0.986</b>	<b>0.049</b>
<b>Present Value Costs (£m)</b>	<b>0.149</b>	<b>0.000</b>	<b>0.000</b>	<b>0.024</b>	<b>0.005</b>	<b>0.000</b>	<b>0.000</b>	<b>0.021</b>	<b>0.000</b>	<b>0.523</b>	<b>0.000</b>	<b>0.018</b>	<b>0.000</b>	<b>0.000</b>	<b>0.004</b>	<b>0.016</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.003</b>	<b>0.763</b>	<b>0.038</b>

Assumptions: All costs to this sector are based on additional costs for appropriate assessment of activities for considering effects on the conservation objectives of broad scale habitats. There are 8 phases during application process (1. survey, 2. drilling exploration, 3. actual drilling, 4. development, 5. operation, 6. maintenance, 7. decommission and 8. post closure monitoring). Industry representatives estimated additional costs to account for MCZs in each phase which has been uprated to 2013 prices using the GDP deflator. For phase 1, 6 and 7 the costs are £0.002m each (uprated 2013 price); for phases 2, 3 and 4 this increases to £0.004m each; for phase 5 this is £0.021m. Phase 8 costs are not expected to take place within the 20yr IA period and so are not included in calculations. Costs were calculated based on phases of the application process. For example, It is assumed 50 percent future applications in licensed 26th Round Blocks (incl. Appropriate Assessment) with discovery or fallow will complete phases 2 & 3 within the 20yr IA period. The rest of the 50 percent will complete will complete phases 2, 3, 4 & 5 within the 20yr IA period. The methodology developed for this IA<sup>3</sup> was done in consultation with industry and a pre-consultation meeting in July 2014 with Oil and Gas UK raised no significant concerns with the 2<sup>nd</sup> tranche and DECC (pers. comm. 2014) confirmed that this is still the most appropriate approach to take in the IA.

For the 26<sup>th</sup> round it is assumed that 50% of applicants for blocks awarded in the 26<sup>th</sup> round with discovery or fallow will complete phase 3 (£0.004m per application), 50% will complete phases 3, 4 and 5 (£0.004m x 2 + £0.021m = £0.029m per application) and for blocks awarded in the 26<sup>th</sup> round without discovery or fallow will complete phases 2 and 3 (£0.004m x 2 = £0.008m per application). The estimated number of oil and gas

<sup>3</sup> <http://publications.naturalengland.org.uk/publication/1940011>

applications in licenced 26<sup>th</sup> round blocks with discovery or fallow that are awarded is 1 in 2015. Therefore the relevant calculation is  $(£0.004m \times 1 \times 50\%) + (£0.029m \times 1 \times 50\%) = £0.016m$  in 2015. The estimated number of oil and gas applications in licenced 26<sup>th</sup> round blocks without discovery or fallow that are awarded is 130 in 2015. Therefore the relevant calculation is  $(£0.008m \times 130) = £1.066m^4$  in 2015. This is scaled down to  $7/51 = 13.7\%$  as 7 of the 51 sites which are the nearest environmentally sensitive area to blocks on offer as part of the 26<sup>th</sup> round are proposed for designation as part of second tranche. This results in costs of  $£0.016 + £1.066 = £1.082m \times 13.7\% = £0.149m$  in 2015.

For the 26<sup>th</sup> round it is assumed that 50% of applicants for blocks not awarded in the 26<sup>th</sup> round with discovery or fallow will complete phases 2 & 3 ( $£0.004m \times 2 = £0.008m$  per application), 50% will complete phases 2, 3, 4 and 5 ( $£0.004m \times 3 + £0.021m = £0.033m$  per application) and for blocks not awarded in the 26<sup>th</sup> round without discovery or fallow will complete phases 1, 2 and 3 ( $£0.002m + £0.004m \times 2 = £0.010m$  per application). The estimated number of oil and gas applications in licenced 26<sup>th</sup> round blocks with discovery or fallow that are awarded is 54 in 2024. Therefore the relevant calculation is  $(£0.008m \times 54 \times 50\%) + (£0.033m \times 54 \times 50\%) = £1.107m$  in 2024. The estimated number of oil and gas applications in licenced 26<sup>th</sup> round blocks without discovery or fallow that are not awarded is 257 in 2024. Therefore the relevant calculation is  $(£0.010m \times 257) = £2.635m^5$  in 2024. This is scaled down to 13.7% and results in costs of  $£1.107 + £2.635 = £3.742m \times 13.7\% = £0.514m$  in 2024.

For decommissioning, it is assumed that 50% of 175 fields currently in production will incur additional assessment costs in the 20 year IA period and applicants will complete phase 7 at a cost of  $£0.002m$  per application. It is assumed that  $175 \times 50\% / 4 = 22$  decommissions take place every 5 years occurring the in 2019, 2024, 2029 and 2034. This results in  $22 \times £0.002m = £0.045m$  in each of those years. This is scaled down to 13.7% resulting in costs of  $£0.006m$  in 2019, 2024, 2029 and 2034. For carbon capture and storage, it is assumed that applicants will complete phases 1 – 7 in the 20 year IA period resulting in costs of  $£0.002m \times 3 + £0.004m \times 3 + £0.021 = £0.039m$  per application. It is assumed that there will be 20 CCS applications over the 20 year IA period with 5 in 2018, 5 in 2022, 5 in 2026 and 5 in 2030 resulting in costs of  $£0.195m$  in each of those years. This is scaled down to 13.7% as with the 26<sup>th</sup> round resulting in costs of  $£0.195m \times 13.7\% = £0.027m$  in 2018, 2022, 2026, and 2030.

