AEA

Ports: National Policy Statement for England & Wales – Appraisal of Sustainability (AoS) Report

Final

ATKINS

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Department for Transport

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Non-Technical Summary (NTS)

Background

The Planning Act 2008 sets out provisions for a new planning system for Nationally Significant Infrastructure Projects (NSIPs). This system transfers the process of considering and deciding on applications for NSIPs from Ministers to, the Infrastructure Planning Commission (IPC). The IPC will consider applications in the light of Government guidance laid out in National Policy Statements (NPSs), which will make the case for the national need for the infrastructure and set out the social, economic and environmental impacts. The NPS is also a relevant consideration for the Marine Management Organisation, established under the Marine and Coastal Access Act 2009, which decides other port development proposals, and for local planning authorities where they have a role to play.

The Ports NPS reaffirms the market-led policy that the UK ports sector is a successful market-led sector that should be enabled to provide essential capacity in a sustainable manner. It explains that the market is the best place to determine when, how and where to meet the need for additional port capacity and explains the way in which the IPC should take account of the adverse impacts of port development.

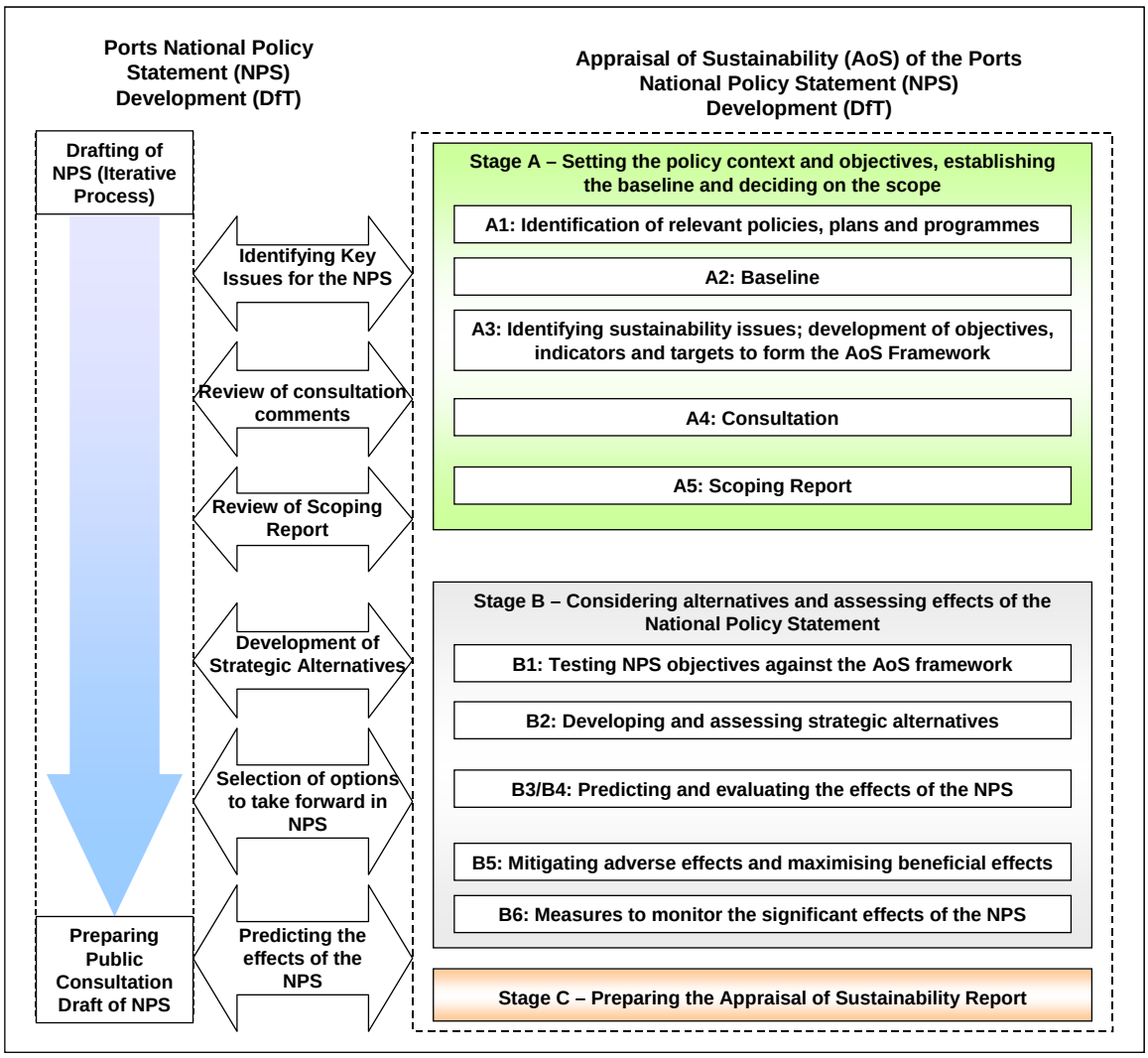
The Planning Act commits Government departments to assess the social, economic and environmental sustainability of policy stated within a NPS through the production of an Appraisal of Sustainability (AoS).

