

Vattenfall Wind Power Ltd

Thanet Extension Offshore Wind Farm

Appendix 16 to Deadline 7 Submission: Applicant's
position on Shipping and Navigation Future
Baseline

Relevant Examination Deadline: 7

Submitted by Vattenfall Wind Power Ltd

Date: June 2019

Revision A

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Date of Approval:	June 2019
Revision:	A

Revision A	Original Document submitted to the Examining Authority
N/A	
N/A	
N/A	

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Executive Summary

This document responds directly to a common theme emerging during the examination for the Thanet Extension Offshore Wind Farm project, the theme of future shipping and navigation baselines.

The document refers to Interested Party (IP) responses and available literature, including the MMO future trends analysis, which identify likely trends in shipping trade tonnage in a regional context within which the proposed Thanet Extension offshore wind farm is located.

The document provides summaries of IP responses and a contextual analysis of the MMO future analysis report before presenting an analysis of future growth in freight tonnage at a national, regional and local scale. Reference is also made to vessel arrivals at the Port of London (taken to be the relevant local scale).

The document demonstrates that whilst port traffic in terms of trade tonnage has varied over time, with data showing both increases and declines, which is assumed to be due to economic fluctuations, the overall trajectory is for a growth in tonnage.

The document demonstrates that the relationship between trade tonnage and vessel arrivals is not linear and any extrapolation between the two introduces a risk of conflating correlation with causation. The pattern for port traffic in terms of arrivals is less distinct than for tonnage, but an analysis of historical trends, spanning periods of both increased and decreased trade tonnage, indicates neutral growth of ship arrivals at the Port of London.

The document confirms that despite the apparent neutral growth in port traffic as measured by arrivals, and the supporting evidence to suggest that coastal freight routes such as the inshore route are projected to be reduced importance because of a general reduction in certain freight trade and a trend towards larger vessels, a future baseline of a 10% cross sectoral increase in traffic as presented in the Navigation Risk Assessment Addendum reflects both aspirational growth of the Ports and likely fluctuations in trade that may be realised as a result of macroeconomic influences including globalisation and the UK leaving the European Union, the latter of which may reduce certain trade routes in the short term.

1 Introduction

1.1 Background

- 1 During the examination for the proposed Thanet Extension Offshore Wind Farm (OWF) project a common theme emerging from Interested Party (IP) representations is the matter of the future baseline for the shipping and navigation assessment. The project wide Environmental Impact Assessment (EIA), and the Navigation Risk Assessment (NRA) that underpins the assessment of potential impacts on shipping and navigation receptors, has robustly assessed a future baseline that would result in increased vessel numbers. IPs, notably the Port of Tilbury and London Gateway (the ports) assert that an increase of 10% is not adequate when considered against the aspirational growth put forward by these individual ports, when considered in the context of a varied sectoral review of trade accessing the Thames Estuary and the Port of London. The Applicant has maintained that a 10% increase in vessel traffic adequately and appropriately provides for a cross sectoral future baseline that reflects regulator-lead future trend assessments undertaken for the purposes of marine spatial planning, based on historical trends in trade, trends in vessel arrivals, and likely macroeconomic fluctuations that may arise as a result of uncertainty in domestic trade and in overseas and domestic trade relationships.
- 2 This document seeks to address the assertions made by the ports through a full analysis of the likely future baseline for ship movements and traffic and the relationship between those and future projections for tonnage. Primary reference in this document is made to the 'major' Port of London as defined by the Department for Transport maritime statistics. This omits the Port of Medway, but for completeness long term arrivals at Medway are presented at Section 8 of this document. Given the apparent decline in vessel arrivals at Medway the Applicant has chosen to disaggregate data for this port and placed primary focus on the Port of London as this is considered to most accurately reflect IP concerns.

1.2 IP responses at Deadline 6

- 3 The following presents a signposting with summary of IP responses provided at Deadline 6. A full summary of all previous representations is not considered necessary, instead the Applicant provides a summary of the D6 representations made, with signposts to the relevant section of this document that addresses them.

- 4 A key theme emerging is the relationship between tonnage and arrivals. The ports' references to a linear relationship, whilst at a high level is a reasonable starting point, runs the risk of inappropriately deducing some level of causation exists that can be translated to a general ratio. Whilst there may be a relationship, a correction factor based on a limited dataset can only be considered a starting point and should not, without further evidence, be applied as a ratio or correction factor.

IP D6 response (stakeholder)	IP D6 response	Applicant response
<p>Port of Tilbury/London Gateway</p>	<p>It is noted that the MMO1127 document refers to annual growth. The compound effect of a 1% increase for 10 years followed by a 2% increase for 8 years is a total increase of 29.4% (noting this would only relate to the period from 2017 to 2036 whereas the 'Reasonable Planning Horizon' with regard to the TEOWF has been defined as to 2054 (i.e. 35 years from 2019)). If the lower figure of 1% per annum was applied to the period 2036 to 2054 then the total compound growth from 2017 to the end of the Reasonable Planning Horizon would equate to 54.8%.</p>	<p>The Applicant notes this response and concurs that the figures presented reflect the MMO's future trend analysis for tonnage. The Applicant highlights, however, that both the MMO analysis and the predictions made within the National Policy Statement (NPS) for Ports are based on a forecast made by the Department for Transport in 2006 that has since been superseded. Further detailed response is presented in Section 5</p>
	<p>It is accepted that these figures relate to growth in terms of freight tonnage as opposed to ship numbers. As indicated by POTLL and LGPL's Deadline 2 submission (Doc Ref: REP2-050) a 22.5% increase in freight tonnage between 2016 and 2018 equated to an increase in vessel numbers of 566 (from 3638 to 4204), equivalent to a 15.6% increase. Applying the same correlation to the 54.8% increase in freight tonnage figure would give rise to a 38% increase in ship numbers.</p>	<p>The Applicant agrees that the figures presented relate solely to freight tonnage, with no causal link made with vessel arrival numbers. The Applicant has provided further detail in Section 3, specifically reviewing the ports proposition that there is a linear correlation between tonnage and vessel arrivals.</p>
	<p>It is also noted that growth of shipping associated with the Thames Estuary is not occurring in a "usual business scenario" and that the significant displacement of trade from other UK ports towards Thames Estuary ports (a result of the significant additional and consented infrastructure along the Thames) is likely to result in</p>	<p>The Applicant notes the ports' aspiration to redistribute trade currently present at regional ports to London Gateway and Port of Tilbury. The Applicant considers that this should be placed in the context of the Port of London's reliance on European trade, and the uncertainty and likely decline in this that will result from the</p>

IP D6 response (stakeholder)	IP D6 response	Applicant response
	<p>increased growth from the level suggested in the MM01127 document.</p>	<p>UK exiting the European Union. The Applicant also notes that this should be further contextualised in the decline of coastwise freight transport and decline in the freight trade of several sectors. This context is as important, if not more so, than the ports' aspirational growth. Further detail on the routes and types of freight tonnage by port is presented in Section 3 and 4 of this report.</p>
	<p>Vessels travelling to/from the port of Felixstowe would not pass through the inshore channel and thus the Applicant's statement is somewhat misleading.</p> <p>It is noted that the Applicant has confirmed in its statement that there has been a decline in vessel calls to Felixstowe whilst overall ship calls have remained broadly level. It must therefore follow that there has been an overall increase in vessel calls to the Thames Estuary.</p>	<p>The Applicant has provided a response to this point in Appendix 2 of this Deadline 7 submission.</p> <p>With regards the increase in vessel calls however, the Applicant notes that the response it provided refers to Medway and Felixstowe. The ports' submission therefore seems to be somewhat selective and is not considered by the Applicant to be an accurate reflection of the its representation. made by the Applicant. Notwithstanding, this Section 5 of this document provides a detailed analysis of the long term patterns in vessel arrivals at the Port of London which demonstrates that the growth in vessel arrivals at Port of London is neutral, despite a growth in freight tonnage.</p>
	<p>The figure of 22.5% in the HR Wallingford report originates from data provided in the table on page 2 of</p>	<p>The Applicant agrees that the figures presented relate solely to freight tonnage, with no causal</p>

IP D6 response (stakeholder)	IP D6 response	Applicant response
	<p>the Deadline 2 submission of POTLL/LGPL (Document ref: REP2-050). This identifies an increase in total throughput at POTL and DPWLG from 19,276,273 tonnes (2016) to 23,614,378 tonnes (2018). The table also identified that such increase in throughput corresponded to an increase in vessel numbers from 3,638 to 4,204, an increase of 15.6%.</p>	<p>link made with vessel arrival numbers. The Applicant has provided further detail in Section 3, specifically reviewing the ports proposition that there is a linear correlation between tonnage and vessel arrivals.</p>
	<p>(a) The Ports do not accept that 10% is a robust assumption for growth of vessel numbers in the inshore route, or that Mr. Crockett conceded such during his verbal representations at ISH8. Mr. Crockett made the point that discussing aggregated growth is somewhat misleading as it is the growth in certain sectors (for example container traffic where growth is anticipated to be high) which will inform the quantum of economic impact. The reduction in sea room is likely to disproportionately affect larger vessels (noting, that the Applicant's pilot simulation study only considered vessels up to 240m). It is therefore relevant that, notwithstanding the Applicant's aggregate growth assumption of 10%, it is the Applicant's contention that there will be a trend towards larger vessels and thus the future baseline growth in vessels greater than 240m LOA is likely to be more significant. Growth in large vessel-orientated sectors such as container traffic therefore needs to be taken in to consideration and weighed appropriately when considering the economic impact of the proposals.</p>	<p>The Applicant notes that the ports contend their expert witness oral representation made at ISH8. It is the Applicant's understanding that this is a matter of audio recording, the signposting to which is provided in the Applicant's D6 submission.</p> <p>It is the Applicant's position that the 10% future baseline is appropriate and has provided a detailed analysis at Section 5 of this document reflecting the ports' assertion that a sectoral approach should be taken in defining the future baseline. The Applicant has identified within this report that several sectors and freight transport routes are anticipated to decline, but accepts that overall tonnage is (subject to economic drivers that are inherently uncertain) likely to increase. An increase in vessel traffic numbers is not however a corollary of this increase in tonnage.</p> <p>The Applicant would further note the necessary sea room for an increase in vessel size has been provided which allows for simultaneous passage</p>