In the 27<sup>th</sup> and 28<sup>th</sup> round it is assumed that applicants will complete phases 1 – 3 in the 20 year IA period resulting in costs of  $£0.002m + £0.004m \times 2 = £0.010m$  per application. There are 123 27<sup>th</sup> round blocks on offer which give additional acreage compared to acreage in the 26<sup>th</sup> round resulting in costs of  $£0.010m \times 123 = £1.261m^6$  in 2024. This is scaled down to  $11/72 = 15.3\%$  as 11 of the 72 sites which are the nearest environmentally sensitive area to blocks on offer as part of the 27<sup>th</sup> round are proposed for designation as part of second tranche. The results in costs of  $£1.261m \times 15.3\% = £0.193m$  in 2024. There are 34 28<sup>th</sup> round blocks on offer which give additional acreage compared to acreage in the 26<sup>th</sup> round. However, the sites proposed for designation in the second tranche are not the nearest environmental sensitive area to blocks on offer in the 28<sup>th</sup> round and so there are no attributable costs to the second tranche.

---

<sup>4</sup> Cost per application is £8,202 resulting in a higher total when multiplied up.

<sup>5</sup> Cost per application is £10,252 resulting in a higher total when multiplied up.

<sup>6</sup> Cost per application is £10,252 resulting in a higher total when multiplied up.

Oil and Gas and CCS: Low Cost Estimate																						
Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total (£m)	Annual Average (£m)
Additional costs to future applications in Licensed 26 <sup>th</sup> Round Blocks (£m)	0.075	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.295	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.370	0.018
Additional costs to future CCS apps. (£m)	0.000	0.000	0.000	0.027	0.000	0.000	0.000	0.027	0.000	0.000	0.000	0.027	0.000	0.000	0.000	0.027	0.000	0.000	0.000	0.000	0.107	0.005
Additional cost to decommissioning licences (£m)	0.000	0.000	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.006	0.025	0.001
Additional costs to future applications in Licensed 27 <sup>th</sup> and 28 <sup>th</sup> Round Blocks (£m)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.193	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.193	0.010
<b>Total (£m)</b>	<b>0.075</b>	<b>0.000</b>	<b>0.000</b>	<b>0.027</b>	<b>0.006</b>	<b>0.000</b>	<b>0.000</b>	<b>0.027</b>	<b>0.000</b>	<b>0.494</b>	<b>0.000</b>	<b>0.027</b>	<b>0.000</b>	<b>0.000</b>	<b>0.006</b>	<b>0.027</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.006</b>	<b>0.694</b>	<b>0.035</b>
<b>Present Value Costs (£m)</b>	<b>0.075</b>	<b>0.000</b>	<b>0.000</b>	<b>0.024</b>	<b>0.005</b>	<b>0.000</b>	<b>0.000</b>	<b>0.021</b>	<b>0.000</b>	<b>0.362</b>	<b>0.000</b>	<b>0.018</b>	<b>0.000</b>	<b>0.000</b>	<b>0.004</b>	<b>0.016</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.003</b>	<b>0.529</b>	<b>0.026</b>
<p>Assumptions: Estimates related to decommissioning, CCS, 27<sup>th</sup> and 28<sup>th</sup> rounds are same as the best estimate. Only costs related to 26th round differ. All assumptions stay the same apart from the number of future licence applications in blocks in 26th round. The number of future licence applications in blocks in the 26th Round with a 'significant discovery' or 'fallow block with discovery' is 25% lower than for the best estimate resulting in <math>0.75 \text{ applications} \times \text{£}0.004\text{m} \times 50\% + (0.75 \times \text{£}0.029\text{m} \times 50\%) = \text{£}0.012\text{m}</math> in 2015 for awarded blocks and 50% less for the remaining awarded blocks without discovery resulting in <math>65 \text{ applications} \times \text{£}0.008\text{m} = \text{£}0.533\text{m}</math><sup>7</sup>. This totals <math>\text{£}0.012\text{m} + \text{£}0.533\text{m} = \text{£}0.545</math> scaled down to 13.7% for the second tranche = <math>\text{£}0.075\text{m}</math> in 2015. For those applications in the 26<sup>th</sup> block licenced with discovery or fallow but not awarded there are <math>(40.5 \text{ applications} \times \text{£}0.008\text{m} \times 50\%) + (40.5 \text{ applications} \times \text{£}0.033\text{m} \times 50\%) = \text{£}0.830\text{m}</math> in 2024. For those applications in the 26<sup>th</sup> block licenced without discovery or fallow but not awarded there are <math>128.5 \text{ applications} \times \text{£}0.010\text{m} = \text{£}1.317\text{m}</math><sup>8</sup> in 2024. This totals <math>\text{£}0.830\text{m} + \text{£}1.317 \times 13.7\% = \text{£}0.295\text{m}</math> in 2024 for the 2<sup>nd</sup> tranche.</p>																						

<sup>7</sup> Cost per application is £8,202 resulting in a higher total when multiplied up.

<sup>8</sup> Cost per application is £10,252 resulting in a higher total when multiplied up.