The AoS process relies upon the development of an appraisal framework within which decisions on the relative sustainability, environmental economic and social effects of the NPS options can be made, with the purpose of providing decision makers, consultees and others with manageable information on the wider effects of policy implementation and capture progress towards sustainability. In the case that significant sustainability effects are predicted, recommendations are made as to how any adverse effects could be avoided, offset or reduced.

An AoS Report (this report) has been produced which details the AoS process and includes the finding of the assessment of the Ports NPS. It should be read alongside the draft NPS.

How the assessment was carried out

The AoS process is shown in Figure NTS1 and explained in the text that follows.



NTS 1: Appraisal of Sustainability of the Ports NPS

STAGE A – Setting the policy context and objectives, establishing the baseline and deciding on the scope

Identification of relevant policies, plans and programmes (PPP), and undertaking a review of these documents (A1) – A review of relevant plans, policies and programmes (PPP) of sustainability relevance to the Ports NPS, and those that have the potential to influence its development was undertaken. Such PPPs can potentially act as constraints, for example where formal limitations, policy contexts or requirements are stated. Through undertaking the review, any constraints have been identified, as well as establishing any sustainability objectives they may contain.

Identification and collation of relevant sustainability baseline data (A2) - Data on a range of key indicators relating to environmental, social and economic indicators for the policy area were identified and collated. Indicators were used as a way of collating relevant baseline data to ensure that the data collection being carried out is both focused and effective. Indicators were therefore selected for their ability to provide objective data that will offer insight into the trends taking place over time.

Identification of key sustainability issues (A3) - Through the review of relevant plans, policies and programmes, and the collation of sustainability baseline data, a range of key sustainability issues that could be addressed by or affect the content of the Ports NPS were identified. The key sustainability issues identified for ports-related development and

infrastructure, and considerations for the AoS in terms of how to address them, were summarised and grouped by sustainability topic.

The key sustainability issues that were identified for the Ports NPS were related to the following topics:

Environmental Key Sustainability Issues:

- Air Quality
- Greenhouse Gas (GHG) Emissions
- Climatic Factors and Adaptation
- Flood Risk and Coastal Change
- Contamination of Water Quality
- Water Resources
- Marine Environment
- Biodiversity and Geological Conservation
- Soil and Land Resources
- Waste Management
- Landscape and Seascape
- Light
- Noise and Vibration
- Historic Environment

On further review of the NPS "Dust, odour, artificial light, smoke, steam and insect infestation" was identified as a further distinct set of impacts.