IP D6 response (stakeholder)	IP D6 response	Applicant response
		<p>of four of the largest vessels to ever transit the inshore route; noting that this size (333m) vessel has made passage once in 21 months (when reference is made to the collated datasets provided by the Applicant and POTLL/LG). As such full consideration has been given for unitised freight trade such as container traffic.</p>
	<p>(d) It is difficult for the Ports to provide an empirical assessment of growth in overall traffic movements to and from the Ports of London and Sheerness as the data the Ports have available relates only to POTL/DPWLG. However, information submitted by the Ports in their Deadline 2 representations (REP2-050) identifies that a 22.5% growth in throughput between 2016 and 2018 equated to a 15.6% increase in vessel numbers. Such data represented a ratio of throughput growth against vessel number growth of 0.69. If such a ratio is applied to the predicted throughput growth identified within Table 3.2 of Appendix A of the Ports' Deadline 1 submissions (REP1-148,) (i.e. 285% and 265% respectively for the 20 year period to 2038 as set out in response to (b) above) this would result in a growth in vessel numbers of 197% and 183% respectively. This is considered to be a robust estimate given that the limitations of passages such as the Malacca Straits will limit the continued future growth in ship sizes.</p>	<p>It is the Applicant's position that the ports hypothesis that there is a linear relationship between vessel traffic (arrivals) and vessel freight (tonnage) is not supported by the long-term evidence and maritime statistics.</p>

	<p>In terms of growth in overall traffic movements to and from the Ports of London and Sheerness, the Applicant's Deadline 5 submission (Response to ExA Action points arising from Issue Specific Hearing 8) (REP5-012) refers to 'MMO1127: Futures analysis for the north east, north west, south east and south west marine plan areas' and notes that this suggests that an allowance be made for annual growth in terms of freight tonnage of 1% between 2017 and 2027 and 2% between 2028 and 2036 under the business as usual scenario for the South East region. Such growth rates would result in a compound growth of 29.4% between 2017 and 2036. Noting the EXA's definition of the reasonable planning horizon as 35 years from 2019, if a conservative approach was taken and the lower 1% annual growth figure was applied to the period 2036 to 2054 then the compound growth in freight tonnage would be 54.8% over the reasonable planning horizon. If the higher 2% figure was assumed for the period 2036 to 2054 then the growth would increase to 84.8%. Applying the freight/vessel number growth ratio of 0.69 discussed above this would result in growth of 37.8% to 54.5% in all vessel numbers over the reasonable planning horizon.</p> <p>It is also to be noted that in 2017 vessel movements to the Ports represented approximately 50% of all vessel movements to London Ports (3872 out of a total of 7800 vessel movements). With predicted growth in vessel movements to POTL/DPWLG of 197% and 183% respectively for the period 2018 to 2038 (as set out in</p>	<p>Whilst the Applicant recognises that there is a growth in throughput, drawing conclusions from a single year's data, and putting forward an indicative ratio of vessel numbers and freight tonnage is a gross simplification that is not recognised in the maritime statistics collated by the Department for Trade.</p> <p>The Applicant recognises that the ports have sought to present transparent analysis and welcome confirmation of the aspirations of the port to increase throughput in the period to 2038. The Applicant presents a statistically robust analysis of future baseline that is based on independent analysis of future trends, governmental maritime statistics, and marine regulator policy. The results of the analysis are that the proposed future baseline of an aggregate 10% increase in vessel traffic is appropriate and accounts for likely fluctuations at the macroeconomic scale and vessel trends. The Applicant has identified at ISH8 that whilst Port of London/Tilbury appear to be increasing in trade as defined by tonnage, other ports such as Medway appear to be decreasing in trade proportionally. This represents a redistribution of Thames bound trade vessels rather than a</p>
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IP D6 response (stakeholder)	IP D6 response	Applicant response
	<p>response to (d) above), for overall growth to be within the Applicant's overall 10% growth assumption, all other trade to London Ports would need to decline by 73%. A decline of 73% for all other London Ports is neither predicted nor evidenced in the Applicant's submissions or elsewhere.</p>	<p>definitive increase, as is reflected in Section 3 of this document.</p>
MCA	<p>In matters of commercial operations MCA defers to the local ports to help inform decisions regarding the safety of navigation at a local level. The MCA recognises that the sources of data the applicant has used may be appropriate on a national scale, however all offshore renewable energy projects are assessed on a case by case basis and the 10% figure is challenged by the local ports as an unrealistic figure.</p>	<p>This document has been drafted to respond specifically to queries raised by commercial operations at a local scale, through reference to national, regional and local statistics.</p>
PLA	<p>PLA/ ESL response: a) The 'All Trade' figures for 2018 (including intra-port information) indicate that there has been a slight downward trend in ship arrivals over 2018 in particular.</p> <p>However, the ships that have been coming into the Port are getting bigger and so there has not been a downward shift in tonnage etc. coming into the Port. In addition, data gathered by the PLA for the first 3 months of 2019 shows an 11% rise in the number of ships entering the Port, indicating an upward trend in vessel movements. ESL served 622 vessels over 199.9 loa in 2016 and 757 in 2018, an increase of approximately 21%.</p>	<p>The Applicant recognises the downward trend in ship arrivals and has provided a detailed analysis in this report identifying the downward trend to be broadly neutral in the long term.</p> <p>The Applicant notes that the PLA consider 2019 to have seen positive growth in comparison to 2018, and that ESL have serviced a greater number of larger vessels than was the case in 2018. The Applicant considers the trend towards larger vessels is accurate and can confirm that this document contextualises this in long-term records that indicate neutral growth of arrivals over a ten year period.</p>

IP D6 response (stakeholder)	IP D6 response	Applicant response
	<p>The PLA and ESL do not agree with the 10% increase in shipping/vessel growth for the TOW extension area and therefore do not agree that a pro-rata increase in risk of 10% is still applicable. The Tilbury 2 NRA was completed in 2017 and already in this year we have seen an upturn in trade, so these forecasts need updating.</p> <p>Given the complicated and varied nature of the traffic transiting and manoeuvring in the vicinity of the proposed Thanet Extended [<i>sic</i>] Offshore Windfarm, and that the proposed extension is in open waters rather than a river, it is not appropriate to draw a direct comparison with the Tilbury 2 development. Furthermore, the Tilbury2 risk assessment was for a specific part of the river and would not be affected by growth in some other areas such as London Gateway Port.</p>	<p>The Applicant considers the 10% future baseline to be robust and in line with future trends analyses undertaken by independent experts and is presented in government policy as reflected in the MMO future trends analysis. The analysis undertaken by the Applicant forms the basis for this report.</p>

IP D6 response (stakeholder)	IP D6 response	Applicant response
		<p>The Applicant would highlight that the comparison made with the Tilbury2 development is a reflection of benchmarking against other Thames Estuary developments to understand likely future baselines. The PLA's position that Tilbury2 did not consider other Thames based developments, such as London Gateway, seems at odds with the need to adequately consider cumulative effects that the project may have on the Thames as a whole, or the wider study area. The Tilbury2 project does consider other projects within 2km cumulatively, and states that the PLA have undertaken an estuary wide NRA to account for the complexity arising in the wider Thames Estuary as a result of the introduction of Tilbury2. This does not appear to be a matter of record for the Tilbury2 examination. Notwithstanding this observation, the Applicant considers the Thanet extension future baseline to appropriately account for developments in the Thames estuary, and the wider region when seen in the context current projections for trends in vessel sizes and freight tonnage.</p>

1.3 Document Structure

- 5 This document is structured to provide a comprehensive response to IP representations, but also aims to present analysis of available maritime statistics to identify a robust and evidence-based future baseline.
- 6 The document initially addresses commentary made on the MMO future analysis policy paper, before presenting a detailed analysis of Department for Trade statistical analyses, notably the 2019 DfT analysis (UK Port Freight Traffic 2019 Forecasts¹) which supersedes the 2006 MDS Transmodal study which underpinned the National Policy Statement for Ports².
- 7 The document is therefore structured in the following way:
- **Section 2** - Initial response regarding the use of MMO futures report
 - **Section 3** - Detailed arrivals and tonnage analysis – DfT
 - **Section 4** - DfT analysis of coastal traffic forecasts
 - **Section 5** - Overall DfT analysis sector by sector for overall growth over 50 years
 - **Section 6** - Conclusions

1

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/771852/port-freight-forecasts.pdf

2

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/3931/national-policy-statement-ports.pdf

2 Initial response regarding the use of MMO futures report

- 8 The Applicant notes that the ports have made specific representations with regards the use of the MMO Futures Analysis report. Noting in particular that the analysis suggests:

“that an allowance be made for annual growth in terms of freight tonnage of 1% between 2017 and 2027 and 2% between 2028 and 2036 under the business as usual scenario for the South East region. Such growth rates would result in a compound growth of 29.4% between 2017 and 2036. Noting the EXA’s definition of the reasonable planning horizon as 35 years from 2019, if a conservative approach was taken and the lower 1% annual growth figure was applied to the period 2036 to 2054 then the compound growth in freight tonnage would be 54.8% over the reasonable planning horizon. If the higher 2% figure was assumed for the period 2036 to 2054 then the growth would increase to 84.8%.”