Oil and Gas and CCS: High Cost Estimate																							
Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total (£m)	Annual Average (£m)	
Additional costs to future applications in Licensed 26 <sup>th</sup> Round Blocks (£m)	0.222	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.732	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.955	0.048	
Additional costs to future CCS apps. (£m)	0.000	0.000	0.000	0.027	0.000	0.000	0.000	0.027	0.000	0.000	0.000	0.027	0.000	0.000	0.000	0.027	0.000	0.000	0.000	0.000	0.107	0.005	
Additional cost to decommissioning licences (£m)	0.000	0.000	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.006	0.025	0.001
Additional costs to future applications in Licensed 27 <sup>th</sup> and 28 <sup>th</sup> Round Blocks (£m)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.193	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.193	0.010	
<b>Total (£m)</b>	<b>0.222</b>	<b>0.000</b>	<b>0.000</b>	<b>0.027</b>	<b>0.006</b>	<b>0.000</b>	<b>0.000</b>	<b>0.027</b>	<b>0.000</b>	<b>0.931</b>	<b>0.000</b>	<b>0.027</b>	<b>0.000</b>	<b>0.000</b>	<b>0.006</b>	<b>0.027</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.006</b>	<b>1.279</b>	<b>0.064</b>	
<b>Present Value (£m)</b>	<b>0.222</b>	<b>0.000</b>	<b>0.000</b>	<b>0.024</b>	<b>0.005</b>	<b>0.000</b>	<b>0.000</b>	<b>0.021</b>	<b>0.000</b>	<b>0.683</b>	<b>0.000</b>	<b>0.018</b>	<b>0.000</b>	<b>0.000</b>	<b>0.004</b>	<b>0.016</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.003</b>	<b>0.997</b>	<b>0.050</b>	
<p>Assumptions: Estimates related to decommissioning, CCS, 27<sup>th</sup> and 28<sup>th</sup> rounds are same as the best estimate. Only costs related to 26th round differ. All assumptions stay the same apart from the number of future licence applications in blocks in 26th round. The number of future licence applications in blocks in the 26th Round with a 'significant discovery' or 'fallow block with discovery' is 25% higher than for the best estimate resulting in 1.25 applications x £0.004m x 50%) + (1.25 x £0.029m x 50%) = £0.021m in 2015 for awarded blocks and 50% higher for the remaining awarded blocks without discovery resulting in 195 applications x £0.008m = 1.599m<sup>9</sup>. This totals £0.021m + £1.599m =£1.620 scaled down to 13.7% for the second tranche = £0.222m in 2015. For those applications in the 26<sup>th</sup> block licenced with discovery or fallow but not awarded there are (67.5 applications x £0.008m x 50%) + (67.5 applications x £0.033m x 50%) = £1.384m in 2024. For those applications in the 26<sup>th</sup> block licenced without discovery or fallow but not awarded there are 385.5 applications x £0.010m = £3.952m<sup>10</sup> in 2024. This totals £1.384 + £3.952m x 13.7% = 0.731m in 2024 for the second tranche.</p>																							

<sup>9</sup> Cost per application is £8,202 resulting in a higher total when multiplied up.

<sup>10</sup> Cost per application is £10,252 resulting in a higher total when multiplied up.

## Ports and Harbours

Ports and Harbours: Best Estimate																						
Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total (£m)	Annual Average (£m)
One off Transitional costs to ports with a MDP (£m)	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.040	0.002
Navigational Dredging Licence Application Costs (£m)	0.025	0.000	0.007	0.025	0.000	0.007	0.025	0.000	0.007	0.025	0.000	0.007	0.025	0.000	0.007	0.025	0.000	0.007	0.025	0.000	0.216	0.011
Port Development Additional Licence Application Costs (£m)	0.043	0.043	0.043	0.043	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.828	0.041
Disposal at sea additional Licence Application Costs (£m)	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	1.378	0.069
<b>Total (£m)</b>	<b>0.177</b>	<b>0.111</b>	<b>0.118</b>	<b>0.137</b>	<b>0.110</b>	<b>0.117</b>	<b>0.135</b>	<b>0.110</b>	<b>0.117</b>	<b>0.135</b>	<b>0.110</b>	<b>0.117</b>	<b>0.135</b>	<b>0.110</b>	<b>0.117</b>	<b>0.135</b>	<b>0.110</b>	<b>0.117</b>	<b>0.135</b>	<b>0.110</b>	<b>2.462</b>	<b>0.123</b>
<b>Present Value Costs (£m)</b>	<b>0.177</b>	<b>0.108</b>	<b>0.110</b>	<b>0.123</b>	<b>0.096</b>	<b>0.098</b>	<b>0.110</b>	<b>0.086</b>	<b>0.089</b>	<b>0.099</b>	<b>0.078</b>	<b>0.080</b>	<b>0.089</b>	<b>0.070</b>	<b>0.072</b>	<b>0.081</b>	<b>0.063</b>	<b>0.065</b>	<b>0.073</b>	<b>0.057</b>	<b>1.825</b>	<b>0.091</b>

Assumptions: Additional costs will be incurred for future licence applications for navigational dredging areas, disposal sites and port developments within 5km of an MCZ.

There is a one off transitional cost in 2015 for ports that have a maintenance dredge protocol (MDP) for navigational dredging of £0.040m which is based on the midpoint of Option A, where it is assumed that approximately 30% of ports within 5km (2 ports) have a cost of £0.009m = £0.020m with rounding, and Option B, where it is assumed that approximately 55% of ports within 5km (7 ports) have a cost of £0.009m = £0.061m with rounding. So  $(£0.020 + £0.061) / 2 = £0.040m$  in 2015. In addition, there is a cost of £0.007m per future licence application for those ports not covered by MDPs within 5km of MCZs and this applies to  $(70\% + 40\%) / 2 = 55\%$  of applications for the best estimate. It is assumed that a navigational dredge licence renews every 3 years and there are 9 navigational dredge licences at MCZs proposed for designation in the 2<sup>nd</sup> tranche. There are 7 every three years from 2015 onwards resulting in costs of 7 applications x £0.007m x 55% = £0.025m in those years and 2 every three years from 2017 onwards resulting in costs of 2 applications x £0.007m x 55% = £0.007m in those years.