Economic Key Sustainability Issues:

- Productivity Benefits for Ports and their Users
- Impact on the wider economy
- Employment, Regeneration and Local/Regional Development
- Leisure and Tourism
- Competition and Security of Supply
- Funding Arrangements for Ports and Associated Rail/Road/Waterways Connections
- Foreign Direct Investment and Trade

Social Key Sustainability Issues:

- Population
- Equality
- Accessibility
- Health and Well-being
- Security and Safety

Development of the AoS Framework (A3) - The PPP review, sustainability baseline and key sustainability issues were used to develop a set of sustainability objectives, referred to as the AoS framework. This framework has been used to assess the impacts of the NPS. The AoS Objectives are as follows:

NTS2: AoS Objectives – Ports: NPS	
AoS Key Issue Areas	**AoS Objectives** [Please note: The AoS objectives should not be interpreted as being unqualified policy objectives. There will inevitably need to be trade-offs between the AoS objectives set out here. They cannot all be achieved simultaneously. Therefore these AoS objectives set a framework for assessing the sustainability of NPS policies]
ENVIRONMENTAL	
1. Air Quality	**AoS1:** To ensure air quality limit values are not exceeded by port development
2. Greenhouse Gas Emissions	**AoS2:** To minimise emissions of greenhouse gases arising from port-related development and infrastructure
3. Climatic Factors and Adaptation	**AoS3:** To mitigate and adapt to climate change

NTS2: AoS Objectives – Ports: NPS	
AoS Key Issue Areas	**AoS Objectives** [Please note: The AoS objectives should not be interpreted as being unqualified policy objectives. There will inevitably need to be trade-offs between the AoS objectives set out here. They cannot all be achieved simultaneously. Therefore these AoS objectives set a framework for assessing the sustainability of NPS policies]
4. Flood Risk and Coastal Change	**AoS4a:** To increase resilience of ports infrastructure against the risk of flooding and coastal erosion **AoS4b:** To reduce the risk of flooding in the hinterland
5. Contamination of Water Quality	**AoS5:** To avoid adverse effects on water quality for all water bodies, including inland, coastal and groundwater
6. Water Resources	**AoS6:** To protect water resources
7. Marine Environment	**AoS7a:** To preserve and protect the marine environment from the risk of runoffs, spills and leakages of cargoes. **AoS7b:** To minimise damage to the marine environment as a result of dredging activities.
8. Biodiversity and Gelogical Conservation	**AoS8:** To preserve, protect and improve biodiversity as well as sites of geomorphological importance
9. Soil and Land Resources	**AoS9a:** To protect soil and land resources from the risk of contamination due to runoffs, spills and leakages of cargoes **AoS9b:** To minimise the use of previously undeveloped land for which there are competing uses.
10. Waste Management	**AoS10a:** To encourage the increased use of recycled materials in the construction of infrastructure **AoS10b:** To reduce, re-use or recycle the waste generated by port infrastructure, including from construction **AoS10c:** To consider the design of infrastructure such that the potential for waste products draining to water and soil resources is reduced, and potentially hazardous waste managed **AoS10d: To** minimise the adverse impacts of dredging
11. Landscape and Seascape	**AoS11:** To preserve, protect and, where possible, improve landscape and seascape, whilst making it more accessible
12. Light	**AoS12:** To minimise light pollution arising from ports development
13. Noise and Vibration	**AoS13:** To reduce industrial and traffic noise and vibration related to ports
14. Historic Environment	**AoS14:** To protect and enhance sites, features and areas of historical and cultural value
ECONOMIC	
15. Productivity Benefits for Ports and their Users	**AoS15:** To support productivity benefits for ports and their users
16. Wider Economic Benefits	**AoS16:** To encourage wider economic benefits
17. Employment, Regeneration and Local/ Regional Development	**AoS17:** To contribute to local/ regional employment, regeneration and development
18. Leisure and Tourism	**AoS18:** To support local/regional/national tourism
19. Competition and Security of Supply	**AoS19:** To ensure competition and security of supply
20. Funding Arrangements for Ports and Associated Rail/ Road/ Waterways Connections	**AoS20:** To ensure adequate funding arrangements are in place for new or upgraded port and supporting transport infrastructure