- 9 The ports are correct to refer to the overall growth in tonnage anticipated in the marine futures document. It is important to note however that the marine futures report is underpinned by assumptions on growth in freight tonnage (not vessel arrivals). This is amongst a number of other assumptions as detailed in the relevant section of the MMO’s Futures Analysis report, taken from by DfT studies undertaken in 2016, which is itself underpinned by a 2006 forecast (as is the NPS policy statement).
- 10 The MMO report remains valid but for the matters of primary importance for the current project proposal reference should also be made to the DfT 2019 freight traffic forecasts study which supersedes the 2006 MDS Transmodal paper referenced in the MMO futures analysis and Ports NPS. Before identifying the key differentiators between the 2016 and 2019 studies in Section 5 of this document the following assumptions made in the MMO futures analysis report are of importance:

Assumption 1 - the Thanet Extension OWF is consented

- 11 This is clearly of importance, and the proposition detailed within the MMO futures analysis considers the early (larger) iteration of the project that extended towards the west (inshore channel) to a greater extent than the current and final project proposal. The Futures Analysis report clearly presumes the presence of the variant of the Thanet Extension project submitted for scoping. This has since been superseded by the RLB change made post-PEIR, and the introduction of the SEZ during examination.
- 12 Presumptions such as minor re-routing relate to this earlier, larger, variant of the Thanet Extension boundary and as such any rerouting predicted at that stage would now be reduced as a result of the reduced spatial extent of the project.

Assumption 2 - That shipping will increase, and the trend towards larger vessels will continue

- 13 This reflects the shared opinion of the Applicant's expert witnesses, and those of the ports, as well as the PLA representation made at Deadline 6, all of which identify that consideration should be given to the evidenced trend for larger vessels. The Applicant's view, which has been evidenced at various deadlines is that larger vessels will inherently take the already preferred route into London Ports, which is to the North, via SUNK. There will therefore be a limited increase in traffic within the nearshore route for larger vessels and the Applicant's suggested uplift of 10% of vessel transits (i.e. not freight tonnage) appropriately considers and provides for this trend.
- 14 The Applicant does not assume this trend will offset the increases across all sectors but notes that with regards cargo and containerised freight, the trend towards larger vessels is likely to be more pronounced, as reflected by other studies also presented within this report (Section 5).

Assumption 3 - That possible minor changes to shipping routes to accommodate offshore wind farms may be required

- 15 The Applicant's evidence, through reference to data and evidence provided by IPs is that any diversion will be minor when considered in the context of the routes many vessels take, and the passage planning that informs it. The Applicant's evidence also demonstrates that in excess of 90% of traffic will require no deviation at all. This is important in the context of MGN543 which requires precisely this figure to be accounted for. This therefore demonstrates compliance with MCA marine guidance and the MMO Futures Analysis marine spatial planning policy.

Assumption 4 - That the study considers increased freight (tonnage) at a regional scale

- 16 This is particularly important as the analysis includes approaches to Felixstowe and the port of Dover, both of which are anticipated to have significant growth but neither of which are influenced in any way by the proposed Thanet Extension project. Whilst the increase has been applied at a regional scale, this cannot then robustly be applied to an individual route, known to have a likely reduced importance for much of the larger vessel traffic anticipated by PoT and LG to service the ports, because the broad assumptions of increased ferry traffic and larger vessels will clearly not be uniform across the study area.
- 17 The MMO study also inherently includes vessels utilising the TSS to Europe and other ports such as Immingham and Grimsby. It does not therefore relate specifically to the inshore route, or the immediate study area which sought to disaggregate traffic between the area surrounding the OWF and the TSS.

Assumption 5 - That the primary driver for growth in the shipping/ ports sector is economic growth

- 18 As the global economy continues to grow, an increase in the import of goods will be tempered by a reduction in the import of raw materials and export of goods. This is particularly important when considered in the context of the underlying studies, namely that the DfT 2006 and MMO Future Trends studies anticipated a growth that was not realised (due to global decline), and crucially that the growth across sectors is highly variable, with several anticipated in the most recent study to decline. This sectoral variability has been captured and highlighted frequently by PoT/LG as being an important factor to account for, though all parties accept that it is also very difficult to robustly analyse and apply to a single route or area of general navigation.
- 19 Economic growth is inherently uncertain. The 2006 DfT study made a best case projection, and failed to forecast the 2008/09 global decline, and generally it is noted that growth has been markedly lower than anticipated with an overall decline of 13% recorded for the period 2004-15, compared to a forecast prediction of 12% growth for the same period; effectively resulting in a reduction in growth of 25% when compared to the prediction. The 2016 study did not identify the uncertainty and impacts associated with the UK leaving the European Union, and this is also true of the 2019 study which states explicitly that this is not factored in due to uncertainty.
- 20 It is important to recognise that the predictions about the future of a particular sector are framed assuming unconstrained growth, which can be interpreted as a best case scenario. Given the nature of the UK ports sector as a means of moving passengers and freight from land to sea, the sector is heavily reliant on the performance of other sectors of the economy, such as the steel industry and the construction sector. An important characteristic of these forecasts as identified above is that they consider an 'unconstrained demand' approach. That is, the forecasts do not take into consideration ports' existing or future capacity to handle freight. The DfT believes it is the responsibility of the ports sector to meet the changes in demand. They also do not take into account any future events that could limit capacity, for example any impact on ports of the UK's departure from the EU. In this context the 2016 and 2019 failure of British Steel has not been accounted for, and inherently the wider implications of the UK's departure from the EU have not been included within the forecast. The current study bases its assumptions on data up to and including 2016, which inherently means that the uncertainty over Brexit is a key, although entirely reasonable, omission that should be considered when seeking to understand likely growth for specific regional ports.

MMO Futures Analysis conclusion

- 21 It is not the Applicant's view that the above study is inadequate as a result of the assumptions and omissions of key economic growth factors such as Brexit; all such studies have an inherent uncertainty associated with them and the authors are entirely transparent in this. The Applicant maintains, however, that such factors must not be overlooked when considering the weight that can be placed on any forecast. The Applicant also considers it worthy of note that the Ports NPS was also underpinned by the 2006 study², which has been shown to have significantly over estimated the growth forecast.
- 22 It is reasonable, however, to consider these assumptions, together with the underlying analyses when projecting for a reasonable future baseline. It is also relevant to consider the above trends and assumptions when reviewing the relationship between an increase in freight tonnage and changes in vessel arrivals at regional ports.

3 Detailed arrivals and tonnage analysis – DfT

- 23 The following section provides further context in response to the IPs' observations of the MMO Futures analysis report, specifically with regards the ports proposition that a simple correlation identifying a ratio between increases in freight tonnage and port arrivals taken from a single year of data can be taken as indicative of a long term correlation. The section considers the appropriateness of the ports in deducing a cause-and-effect relationship between two variables solely on the basis of an observed association or correlation between them in a single discrete set of data.

3.2 Ratios of tonnage to vessels:

- 24 The IPs state, in relation to vessels accessing the port as a whole (and not in relation to the inshore route) that:

The Ports in their Deadline 2 representations (REP2-050) identifies that a 22.5% growth in throughput between 2016 and 2018 equated to a 15.6% increase in vessel numbers. Such data represented a ratio of throughput growth against vessel number growth of 0.69. If such a ratio is applied to the predicted throughput growth identified within Table 3.2 of Appendix A of the Ports' Deadline 1 submissions.

[If applied to the predicted compound growth in freight tonnage, of] 54.8% growth over the reasonable planning horizon. If the higher 2% figure was assumed for the period 2036 to 2054 then the growth would increase to 84.8%. Applying the freight/vessel number growth ratio of 0.69 discussed above this would result in growth of 37.8% to 54.5% in all vessel numbers over the reasonable planning horizon.

- 25 To consider this proposition the Applicant has reviewed long terms datasets, alongside other independent future trends analyses. The following sections present the analysis undertaken.

3.3 Increase in tonnage vs increase in vessel arrivals.

- 26 The Applicant has undertaken a further review of the Department for Transport (DfT) statistics through reference to the Maritime Statistics resources³. The Applicant has also considered a 2019 DfT study, which supersedes the previous 2006 study which underpinned the Ports NPS and MMO Futures Analysis, and the underlying statistics as recorded by the Maritime Statistics dept.

³ <https://www.gov.uk/government/statistical-data-sets/port-and-domestic-waterborne-freight-statistics-port>

- 27 The data indicate that cargo tonnage has increased over the period 2013 – 2017. This is supported by IPs. The data also show that arrivals at the Port of London have remained broadly static despite an increase in tonnage. A simple ratio of increase in tonnage applied to an increase in arrivals is therefore, whilst indicative of a correlation, is not a robust demonstration of causation.
- 28 The following provides an analysis of data (5 year and 9 year long term data) as provided by the Maritime statistics department, tabulated for Port of London statistics in particular. In addition to tabulated raw data and percentage growth, the data are presented as graphs for trend analysis. Each graph illustrates an appropriate trend line methodology. Unless otherwise stated the general approach adopted has been to present a polynomial trend line and R statistic. For ease of reference the Applicant considers a polynomial trendline to be appropriate as it provides a curved line that is useful when data fluctuates. It is useful, for example, for analysing gains and losses over a large data set and is considered appropriate for the analysis of economy lead statistics. The R statistic, or R-squared value, should be interpreted by considering that an R-squared value of 0.7 or better (i.e. closer to 1) demonstrates that the trend line has a good fit to data and in general the higher R-squared is the better it is (a value of 1 denoting 100% 'fit').
- 29 Whilst the Applicant appreciates that the Port of Tilbury and London Gateway statistics are presented clearly through reference to available data presented to the ExA, the lack of a clear correlation between tonnage and arrivals can be demonstrated through reference to the most recent 5 years of data presented by the DfT Maritime Statistics group for the Port of London. This dataset gives a clear presentation for the Port of London as a whole and is not therefore subject to commercial sensitivities and individual operator figures. The data shows for tonnage an increase over 5 years that is net 2.99% per year, noting year on year peaks and troughs that vary between a 1% decrease and a 10.9% increase. Table 1 and Figure 1 illustrate this growth.