Costs for port development additional licence application costs are £0.007m per application and one site proposed for designation in the 2<sup>nd</sup> tranche (Bideford to Foreland Point) is expected to incur these costs for 1 application in each of the years 2015, 2016, 2017 and 2018 i.e. a cost of £0.007m in those years. In addition, it is assumed that each region will have some form of development over the 20 year IA period and the number of developments assumed is based on MMO data on the number of licence applications received for port developments in each region over 2011 – 2013 and the assumption that 50% of ports will incur this cost resulting in 28 possible applications per year within 5km of an MCZ. This is scaled down in each region by the number of MCZs proposed for designation in the 2<sup>nd</sup> tranche: Net Gain = 8 applications x  $(6 \text{ sites} / 26 \text{ sites})$  x £0.007m = £0.013m; Finding

Sanctuary = 8 applications x (8 sites / 51 sites) x £0.007m = £0.005m; Irish Sea = 1 application x (2 sites / 19 sites) x £0.007m = £0.000m; and Balanced Seas = 15 applications x (7 sites / 31 sites) x £0.007m = £0.023m. £0.013m + £0.005m + £0.000m + £0.023m = £0.041m each year from 2019. In the years 2015 – 2018 the Finding Sanctuary cost is £0.007m for the development a Bideford to Foreland Point instead of £0.0005m to avoid double counting. This gives £0.007m + £0.013m + £0.000m + £0.023m = £0.043m in those years.

Costs for disposal site licence applications include £4,500 external costs (estimates from consultancy firms), plus £2,250 internal costs (industry estimates, including overheads) every 6 years when SNCBs update the detailed baseline for each site and £2,250 in the intervening years, as no new information is expected to be available and so costs of finding it and using it should be less as it can be recycled from previous applications (MMO, pers. comm. 2014). This results in an average of £0.003m per year (uprated 2013 price) over 6 years as it is not known in which year the detailed baseline will be updated for a particular MCZs. The number of licence applicants for disposal sites is based on the average annual number of licence applicants who have used sites in over ten years (2004 – 2013, Cefas, pers. comm, 2014, which varies from site to site). On average there are 22.4 applicants per year for disposal sites within 5km of MCZs recommended for designation as part of the 2<sup>nd</sup> tranche which results in costs of 22.4 x £0.003m = £0.069m per year.

For both ports scenarios, the mitigation of impacts on MCZ features that is likely to be needed has been identified on a site-by-site basis based on advice provided by Natural England, MMO, CEFAS and the Crown Estate (pers. comms. 2014) and through pre-consultation engagement with the ports sector including Associated British Ports in May 2014. It is assumed that no mitigation will be required for sites proposed for designation in the 2<sup>nd</sup> tranche but this assumption will be tested at consultation

Ports and Harbours: Low Estimate (Option B)																						
Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total (£m)	Annual Average (£m)
One off Transitional costs to ports with a MDP (£m)	0.061	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.061	0.003
Navigational Dredging Licence Application Costs (£m)	0.019	0.000	0.005	0.019	0.000	0.005	0.019	0.000	0.005	0.019	0.000	0.005	0.019	0.000	0.005	0.019	0.000	0.005	0.019	0.000	0.162	0.008
Port Development Additional Licence Application Costs (£m)	0.043	0.043	0.043	0.043	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.828	0.041
Disposal at sea additional Licence Application Costs (£m)	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	1.378	0.069
<b>Total (£m)</b>	<b>0.191</b>	<b>0.111</b>	<b>0.116</b>	<b>0.130</b>	<b>0.110</b>	<b>0.115</b>	<b>0.129</b>	<b>0.110</b>	<b>0.115</b>	<b>0.129</b>	<b>0.110</b>	<b>0.115</b>	<b>0.129</b>	<b>0.110</b>	<b>0.115</b>	<b>0.129</b>	<b>0.110</b>	<b>0.115</b>	<b>0.129</b>	<b>0.110</b>	<b>2.429</b>	<b>0.121</b>

<b>Present Value Costs (£m)</b>	<b>0.191</b>	<b>0.108</b>	<b>0.109</b>	<b>0.118</b>	<b>0.096</b>	<b>0.097</b>	<b>0.105</b>	<b>0.086</b>	<b>0.087</b>	<b>0.095</b>	<b>0.078</b>	<b>0.079</b>	<b>0.085</b>	<b>0.070</b>	<b>0.071</b>	<b>0.077</b>	<b>0.063</b>	<b>0.064</b>	<b>0.069</b>	<b>0.057</b>	<b>1.805</b>	<b>0.090</b>
<p>Assumptions: Port development application costs and disposal licence application costs as best estimate. There is a one off transitional cost in 2015 for ports that have a maintenance dredge protocol (MDP) for navigational dredging where it is assumed that approximately 60% of ports within 5km (7 ports) have a cost of £0.009m = £0.061m with rounding<sup>11</sup>. In addition, there is a cost of £0.007m per future licence application for those ports not covered by MDPs within 5km of MCZs and this applies to approximately 40% of applications. It is assumed that a navigational dredge licence renews every 3 years and there are 9 navigational dredge licences at MCZs proposed for designation in the 2<sup>nd</sup> tranche. There are 7 every three years from 2015 onwards resulting in costs of 7 applications x £0.007m x 40% = £0.019m in those years and 2 every three years from 2017 onwards resulting in costs of 2 applications x £0.007m x 40% = £0.005m in those years.</p>																						