NTS2: AoS Objectives – Ports: NPS	
AoS Key Issue Areas	**AoS Objectives** [Please note: The AoS objectives should not be interpreted as being unqualified policy objectives. There will inevitably need to be trade-offs between the AoS objectives set out here. They cannot all be achieved simultaneously. Therefore these AoS objectives set a framework for assessing the sustainability of NPS policies]
21. Foreign Direct Investment and Trade	**AoS21:** To promote Foreign Direct Investment and Trade
SOCIAL	
22. Population	**AoS22:** To consider the impact of net population change in regions when this is associated with ports
23. Equality	**AoS23:** To ensure the needs of different social groups are taken into account in port planning and service delivery
24. Accessibility	**AoS24a:** To enhance access to ports and the jobs, services and social networks they create, including for the most disadvantaged **AoS24b:** To contribute to reduced severance of transport routes and recreational areas as a result of port development and operations
25. Health and Well-being	**AoS25:** To encourage the consideration of opportunities to improve health and well-being and minimise negative changes in living environments and health of the public that may result from port development and operations or port economic effects
26. Security and Safety	**AoS26a:** To contribute to the reduction of crime and fear of crime among vulnerable groups and port users **AoS26b:** To increase security and resilience to all accidents and incidents at ports and reduce risk to the users of the road and rail links used to access ports

Consultation (A4) - Consultation was undertaken with Statutory Environmental Bodies and other key stakeholders. This involved a workshop to identify and discuss key sustainability issues relevant to the Ports NPS and the AoS (December 2008), and two opportunities to comment on the AoS Scoping Report (January/February and August/September 2009).

Scoping Report (A5) - An AoS Scoping report was produced detailing the stages undertaken in the scoping stage.

STAGE B – Considering alternatives and assessing the effects of the National Policy Statement

Compatibility analysis – NPS versus AoS objectives (B1) - Compatibility analysis was undertaken between the objectives of the NPS and AoS to determine whether there were any potential synergies or inconsistencies. No fundamental incompatibility between the NPS objectives and the AoS objectives was found as a result of this assessment, after taking account of the inevitability of trade-offs since the AoS objectives are expressed as ideals that in practice would always need to be balanced against one another.

Assessment of alternatives (B2) – DfT and the AoS team identified the key strategic policy areas in the draft Ports NPS that had reasonable policy alternatives. The AoS team assessed the sustainability effects of these alternatives to determine whether they had a broadly positive, negative or neutral effect on achieving the sustainability objectives. For the purposes of this assessment, the strategic alternatives were compared to the current NPS policy and the various options were considered according to whether they would have a broadly positive, negative or no effect on achieving the environmental, economic or social sustainability objectives (AoS objectives). The draft NPS alternatives that were considered were:

Issue 1: Market-led versus central planning approach	A. Market-led approach. B. Central planning approach. C. NPS Policy – Market-led, but with mitigation/compensation guaranteed as necessary by the planning system.
Issue 2: Locational NPS versus non-locational NPS	A. NPS Policy – Non-Locational NPS. B. Locational NPS.
Issue 3: Support for development versus no support for development	A. NPS Policy - Support for new port development B. No support for new port development
Issue 4: Subsidising versus not subsidising port investment	A. Subsidy policy. B. NPS Policy – Non-subsidy policy.
Issue 5: Letting the promoter decide on the need for new development versus consideration by the decision-maker	A. NPS Policy - Letting the promoter decide on the need for new development compared to making best use of existing facilities. B. Consideration by the decision-maker on the need for new development compared to making better use of existing facilities. C. Consideration by the decision-maker on the need for new development compared to making better use of existing facilities, including facilities of competing ports.
Issue 6: Mitigation of impacts versus no mitigation of impacts	A. Full mitigation of impacts B. No mitigation of impacts C. NPS Policy – Mitigation of impacts such that residual impact is acceptable.
Issue 7: Developer funding versus state funding of road/rail/inland connections	A. Full developer funding of inland connections. B. Full state funding of inland connections. C. NPS Policy – Beneficiary pays.

All of the NPS policy options were assessed to be sustainable options in terms of their environmental, economic and social effects.

Predicting and evaluating the effects of the NPS, mitigating adverse effect and maximising beneficial effects (B3/B4/B5) - The policies set out within the NPS were assessed for their predicted sustainability effects against the AoS Objectives in four phases of assessment. Recommendations were made following each phase regarding how predicted sustainability effects could be improved.