Table 1 Port of London total freight (tonnage) (2013-17) (DfT source: port0499 UK major port traffic, port level downloadable dataset: 2000 – 2017 (London))

Year	Tonnage(thousands)	% increase (tonnage)
2013	43205	
2014	44489	2.97%
2015	45430	2.12%
2016	50380	10.9%
2017	49868	-1.02%
Sum	14.97%	
average	2.99%	

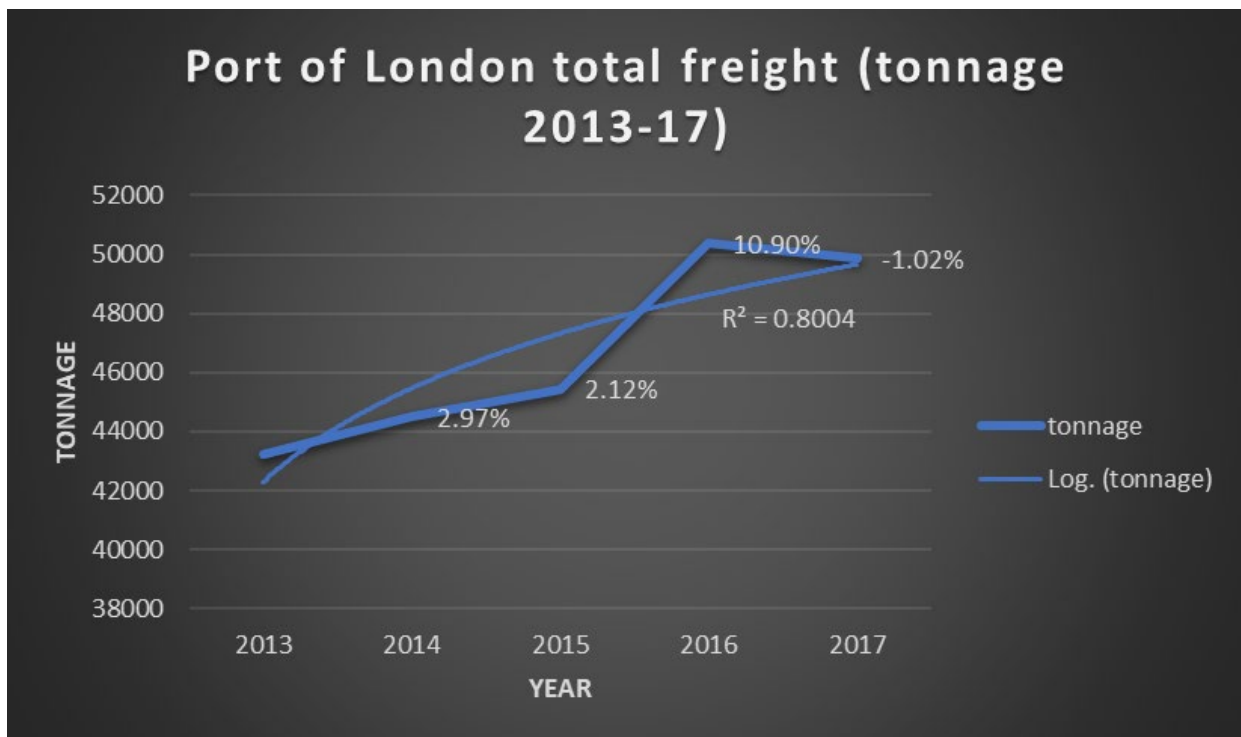


Figure 1 Port of London total freight (tonnage) (2013-17)

30 Over the longer terms, through reference to data from 2009 the growth in tonnage is notably more static, with a long broadly static growth preceding the 2008 decline. This is illustrated in Figure 2 (raw data presented in Section 7).

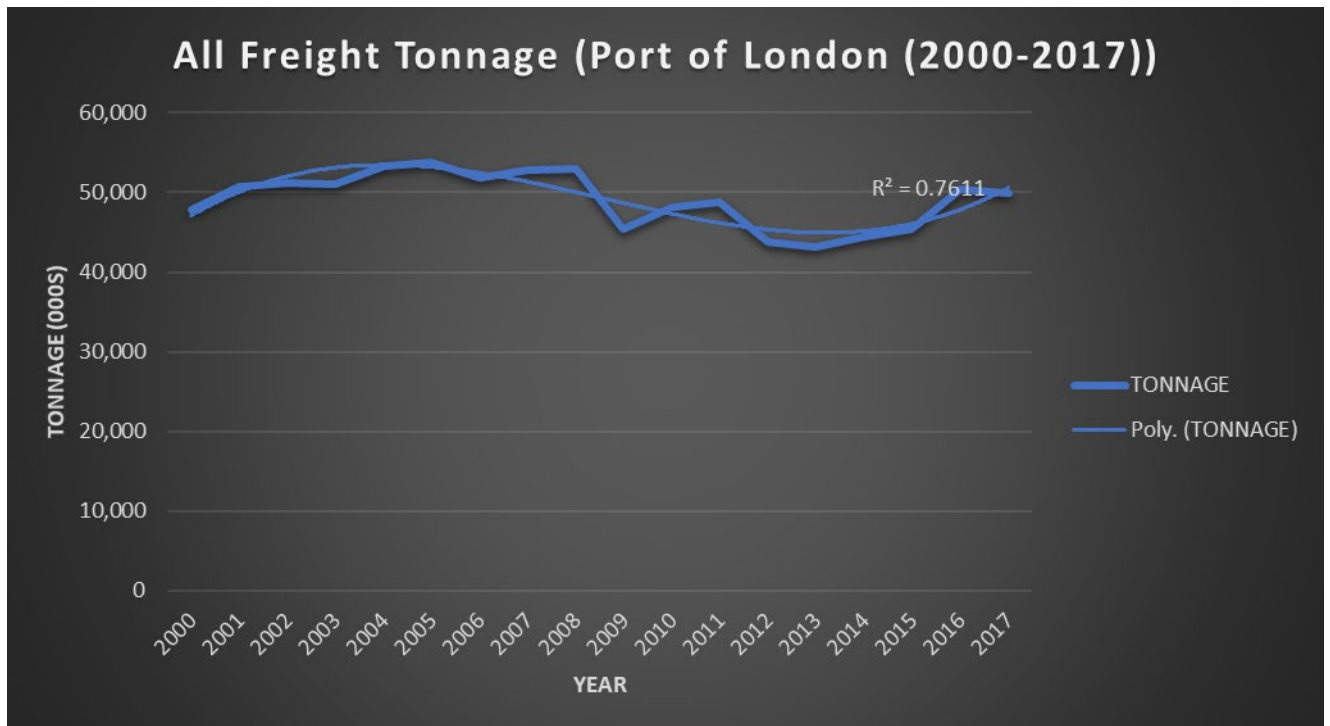


Figure 2 Long terms freight tonnage into London (2000-17)

- 31 By comparison vessel arrivals have not shown the same level of growth. As Table 2 demonstrates the year on year change as a sum is markedly negative (-4.42%; average -0.88%) when considered over the same 5 year timeline. The Applicant has therefore extended the analysis to 2009, to identify a growth rate that more closely reflects IP representations, although this still identified a notable negative rate of sum growth (-0.5%). The average growth is far closer to neutral however (-0.06%) and the Applicant considers that this neutral growth is a more likely scenario in terms of vessel arrivals, despite a growth in overall tonnage over the same period.
- 32 This clearly demonstrates that any proposed ratio that demonstrates a linear relationship between freight tonnage and arrivals is fundamentally flawed. Notwithstanding this the Applicant has sought to apply the historical trends to a longer term (20 year) future baseline scenario. For future trends beyond this 20 year period the Applicant presents independent studies in 5 of this document.
- 33 For future trends the Applicant has simply applied two methods of statistical trend analysis, regression and logarithmic. It should be noted that these are illustrative only, utilising similar forms of regression analysis to those utilised within the econometric analysis used in the 2019 DfT study for Lo-Lo and Ro-Ro vessels in particular.

- 34 When a simple regression is applied to the arrivals data (Figure 3), whilst tonnage increases there is a clear pattern that arrivals remain static, or statistically there is a linear regression relationship which indicates an overall decline. It should be noted that the R-statistic for the regression is not strong (0.42), and it is not anticipated that arrivals will decline significantly, but there is a clear pattern that indicates the growth in tonnage is not reflected in a proportionate growth in arrivals.
- 35 When a logarithmic⁴ analysis is applied and the associated trendline illustrated to provide an illustrative projection (Figure 4) it demonstrates that the trend is likely to remain static.

Table 2 Port of London arrivals data (2009-17) (Source: DfT 2018 Port 0601 'Total ship arrivals by deadweight and type')

Port 0601		
total ship arrivals by deadweight and type		
Year	Arrivals	Year on year percentage change
2009	9488	
2010	10210	7.61%
2011	10271	0.60%
2012	9830	-4.29%
2013	9935	1.07%
2014	9333	-6.06%
2015	8851	-5.16%
2016	9223	4.20%
2017	9364	1.53%
	Sum	-0.51%
	Average	-0.06%

⁴ The logarithmic trendline is considered appropriate due to the pattern in the data which has a rate of change that increases or decreases quickly and then stabilizes. In the context of this paper it is also considered important as it is a frequently used method of analysis for economic crises and growth.