<b>Ports and Harbours: High Estimate (Option A)</b>																							
<b>Year</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>2029</b>	<b>2030</b>	<b>2031</b>	<b>2032</b>	<b>2033</b>	<b>2034</b>	<b>Total (£m)</b>	<b>Annual Average (£m)</b>	
One off Transitional costs to ports with a MDP (£m)	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.001	
Navigational Dredging Licence Application Costs (£m)	0.031	0.000	0.009	0.031	0.000	0.009	0.031	0.000	0.009	0.031	0.000	0.009	0.031	0.000	0.009	0.031	0.000	0.009	0.031	0.000	0.270	0.013	
Port Development Additional Licence Application Costs (£m)	0.043	0.043	0.043	0.043	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.828	0.041
Disposal at sea additional Licence Application Costs (£m)	0.215	0.215	0.215	0.215	0.215	0.215	0.215	0.215	0.215	0.215	0.215	0.215	0.215	0.215	0.215	0.215	0.215	0.215	0.215	0.215	4.291	0.215	
<b>Total (£m)</b>	<b>0.308</b>	<b>0.257</b>	<b>0.266</b>	<b>0.288</b>	<b>0.256</b>	<b>0.264</b>	<b>0.287</b>	<b>0.256</b>	<b>0.264</b>	<b>0.287</b>	<b>0.256</b>	<b>0.264</b>	<b>0.287</b>	<b>0.256</b>	<b>0.264</b>	<b>0.287</b>	<b>0.256</b>	<b>0.264</b>	<b>0.287</b>	<b>0.256</b>	<b>5.408</b>	<b>0.270</b>	
<b>Present Value Costs (£m)</b>	<b>0.308</b>	<b>0.248</b>	<b>0.248</b>	<b>0.260</b>	<b>0.223</b>	<b>0.222</b>	<b>0.233</b>	<b>0.201</b>	<b>0.201</b>	<b>0.210</b>	<b>0.181</b>	<b>0.181</b>	<b>0.190</b>	<b>0.163</b>	<b>0.163</b>	<b>0.171</b>	<b>0.147</b>	<b>0.147</b>	<b>0.154</b>	<b>0.133</b>	<b>3.987</b>	<b>0.199</b>	

<sup>11</sup> The transitional cost for the low cost ports scenario is higher than for the high cost scenario is it associated with Maintenance Dredge Protocols which save businesses money over time.

Assumptions: Port development application costs as best estimate. There is a one off transitional cost in 2015 for ports that have a maintenance dredge protocol (MDP) for navigational dredging where it is assumed that approximately 30% of ports within 5km (2 ports) have costs of £0.009m = £0.020m with rounding. In addition, there is a cost of £0.007m per future licence application for those ports not covered by MDPs within 5km of MCZs and this applies to approximately 70% of applications. It is assumed that a navigational dredge licence renews every 3 years and there are 9 navigational dredge licences at MCZs proposed for designation in the 2<sup>nd</sup> tranche. There are 7 every three years from 2015 onwards resulting in costs of 7 applications x £0.007m x 70% = £0.031m with rounding in those years and 2 every three years from 2017 onwards resulting in costs of 2 applications x £0.007m x 70% = £0.009m in those years.

For disposal licence applications the assumed costs of £0.007m per application rather than applicant as a worst case scenario. The number of licence applications for disposal sites is based on the average annual number of licence applicants who have used sites in over ten years (2004 – 2013, Cefas, pers. comm, 2014, which varies from site to site). On average there are 31.0 applications per year for disposal sites within 5km of MCZs recommended for designation as part of the second tranche which results in costs of 31.0 x £0.007m = £0.215m per year with rounding.

## Renewable Energy

Renewable Energy: Best Estimate																						
Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total (£m)	Annual Average (£m)
Wave & Tidal Energy one-off costs (£m)	0.055	0.000	0.000	0.000	0.000	0.067	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.019	0.000	0.000	0.000	0.000	0.141	0.007
<b>Total costs (£m)</b>	<b>0.055</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.067</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.019</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.141</b>	<b>0.007</b>
<b>Present Value Costs (£m)</b>	<b>0.055</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.056</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.011</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.123</b>	<b>0.006</b>

Assumptions: Additional application costs for wind energy operators are only assumed to occur for yet-to-be consented developments via additional application costs and mitigation measures for cables that overlap with an MCZ. Pre-consultation engagement and information from MMO, Natural England and Crown Estate (pers. comms. 2014) indicates that no such developments overlap with sites proposed for the 2<sup>nd</sup> tranche of MCZs so there are no additional associated monetised costs. This assumption will be tested at consultation.

For wave and tidal energy, the additional one-off licence cost is estimated to be £0.013m per MCZ (uprated 2013 price) based on 8 developer estimates and £0.005m (uprated 2013 price) per MCZ broad scale habitat based on an estimate from Scottish Power (pers. comm. 2011). This is then weighted appropriately per site ((£0.005m x number of broad scale habitats proposed for designation + £0.013m x 8) / 9 developer estimates in total to get an average cost) leading to slightly different application costs per site depending on the number of broad scale habitats designated. It is assumed that for each of the sites within potential tidal and wave generation potential development areas there will be 1 licence application in the 20 year IA period. Bidford to Foreland Point MCZ GIS analysis shows the MCZ to overlap with the known 'Lynmouth Commercial Demonstration' tidal project (in development, at the pre-scoping consent stage) so this site has an additional application assumed for this. No developments are expected to face mitigation costs as a result of MCZs and there is no sensitivity analysis for wave and tidal developments. This assumption will be tested at consultation.

This results in 3 additional application costs in 2015 (£0.020m + £0.018m + £0.017m), 4 in 2020 (£0.015m + £0.013m + £0.020m + £0.019m) and 1 in 2030 (£0.019m) affecting 7 sites.

## Public Sector Costs

### Ecological Surveys, Verification and Monitoring

Ecological Surveys, Verification and Monitoring: Best Estimate and Low Cost Estimate																						
Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total (£m)	Annual Average (£m)
Total NE one-off costs (transitional baseline setting) (£m)	0.871	0.871	0.871	0.871	0.871	0.871	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.225	0.261
Total JNCC one-off costs (transitional baseline setting) (£m)	0.374	0.374	0.374	0.374	0.374	0.374	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.241	0.11205
Total NE one-off costs of monitoring (£m)	0.000	0.000	0.000	0.000	0.000	0.000	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767	0.767	10.733	0.537
Total JNCC one-off costs of monitoring (£m)	0.000	0.000	0.000	0.000	0.000	0.000	0.374	0.374	0.374	0.374	0.374	0.374	0.374	0.374	0.374	0.374	0.374	0.374	0.374	0.374	5.229	0.26145
<b>Total (£m)</b>	<b>1.244</b>	<b>1.244</b>	<b>1.244</b>	<b>1.244</b>	<b>1.244</b>	<b>1.244</b>	<b>1.140</b>	<b>1.140</b>	<b>1.140</b>	<b>1.140</b>	<b>1.140</b>	<b>1.140</b>	<b>1.140</b>	<b>1.140</b>	<b>1.140</b>	<b>1.140</b>	<b>1.140</b>	<b>1.140</b>	<b>1.140</b>	<b>1.140</b>	<b>23.428</b>	<b>1.171</b>
<b>Present Value Costs (£m)</b>	<b>1.244</b>	<b>1.202</b>	<b>1.162</b>	<b>1.122</b>	<b>1.084</b>	<b>1.048</b>	<b>0.928</b>	<b>0.896</b>	<b>0.866</b>	<b>0.837</b>	<b>0.808</b>	<b>0.781</b>	<b>0.755</b>	<b>0.729</b>	<b>0.704</b>	<b>0.681</b>	<b>0.658</b>	<b>0.635</b>	<b>0.614</b>	<b>0.593</b>	<b>17.346</b>	<b>0.867</b>
<p>Assumptions: Natural England provided assumptions for the monitoring of inshore sites (within 6nm) for the 1<sup>st</sup> tranche impact assessment and confirmed that those assumptions are still valid for the 2<sup>nd</sup> tranche impact assessment (NE, pers. comm. 2014). Costs are based on £0.050m per feature (broad-scale habitat / habitat of conservation interest only) to include 7 days of acoustic survey and grab and sample analysis in a vessel. For the best and low estimate this is assumed to be reduced to £0.025m per feature assuming 50% overlap with SACs / SPAs leading to less costs attributable to MCZs as costs for monitoring these would be incurred in the baseline. Reporting cycles for MCZs are every 6 years and it is not clear in which year the detailed baseline will be undertaken and subsequent reports. Therefore all estimates of costs are divided by 6 and baseline costs included in the first 6 years of the analysis. The calculation is £0.025m x 209 inshore habitat features (including 9 additional features in 1<sup>st</sup> tranche sites) / 6 = £0.871m baseline costs in the first 6 years, which is a transitional cost.</p>																						

For monitoring, which applies to the total number of features (irrespective of scientific confidence, whether habitat or species), the estimate per feature per site has been reduced to £40,000, by eliminating most of the acoustic survey costs which for many sites would only be required as part of the baseline survey. Cost per feature reduced by 50% assuming 50% of inshore MCZs will overlap with SAC/SPA and therefore incur a survey cost saving. The calculation is £0.020m x 230 inshore features (including 10 additional features in 1<sup>st</sup> tranche sites) / 6 = £0.767m monitoring costs on average per year after 6 years.

JNCC have provided costs on a site basis (pers. comm. 2014) based on the costs of using a boat and its crew, survey time, weather downtime and data analysis, interpretation and report production for the 2<sup>nd</sup> tranche sites. This equates to £2.241m in total for all 7 sites every 6 years. Therefore, this figure is divided by 6 to obtain an annual average cost to JNCC of £0.374m as it is not known in which year the baseline report and subsequent reporting will occur. The costs for the first 6 years for JNCC are also transitional as they are establishing the baseline. As overlap with SACs / SPAs is minimal there is no sensitivity range on costs to them.

These assumptions do not include further savings for economies of scale from surveying several sites in one trip or the potential for technological improvements to reduce costs over time.

#### Ecological Surveys, Verification and Monitoring: High Cost Estimate

Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total (£m)	Annual Average (£m)
Total NE one-off costs (transitional baseline setting) (£m)	1.742	1.742	1.742	1.742	1.742	1.742	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10.450	0.5225
Total JNCC one-off costs (transitional baseline setting) (£m)	0.374	0.374	0.374	0.374	0.374	0.374	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.241	0.11205
Total NE one-off costs of monitoring (£m)	0.000	0.000	0.000	0.000	0.000	0.000	1.533	1.533	1.533	1.533	1.533	1.533	1.533	1.533	1.533	1.533	1.533	1.533	1.533	1.533	21.467	1.073
Total JNCC one-off costs of monitoring (£m)	0.000	0.000	0.000	0.000	0.000	0.000	0.374	0.374	0.374	0.374	0.374	0.374	0.374	0.374	0.374	0.374	0.374	0.374	0.374	0.374	5.229	0.26145
<b>Total (£m)</b>	<b>2.115</b>	<b>2.115</b>	<b>2.115</b>	<b>2.115</b>	<b>2.115</b>	<b>2.115</b>	<b>1.907</b>	<b>1.907</b>	<b>1.907</b>	<b>1.907</b>	<b>1.907</b>	<b>1.907</b>	<b>1.907</b>	<b>1.907</b>	<b>1.907</b>	<b>1.907</b>	<b>1.907</b>	<b>1.907</b>	<b>1.907</b>	<b>1.907</b>	<b>39.387</b>	<b>1.969</b>
<b>Present Value Costs</b>	<b>2.115</b>	<b>2.044</b>	<b>1.975</b>	<b>1.908</b>	<b>1.843</b>	<b>1.781</b>	<b>1.551</b>	<b>1.499</b>	<b>1.448</b>	<b>1.399</b>	<b>1.352</b>	<b>1.306</b>	<b>1.262</b>	<b>1.219</b>	<b>1.178</b>	<b>1.138</b>	<b>1.100</b>	<b>1.062</b>	<b>1.027</b>	<b>0.992</b>	<b>29.198</b>	<b>1.460</b>