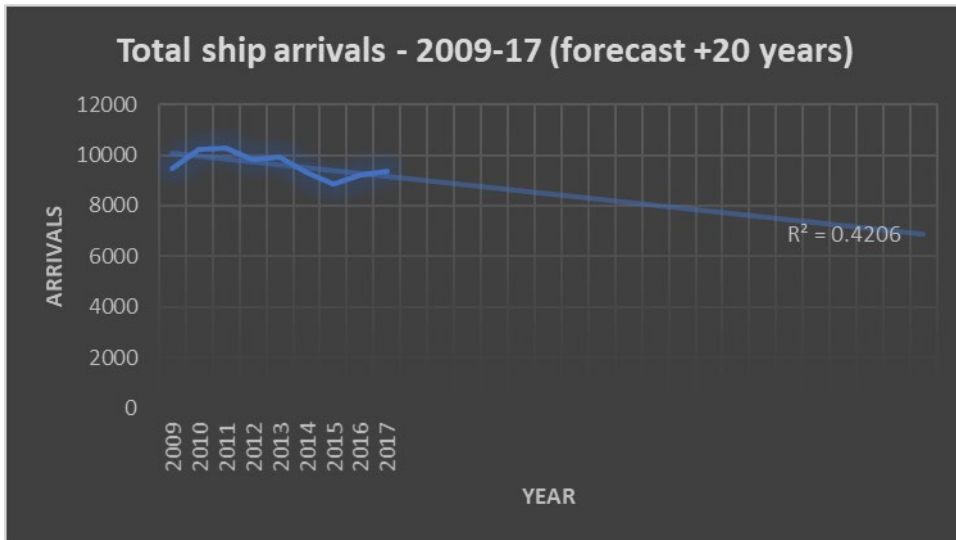


Figure 3 Total ship arrivals 2009-17 (+20 years forecast via regression analysis)

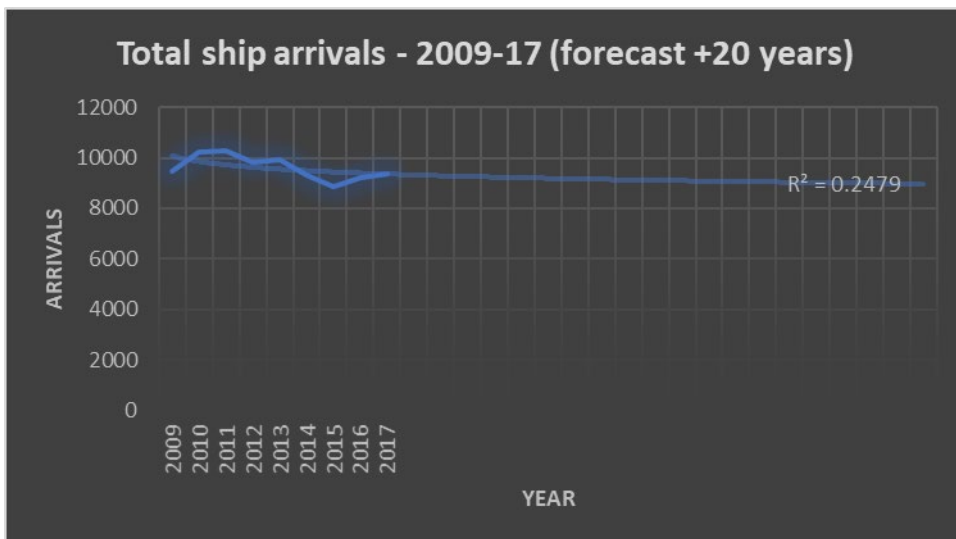


Figure 4 Total ship arrivals 2009-17 (+20 years forecast via power analysis)

- 36 This evidence of static or neutral growth in vessel numbers, during a period of increased tonnage, in the view of the Applicant is a reasonable basis from which to begin considering annual growth in vessel traffic in a precautionary manner, that is to say provide an assumption of annual growth that reflects port operator aspiration, rather than historical trends.
- 37 Before considering whether a 10% future baseline in vessel numbers is an appropriate reflection of likely trends in tonnage, and IP aspiration it is first necessary to consider trends relevant to domestic freight in coastwise routes such as the inshore route forming much of the discussion for Thanet Extension.

4 DfT analysis of coastwise traffic forecasts

- 38 The following sections draw on the 2019 Depart for Transport “UK Port Freight Traffic; 2019 Forecasts” publication and the supporting statistics published on the DfT website. The report presents forecasts for freight traffic at UK ports, covering the years 2017-2050. The primary purpose of the port traffic forecasts is identified as informing the “long term strategic thinking for the future direction of the UK ports sector”. The report confirms that it supersedes the previous set of forecasts that were produced by MDS Transmodal for DfT in May 2006, which underpinned the NPS for Ports and the MMO Future Trends analysis.
- 39 Specifically, with regards coastwise traffic⁵ and the request made by the ports to consider a sectoral analysis this section also draws on the DfT 2017 “UK Port Freight Statistics” Statistics Release. The report provides information on trends and patterns in the handling of freight traffic at UK sea ports in terms of cargo, as well as the route taken.
- 40 For UK major ports there is an overall downwards trend in traffic along coastwise routes: a total of 76.2 million tonnes of cargo were transported via coastwise routes, evenly split between inwards and outwards traffic. This figure is 7% smaller than in 2016.
- 41 Coastwise traffic is noted as making up the majority of domestic traffic. Overall coastwise traffic between UK ports has fallen to 69.5 million tonnes, down 12% from 2016. The largest contributor to the fall is liquid bulk movements; the amount of crude oil being transported coastwise fell 41% to 14.8 million tonnes. A similar pattern can be seen in the amount of coal transported, down 29% to 1.2 million tonnes, mirroring international trends in coal.
- 42 Domestic container services also saw a fall in traffic, with 585 thousand TEUs transported between UK major ports in 2017, 7% lower than in 2016. A total of 3.3 million domestic Roll-on/Roll-off (Ro-Ro) units passed through UK major ports, up 2% from 2016. Ro-Ro traffic has grown by 10% since 2013 where 3.0 million tonnes passed through UK major ports.
- 43 When considered in the round this represents a national aggregate growth of -7% for the year as noted in paragraph 40, or an average growth across the 5 sectors referenced in paragraphs 42 and 43 of -17.4%.

⁵ Traffic carried around the coast from one UK port to another.

44 In terms of the relevance for this domestic coast trend for Port of London ~20% (Figure 5) of trade vessel traffic during 2017 was domestic, this relating to potential inward or coastal transport. In the longer term domestic freight such as that shown in 2017 is broadly flat as can be seen in Figure 6, however as can be seen this is an erratic dataset with little clear in terms of trends. With regards coastwise freight in particular, and considering this as a relevant trend of importance for the inshore route, there is a far stronger, statistically significant, pattern of a notable decline in the period 2006-2017.

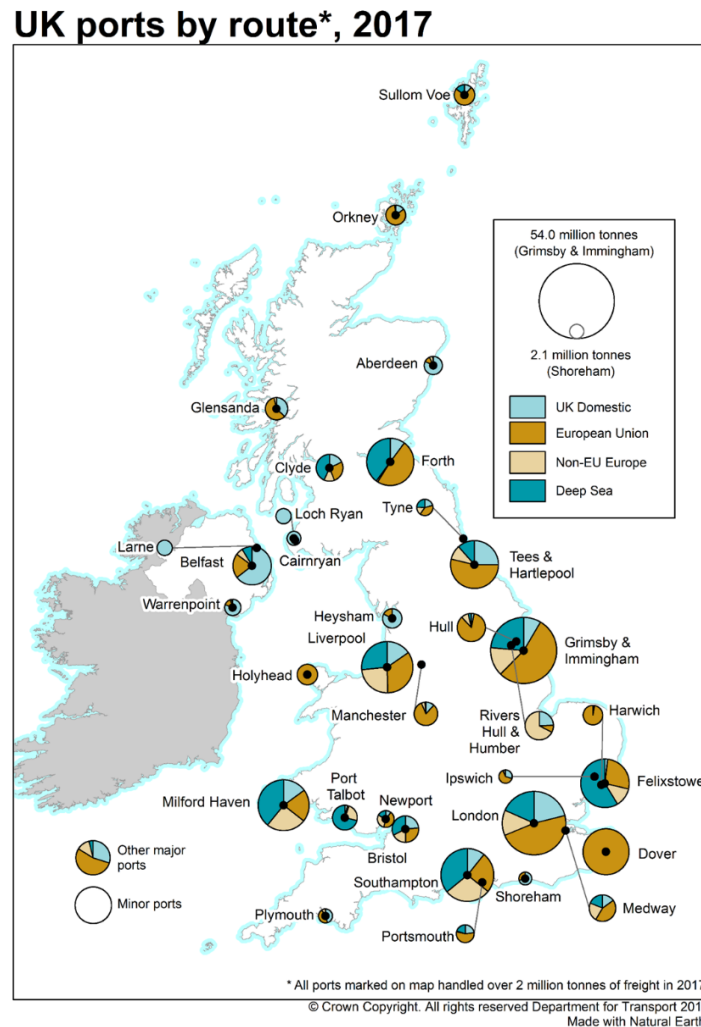


Figure 5 UK ports by route in 2017 (Source: DfT 2018. UK Port Statistics: 2017)

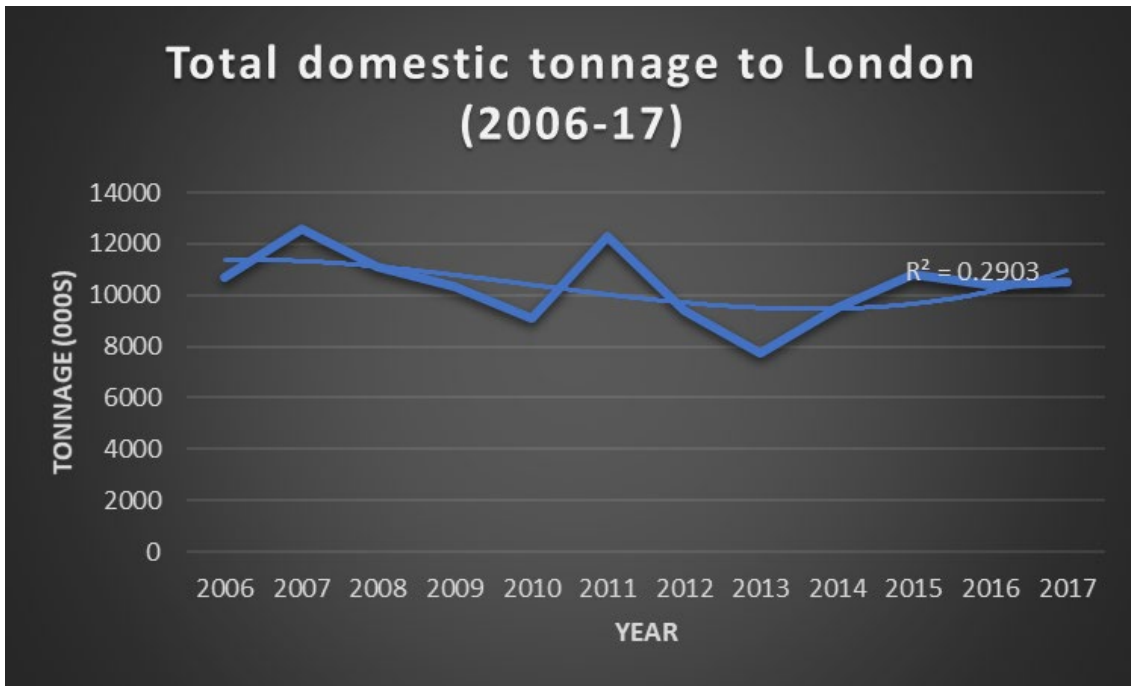


Figure 6 Total domestic freight tonnage at Port of London

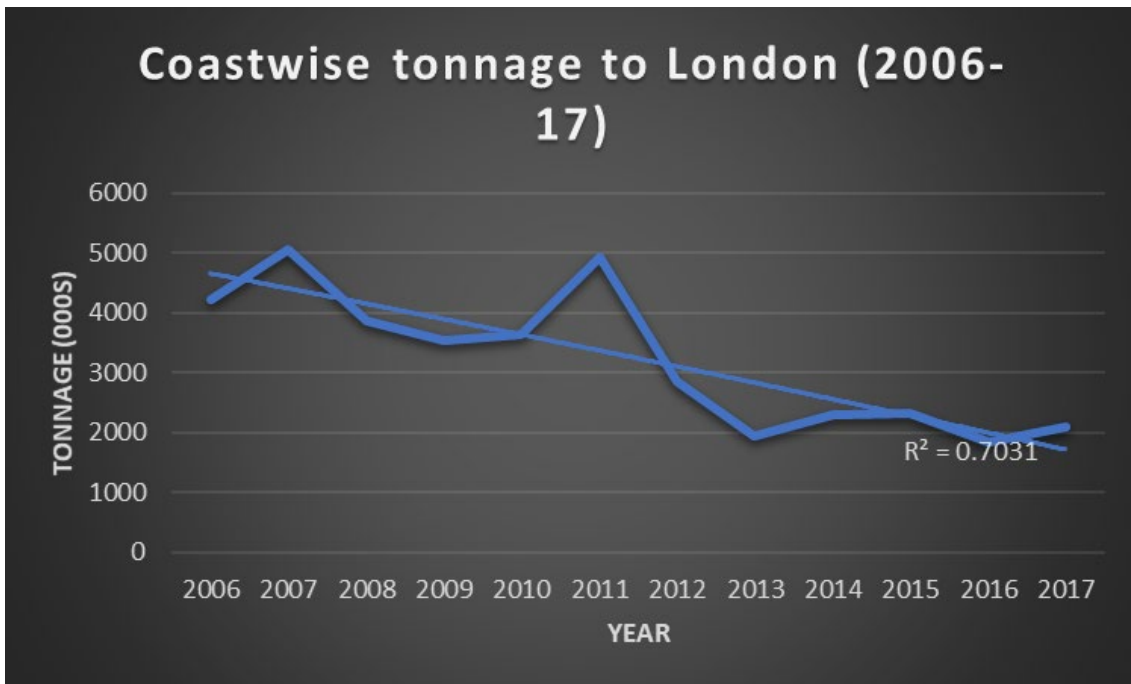


Figure 7 Total Coastwise tonnage arriving at Port of London

45 When compared to international, large scale, freight vessel traffic, as illustrated in Figure 8, it is possible to see that there is a slight (though not statistically strong in terms of R-statistic) trend for increased international freight traffic in recent years, but the pattern since 2006 is broadly static.

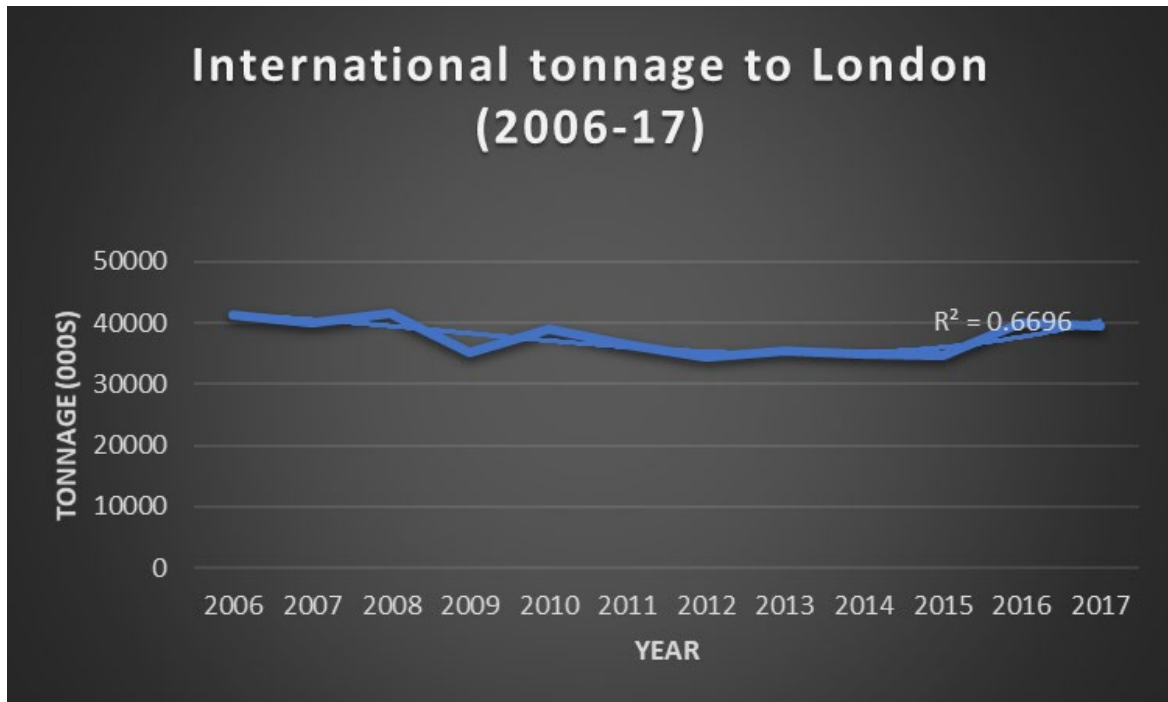


Figure 8 International freight tonnage arriving at Port of London

- 46 In conclusion therefore there is a pattern for a slight increase in international freight in recent years (though static in the longer term), broadly neutral growth in domestic freight traffic, and a marked decline in coastwise freight traffic.
- 47 In the context of the breakdown of routes presented in Figure 5 it is relevant to note therefore that of the important routes, domestic freight is on the decline.
- 48 The reliance on domestic freight tonnage at Port of London is also apparent through looking at the national scale and breaking down freight tonnage by not only domestic and international but European routes as well. European port trade is noted as being of relevance to the Thanet Extension study area as much of the European freight traffic will travel in an east – west direction as it transits to or from ports such as Rotterdam. Figure 5 illustrates that approximately 50% of current trade by route originates from the EU, with approximately 20% of the Port of London's throughput originating from the declining domestic trade. This clearly reflects national statistics, with 71% of all main freight traffic through major UK ports being with the EU, 6.5 million units of which are in the form of Ro-Ro, which are noted as of importance for Tilbury and which predominantly transit to the north of the TOW not on the inshore route. Section 5 considers the breakdown of cargo type, both nationally and specifically for the Port of London, in more detail.

- 49 In the context of the UK exiting the EU, the uncertainty associated with 50% of trade arriving into the Port of London cannot be underestimated. The 2008/9 financial decline, which the Bank of England considers the UK exiting the EU to be comparable with⁶, resulted in a decline in vessel freight traffic of between an 11 and 12% (see Section 5 for detailed analysis). In this context, whilst noting that a recovery post Brexit may be swifter than post the 2008 financial crisis, any projection of 37% to 54% in vessel traffic (assuming the port's ratio between tonnage and traffic were to be correct) appears to be aspirational rather than representative of any robust forecasting approach. It is the Applicant's view, evidenced in this document, that no such ratio exists, and unconstrained growth assumptions should be tempered with wider macroeconomic factors.

⁶ EU withdrawal scenarios and monetary and financial stability A response to the House of Commons Treasury Committee November 2018

5 DfT 2019 sector by sector analysis and forecast for overall growth over 50 years

50 The following section draws further on the DfT 2019 analysis, as well as on the “Future of the Sea: Trends in the Transport of Goods by Sea” report published by the Government Office for Science in 2017.

51 The Future of the Sea report shows that overall traffic volumes grew up until 2007 and then began to decline (the biggest decline – 11 per cent – was 2008 to 2009), with totals now marginally less than they were over 20 years ago (501 million in 1994 down to 486 million in 2015). These aggregate figures are noted within the report as masking certain trends. The report notes that unitised (i.e. container – Load On Load Off – Lo-Lo, and Roll-on/Roll-off – Ro-Ro) volumes have steadily increased over the time series; a slight dip evident post 2007 has reversed and volumes are now at the highest level since the start of the time series in 1994. This is illustrated in the figure taken from the report and presented in Figure 9 of this report.