(£m)																						
<p>Assumptions: For Natural England costs are based on £0.050m per feature (broad-scale habitat / habitat of conservation interest only) to include 7 days of acoustic survey and grab and sample analysis in a vessel. The calculation is £0.050m x 209 inshore habitat features (including 9 additional features in 1<sup>st</sup> tranche sites) / 6 = £1.742m baseline costs in the first 6 years, which are transitional costs. For monitoring, which applies to the total number of features (irrespective of scientific confidence, whether habitat or species), the estimate per feature per site has been reduced to £40,000, by eliminating most of the acoustic survey costs which for many sites would only be required as part of the baseline survey. The calculation is £0.040m x 230 inshore features (including 10 additional features in 1<sup>st</sup> tranche sites) / 6 = £1.533m monitoring costs on average per year after 6 years.</p> <p>JNCC assumptions are as best and low estimate.</p>																						



## Management and Enforcement

Management and Enforcement: Best Estimate																						
Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total (£m)	Annual Average (£m)
IFCA Implementation Costs (Transitional) (£m)	0.082	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.082	0.004
IFCA enforcement of commercial fisheries management measure costs <6nm (£m)	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	1.992	0.100
Defra and MMO Implementation Costs (Transitional) (£m)	0.044	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.044	0.002
MMO enforcement of commercial fisheries >6nm and recreation management measure costs (£m)	0.645	0.645	0.645	0.645	0.645	0.645	0.645	0.645	0.645	0.645	0.645	0.645	0.645	0.645	0.645	0.645	0.645	0.645	0.645	0.645	12.898	0.645
<b>Total (£m)</b>	<b>0.871</b>	<b>0.744</b>	<b>0.744</b>	<b>0.744</b>	<b>0.744</b>	<b>0.744</b>	<b>0.744</b>	<b>0.744</b>	<b>0.744</b>	<b>0.744</b>	<b>0.744</b>	<b>0.744</b>	<b>0.744</b>	<b>0.744</b>	<b>0.744</b>	<b>0.744</b>	<b>0.744</b>	<b>0.744</b>	<b>0.744</b>	<b>0.744</b>	<b>15.016</b>	<b>0.751</b>
<b>Present Value Costs (£m)</b>	<b>0.871</b>	<b>0.719</b>	<b>0.695</b>	<b>0.671</b>	<b>0.649</b>	<b>0.627</b>	<b>0.606</b>	<b>0.585</b>	<b>0.565</b>	<b>0.546</b>	<b>0.528</b>	<b>0.510</b>	<b>0.493</b>	<b>0.476</b>	<b>0.460</b>	<b>0.444</b>	<b>0.429</b>	<b>0.415</b>	<b>0.401</b>	<b>0.387</b>	<b>11.078</b>	<b>0.554</b>

Assumptions: The best estimate is the mid-point between the low and high cost scenarios for management and enforcement of MCZs. See below for low and high specific assumptions.

Management and Enforcement: Low Cost Estimate																						
Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total (£m)	Annual Average (£m)
IFCA Implementation Costs (Transitional) (£m)	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.028	0.001
IFCA implementation + enforcement of commercial fisheries management measure costs <6nm (£m)	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	1.435	0.072
Defra and MMO Implementation Costs (Transitional) (£m)	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.040	0.002
MMO enforcement of commercial fisheries >6nm and recreation management measure costs (£m)	0.633	0.633	0.633	0.633	0.633	0.633	0.633	0.633	0.633	0.633	0.633	0.633	0.633	0.633	0.633	0.633	0.633	0.633	0.633	0.633	12.669	0.633
<b>Total (£m)</b>	<b>0.773</b>	<b>0.705</b>	<b>0.705</b>	<b>0.705</b>	<b>0.705</b>	<b>0.705</b>	<b>0.705</b>	<b>0.705</b>	<b>0.705</b>	<b>0.705</b>	<b>0.705</b>	<b>0.705</b>	<b>0.705</b>	<b>0.705</b>	<b>0.705</b>	<b>0.705</b>	<b>0.705</b>	<b>0.705</b>	<b>0.705</b>	<b>0.705</b>	<b>14.172</b>	<b>0.709</b>
<b>Present Value Costs (£m)</b>	<b>0.773</b>	<b>0.681</b>	<b>0.658</b>	<b>0.636</b>	<b>0.615</b>	<b>0.594</b>	<b>0.574</b>	<b>0.554</b>	<b>0.536</b>	<b>0.517</b>	<b>0.500</b>	<b>0.483</b>	<b>0.467</b>	<b>0.451</b>	<b>0.436</b>	<b>0.421</b>	<b>0.407</b>	<b>0.393</b>	<b>0.380</b>	<b>0.367</b>	<b>10.441</b>	<b>0.522</b>
<p>Assumptions: Costs to IFCA's have been supplied by each IFCA in different regions or average assumptions have been used where individual IFCA's have not supplied information (provided by MMO) for the Regional Projects and figures updated in the summer 2014 for the 2<sup>nd</sup> tranche inshore sites (within 6nm). For the low cost scenario IFCA implementation costs, which are transitional costs, amount to £0.028m in 2015 in total for all IFCA's which reflects the lowest possible management scenarios (detailed in annex A and mainly no additional management / voluntary agreements). Annual IFCA enforcement costs (mainly surveillance in as most sites are no additional mandatory management in the low scenario) are estimated at £0.072m over all IFCA's per year.</p> <p>Costs to MMO have been supplied on a site by site basis by the MMO based on assumed employee time taken and other overheads to implement, administer and enforce fisheries management measures in sites beyond 6nm and sites where recreational management is a possibility (applicable to 1 site, The Needles, in tranche 2) for the Regional Projects in 2011. These assumptions have been updated or validated as necessary to 2013 prices for the 2<sup>nd</sup> tranche sites (MMO, pers. comm. 2014). For the low cost scenario MMO implementation costs amount to £0.015m for implementing a voluntary agreement on anchoring and mooring at The Needles and Defra</p>																						

implementation costs are estimated to be £0.025m based on employee time and overheads to low scenario management measures which are transitional costs. MMO estimate enforcement costs of £0.381m per year for 9 sites (including The Needles) proposed for designation in the 2<sup>nd</sup> tranche with low scenario management measures that are the responsibility of the MMO (recreational management and fisheries beyond 6nm) and additional administration costs of £0.252m per year. Therefore MMO costs are £0.633m per year thereafter (£0.381m + £0.252m).