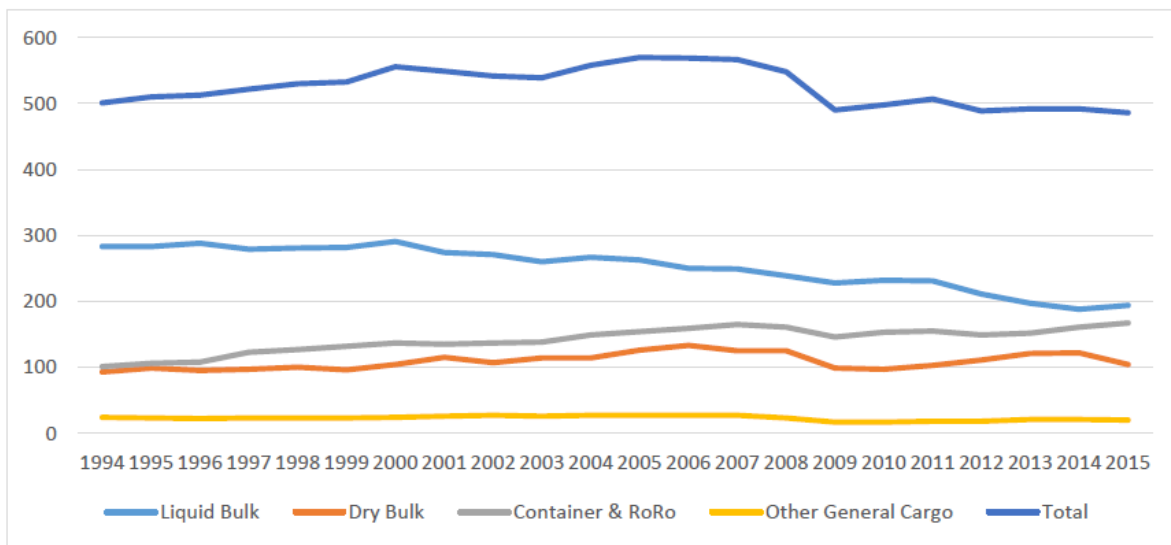


Figure 9 figure taken from Future of the Sea: trends in the transport of goods by sea (2017) - UK Major Port traffic volumes in 000 tonnes

- 52 It is apparent that, with the increase in port traffic volumes represented by unitised or containerised vessels, there is a distinct trend in the size of vessels. The authors of the Future of the Sea report note that container ships have been increasing almost exponentially in size since first introduced: the first such vessel was the 'Ideal X' (101 TEU25) in 1956; the largest container ship in 1988 was c.4,300 TEU; in 1997 it was c. 8,200 TEU; in 2006 was c. 14,800 TEU, and today container ships of c. 20,000 TEU are being delivered. The Lloyd's Register in 2015 envisaged a maximum container ship size of around 26,000 TEU by 2030; most likely economies of scale benefits will be outweighed by demand and network constraints. Whilst this growth is considered likely to plateau, the influence it has on unitised vessels in particular and the large ports that rely on them (such as London Gateway and Port of Tilbury) should be recognised and has been referenced by the representatives for Port of Tilbury and London Gateway when raising concerns regarding sea room and the need to accommodate large (and increasingly larger) container vessels, which typically transit via the SUNK and not NE Spit.
- 53 This is further reflected by information published by the Port of Felixstowe⁷ which considered (in the context of Harwich pilotage operators (HHA)) that: *"the current market trend is for larger ships, between 13,000 and 18,000 TEU to displace the current ships of 3,000 to 8,000 TEU which will inevitably impact on the numbers of vessels being handled. As in many ports, HHA pilots have had to adapt to the steadily increasing size of vessels from the first Maersk K Class vessel (318m LOA, & 7000 TEU) in 1998 to the Maersk E Class (397m LOA, & 15,200 TEU) in 2006. Other container shipping companies have also invested in larger tonnage and senior pilots are routinely handling 350m – 400m vessels. Thus, over a twenty five year period, length has increased by 30%, beam by 75% and displacement by 142%"*.
- 54 This is again important in the context of the inshore route adjacent to the proposed Thanet Extension project as it is recognised by all parties as being constrained by draught (and therefore to a large extent, displacement).
- 55 The following provides a summary of the DfT 2019 shipping freight forecast study. It should be noted that the forecast study uses historic freight traffic data for major UK ports, with no regional disaggregation of port traffic forecasts. The study did not disaggregate as feedback from stakeholders indicated it was not needed and because it risks adding further uncertainty into the forecasting process.

⁷ <https://felixstowedocker.blogspot.com/2014/01/the-sunk-pilot-station-felixstowe.html>

- 56 In the context of the Examining Authority's questions regarding whether it is appropriate to base future forecasts on historical data, it is worthy of note that the DfT studies utilise data on port freight from DfT's published port statistics, from 2009 with the exception of Lo-Lo units. For Lo-Lo units, data from 2000 onwards came from DfT's published port statistics, with data prior to 2000 being derived from OECD container transport statistics. These are the same data utilised in the preceding sections of this document.
- 57 As noted in the DfT 2019 analysis overall, port traffic is forecast to remain relatively flat in the short term, but grow in the long-term, with tonnage 39% higher in 2050 compared to 2016. The long-term growth in port traffic is driven by increases in unitised freight traffic. In the short-term, this growth in unitised traffic is offset by decreases in the other categories.
- 58 Liquid bulk traffic has the largest forecasted decreases. This is almost entirely due to falls in crude oil traffic, in line with the decreases which have been seen in recent years. It is likely that the projected decrease in other liquid bulk traffic is partly due to the shift from liquid bulk to tank containers for some shipments.
- 59 Similarly, general cargo is also forecast to decrease, in line with the historic decreasing trend, which is also likely to be partly driven by increased containerisation of goods.
- 60 Dry bulk traffic is forecast to have a relatively large decrease in the short-term, driven primarily by demand for coal falling, and being projected to continue the downward trend. However, in the long-term, dry bulk traffic is forecast to increase, with other dry bulk (the largest category) continuing to increase as it has done historically. This historical increase is linked to the increase in the trade of biomass.
- 61 With regards the long-term growth in port traffic, this is recognised as being driven by increases in unitised freight traffic. In the short-term, this unitised traffic growth is offset by decreases in the other categories. It is also worth noting that some of the decrease in non-unitised freight is due to the increased containerisation of goods, for example the decline in general cargo is partially due to some of these goods becoming unitised traffic. Further, general cargo is forecast to decrease, primarily due to other general cargo continuing the decreasing trend seen historically. Iron and steel freight traffic is forecast to increase according to the study but not enough to offset the decreases in the other two categories. In this context it is important to note that the study has inherently and deliberately not provided for the United Kingdom exiting the European Union, and by virtue of the timing of the announcement has not provided for the recent collapse of British Steel, for the second time since 2016.
- 62 This overall predicted growth in freight tonnage is illustrated in Figure 10.

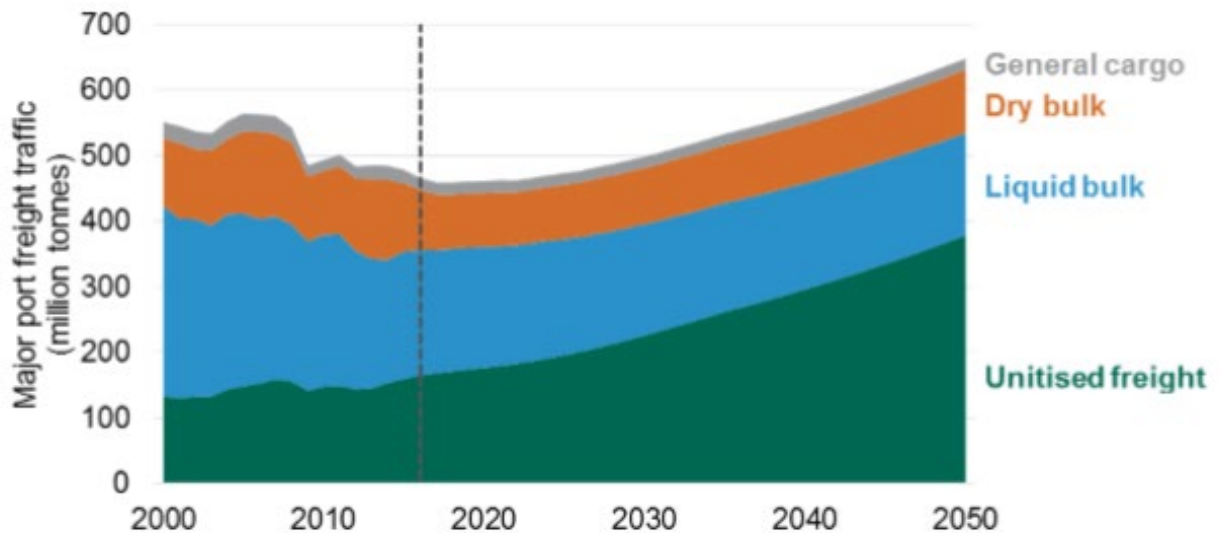


Figure 10 National total port freight tonnage 2000-2050

- 63 Taking what is understood (through reference to the IP representations) to be a key component of Tilbury and Gateway throughput (by tonnage) respectively, the growth in Ro-Ro and unitised containers sectors, is predicted to reach similar levels of strong growth for Lo-Lo traffic, which is unsurprising as the tonnage forecasts are modelled together. The growth rates for Ro-Ro tonnage and containerised units are exactly the same, averaging 2.5% per year. The forecast for unitised (vehicle) tonnage growth continues the GDP related growth that has been seen historically, with an average growth rate of 2.4% per year. The study identifies that there are questions about how sustainable the long-term growth is for this particular sector, due to changing attitudes towards driving, but there is a lack of firm evidence on exactly how this could change demand for motor vehicles. Other illustrative examples include liquid bulk, which sees an average decrease of -1.8% per year, which results in tonnage halving by 2050, and 'Other general cargo' which includes break-bulk cargo (e.g. pipes, produce in bags, cable reels) and containers less than 20ft in length. General cargo forecast is based solely on the historic trend, which results in an average growth of -1.9% per year. This decrease is likely partly due to increased containerisation of goods, i.e. shipments previously carried as break-bulk being moved in containers instead.
- 64 Overall growth is therefore dominated by unitised/containerised vessels, which also appear to be driving the demand for larger vessels. In the short term the decreases for freight tonnage across several sectors is offset by increases in larger container vessels. The increases in traffic with regards vessel numbers appears unlikely in this context to increase at the same rate and as has been demonstrated, an increase in vessel numbers is not a corollary of an increase in freight tonnage.

65 Beyond these cargo and sector specific growth and decline patterns, it is also important to consider the original 2006 forecast and its accuracy. This is of specific importance given the focus on the NPS for Ports, and the associated economic growth models identified by the Examining Authority.

66 The previous port freight traffic forecasts produced in 2006 were based on 2004 data and forecast in 5 year intervals out to 2030. As these forecasts were produced shortly before the 2008/09 drop in port freight caused by the global recession, they considerably overestimated freight traffic growth and consequently the new forecast start at a lower level.

67 The overall growth pattern is illustrated in Figure 11.

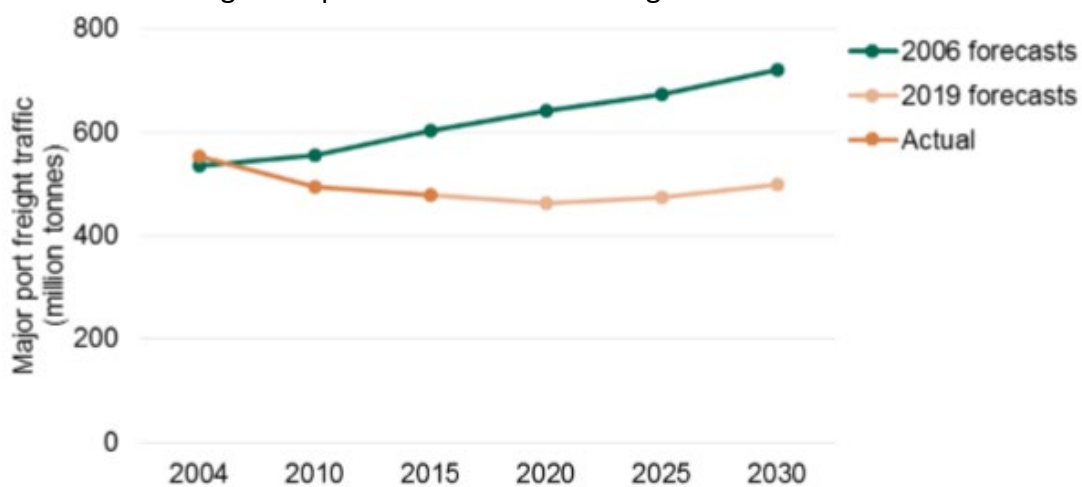


Figure 11 Comparison of 2006 and 2019 forecasts (DfT (2019) UK Port Freight Traffic 2019 Forecasts)

68 This demonstrates a far flatter level of growth that was anticipated in the 2006 forecast. Of note is that the 2006 forecast predicted total growth of 12% for the period 2004-2015, and the same for the period 2020 to 2030. The revised forecast is 8% growth in terms of tonnage for the period 2020-2030. The growth for the period 2004-15 being a marked -13%, as illustrated across all cargo types in Figure 12.

UK major port freight by cargo type (port0201)

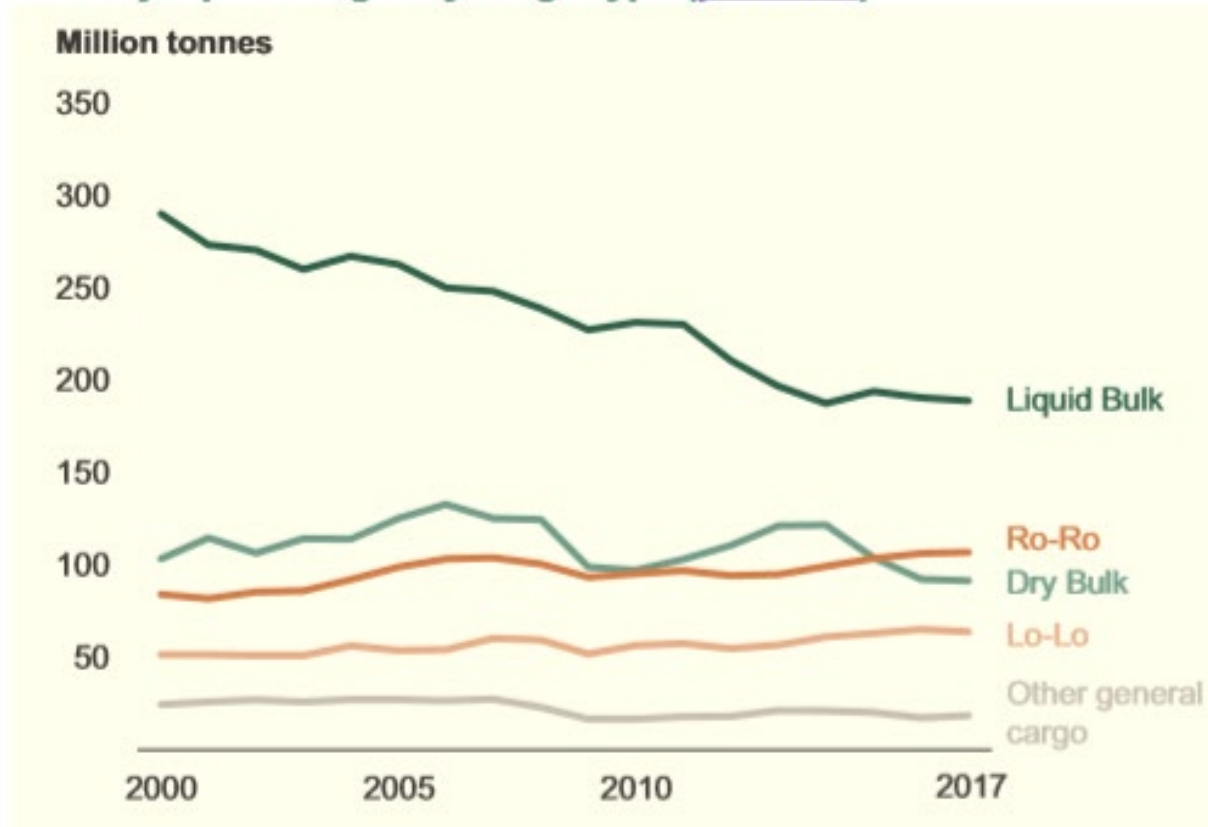


Figure 12 major port freight by cargo type (2000 - 17)

- 69 The long term component of the 2019 study forecast for 2035-2050 is based on trend projections using the compound annual growth rate of the short-term forecast to project beyond 2035 for all cargo categories except oil products, coal, and forestry products. The study presents assumed growth of 2.5% for long term growth of unitised freight, liquid bulk (including crude oil and liquified gases) a neutral growth overall, with a decline in general cargo and marginal growth for dry bulk.
- 70 The conclusions from the DfT study of relevance to the Thanet Extension project are therefore that overall growth in terms of tonnage, is expected to be 8% up to 2030, and potentially up to 39% by 2050. The growth of tonnage however does not clearly correlate with a growth in vessel numbers, with Port of London statistics illustrating no clear correlation, but instead an overall slight negative or neutral growth in terms of vessel arrivals.

6 Conclusions

- 71 It is the Applicant's position therefore that following a detailed analysis of available maritime statistics and analyses of future trends, maritime freight tonnage is, given favourable economic circumstances, projected to increase over the reasonable planning horizon. This growth needs to be contextualised by the current historic patterns of decline across certain sectors, notably coastwise freight, and the sensitivity to wider macroeconomic patterns such as the 2008 financial crisis and the current uncertainty over the UK exiting the EU.
- 72 It is the Applicant's position that there is no clear relationship between tonnage and ship arrivals at the Port of London. Tonnage is seen to increase over the periods studied (6.9% for the period 2000-17 (see Section 7), but vessel arrivals remain broadly static with an average growth of -0.05% over the period 2009-17.
- 73 Despite this neutral growth and the noted decline in coastwise freight transport, the Applicant considers that the aggregate of all vessels utilising the study area, and in particular the nearshore route, may increase. The Applicant recognises the aspirations of the ports and the projections made in underpinning the need case for the proposed Tilbury2 and London Gateway projects, despite not being currently realised in terms of the throughput projected for London Gateway.
- 74 It should therefore be recognised that there is a very clear difference between the aspirational growth of commercially minded ports, and the reality of vessel traffic growth illustrated in this document.
- 75 The evidenced neutral growth/slight decrease in Port of London vessel arrivals in the last few years should be set in context against the opening of 3 new London Gateway berths during the time that statistics are available for. Therefore, it is very clear that expansion of port facilities is not directly linked to an overall increase in Port of London traffic.
- 76 Growth from London Gateway in particular is recognised by the Applicant as likely, however given increasing vessel sizes and the already very low level of London Gateway traffic along the inshore route, London Gateway in particular is unlikely to be unaffected by TEOW.
- 77 Historical trends are, contrary to the port's submissions, a very valid record to judge how traffic may change in the future and demonstrate that at no point have the growth rates realised levels that the ports are proposing and, given the macroeconomic uncertainty combined with the trend towards larger vessels, and lack of definitive relationship between Port of London vessel arrivals and tonnage throughput there is nothing in other submissions to suggest a 30%+ increase in vessel traffic is likely to be realised.

- 78 In light of this the Applicant has proposed a 10% increase in vessel numbers as a reasonable and appropriate future baseline for the purposes of assessment. This aligns with projections made for other OWF developments, and specifically accords with predictions made elsewhere for the Thames.

7 Long term growth (tonnage) Port of London

Dataset - PORT0101 - All UK major and minor port freight traffic, by port and year from 1965

Year	Tonnage	% change
2000	47,892	
2001	50,654	5.77%
2002	51,185	1.05%
2003	51,028	-0.31%
2004	53,289	4.43%
2005	53,843	1.04%
2006	51,911	-3.59%
2007	52,739	1.60%
2008	52,965	0.43%
2009	45,442	-14.20%
2010	48,062	5.77%
2011	48,796	1.53%
2012	43,742	-10.36%
2013	43,205	-1.23%
2014	44,489	2.97%
2015	45,430	2.12%
2016	50,380	10.90%
2017	49,868	-1.02%
	sum growth	6.89%
	average growth	0.41%

8 Long term arrivals at Medway

79 It should be noted that whilst the trendline is provided for consistency with other charts presented in this document, it is not the Applicant's position that the trend of decline would decline as rapidly as indicated on recent history. It does however provide robust data indicating the downturn at Medway which adds context to the slight upturns elsewhere. This trend is also discussed within the NRA and NRAA, and forms part of the oral representation presented during Issue Specific Hearings.