Management and Enforcement: High Cost Estimate																						
Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total (£m)	Annual Average (£m)
IFCA Implementation Costs (Transitional) (£m)	0.137	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.137	0.007
IFCA implementation + enforcement of commercial fisheries management measure costs <6nm (£m)	0.127	0.127	0.127	0.127	0.127	0.127	0.127	0.127	0.127	0.127	0.127	0.127	0.127	0.127	0.127	0.127	0.127	0.127	0.127	0.127	2.549	0.127
Defra and MMO Implementation Costs (Transitional) (£m)	0.049	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.049	0.002
MMO enforcement of commercial fisheries >6nm and recreation management measure costs (£m)	0.656	0.656	0.656	0.656	0.656	0.656	0.656	0.656	0.656	0.656	0.656	0.656	0.656	0.656	0.656	0.656	0.656	0.656	0.656	0.656	13.127	0.656
<b>Total (£m)</b>	<b>0.969</b>	<b>0.784</b>	<b>0.784</b>	<b>0.784</b>	<b>0.784</b>	<b>0.784</b>	<b>0.784</b>	<b>0.784</b>	<b>0.784</b>	<b>0.784</b>	<b>0.784</b>	<b>0.784</b>	<b>0.784</b>	<b>0.784</b>	<b>0.784</b>	<b>0.784</b>	<b>0.784</b>	<b>0.784</b>	<b>0.784</b>	<b>0.784</b>	<b>15.861</b>	<b>0.793</b>
<b>Present Value Costs (£m)</b>	<b>0.969</b>	<b>0.757</b>	<b>0.732</b>	<b>0.707</b>	<b>0.683</b>	<b>0.660</b>	<b>0.638</b>	<b>0.616</b>	<b>0.595</b>	<b>0.575</b>	<b>0.556</b>	<b>0.537</b>	<b>0.519</b>	<b>0.501</b>	<b>0.484</b>	<b>0.468</b>	<b>0.452</b>	<b>0.437</b>	<b>0.422</b>	<b>0.408</b>	<b>11.715</b>	<b>0.586</b>

Assumptions: Costs to IFCA have been supplied by each IFCA in different regions or average assumptions have been used where individual IFCA have not supplied information (provided by MMO) for the Regional Projects and figures updated in the summer 2014 for the 2<sup>nd</sup> tranche inshore sites (within 6nm). For the High cost scenario IFCA implementation costs, which are transitional costs, amount to £0.137m in 2015 in total for all IFCA which reflects the highest possible management scenarios (detailed in annex A and mainly mandatory bye-laws). Annual IFCA enforcement costs are estimated at £0.127m over all IFCA per year.

Costs to MMO have been supplied on a site by site basis by the MMO based on assumed employee time taken and other overheads to implement administer and enforce fisheries management measures in sites beyond 6nm and sites where recreational management is a possibility (applicable to 1 site, The Needles, in tranche 2) for the Regional Projects in 2011. These assumptions have been updated or validated as necessary to 2013 prices for tranche 2 sites (MMO, pers. comm. 2014). For the high cost scenario MMO implementation costs amount to £0.024m for implementing a bye-law on anchoring and mooring at The Needles and Defra implementation costs are estimated to be £0.025m based on employee time and overheads to low scenario management measures, which are transitional costs. MMO estimate enforcement costs of £0.404m per year for 9 sites (including The Needles) proposed for designation in the second tranche with high scenario management measures that are the responsibility of the MMO (recreational management and fisheries beyond 6nm) and additional administration costs of £0.252m per year. Therefore MMO costs are £0.656m per year thereafter (£0.404m + £0.252m).

## National Defence

National: Best Estimate (also low and high cost estimate as no sensitivity)																						
Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total (£m)	Annual Average (£m)
One-off transitional costs for adjustment of electronic tools and charts (£m)	0.006	0.002	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.001
Annual Costs for maintenance of electronic tools and charts and costs to mitigate impacts of activity (£m)	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.033	0.002
<b>Total (£m)</b>	<b>0.007</b>	<b>0.003</b>	<b>0.003</b>	<b>0.003</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>	<b>0.045</b>	<b>0.002</b>
<b>Present Value Costs (£m)</b>	<b>0.007</b>	<b>0.003</b>	<b>0.003</b>	<b>0.002</b>	<b>0.002</b>	<b>0.002</b>	<b>0.001</b>	<b>0.001</b>	<b>0.001</b>	<b>0.001</b>	<b>0.001</b>	<b>0.001</b>	<b>0.001</b>	<b>0.001</b>	<b>0.001</b>	<b>0.001</b>	<b>0.001</b>	<b>0.001</b>	<b>0.001</b>	<b>0.001</b>	<b>0.035</b>	<b>0.002</b>
Assumptions: The Ministry of Defence provided costs and assumptions for the impact of MCZs on national defence and this was updated in summer 2014 (MoD, pers. comm. 2014). They estimate that the cost of adjusting electronic tools and charts to take account of MCZs is £0.025m in 2015 based on officer time and overheads, which is a transitional cost in 2015. Annual costs are for maintenance of charts and mitigation of activities on MCZs which, based on officer time and technical inputs by UK Hydrographic Office, is estimated to be £0.015m in the first 4 years, which are transitional costs, and £0.010m per year thereafter. As it is not known where military activities will take place costs are estimated on a whole network basis. Costs have been scaled down by 18.1% for the number of sites in the second tranche (23/127).																						