The assessment has found that the majority of policies contained within the Port NPS were likely to have a positive sustainability effect on the AoS environmental, social and economic objectives. An overview of the assessment on four drafts of the NPS is provided below.

Environmental Assessment

The results of the first phase of the environmental assessment generally found that the draft NPS (Draft 8/iv) contributed positively to the achievement of most objectives but that its contribution was only minor and therefore not significant in most cases. A number of recommendations were made to improve the environmental sustainability performance of the draft NPS.

The second phase environmental assessment found that the majority of recommendations made during the first environmental assessment had been incorporated in the 22/v NPS draft and that the draft NPS had minor to moderate positive contributions towards the achievement of environmental objectives. Recommendations outstanding from the first phase assessment and additional recommendations were made to improve the environmental sustainability performance of the draft NPS.

The third phase environmental assessment found that a number of recommendations made during the second environmental assessment had been incorporated in the 19/vi NPS draft and that the draft NPS had minor to moderate positive contributions towards the achievement of environmental objectives and sustainability, with only a small number remaining slightly negative impacts identified. Recommendations of how to further improve the environmental sustainability performance of the draft NPS have been made.

The fourth phase environmental assessment found that a number of recommendations made during the third environmental assessment had been incorporated in the 13/x NPS draft and that the draft NPS had minor to moderate positive contributions towards the achievement of environmental objectives and sustainability, with only a small number remaining slightly negative impacts identified. Recommendations of how to further improve the environmental sustainability performance of the draft NPS have been made.

Economic assessment

The results of the first iteration of economic appraisal generally found that the first draft NPS (Draft 8/iv) contributed positively to the achievement of most objectives but that its contribution was only minor and therefore not significant in most cases. A number of recommendations were made to improve the economic sustainability performance of the draft NPS.

A major recommendation emanating from the first iteration of appraisal was that the NPS could assist decision makers by underlining the role of the *Project Appraisal Framework for Ports (2005)* to provide a summary of economic (and other) impacts and to provide some guidance on when a more detailed assessment using NATA/WebTAG (now simply WebTAG) guidance might be appropriate for more significant impacts (e.g. significantly increased employment or other economic activity). The *Project Appraisal Framework for Ports* would identify at the outset any likely major economic, competition, commercial or employment impact, including the contribution of the project to providing required national/regional port capacity and any impact on overall port sector employment and skills levels.

The results of the economic assessment of the second draft NPS (Draft 22/v) confirmed that the major recommendation emanating from the first iteration was addressed to a large extent. It was further clarified that the assessment should follow the standard framework designed by the Department for Transport and recommended to all port applicants (*A Project Appraisal Framework for Ports*), which allows all the material considerations to be taken into account in a systematic manner using both quantitative and qualitative indicators. This will be a useful baseline document for decision-makers. However, consideration should therefore be given to updating this guidance document to bring it fully into line with the Ports NPS. Furthermore, consideration should be given to providing some additional guidance for decision-makers as to when more detailed analysis of economic impacts might be required.

The economic assessment of the third draft NPS (Draft 19/vi) revealed that further mention is made of the more detailed assessments available under WebTAG. Generally, it was found that the NPS makes a significant positive contribution towards the identified economic objectives.

The economic assessment of the fourth draft NPS (Draft 13/x) noted relatively few changes compared with the previous version in relation to economics issues, although some text related to economics impacts had been rewritten. The need to revise the *Project Appraisal Framework for Ports* remains as a recommendation.

Social Assessment

The results of the first phase of the social assessment found that the draft NPS (Draft 8/iv) contributed positively to the achievement of some objectives and that its contribution was minor in most cases. A number of recommendations were made to improve the social sustainability performance of the draft NPS.

The second phase social assessment found that some of the recommendations made during the first social assessment had been incorporated in the 22/v NPS draft and that the draft NPS had minor and, in a small number of cases, moderate positive contributions towards the achievement of social objectives. Recommendations outstanding from the first phase assessment and additional recommendations were made to improve the social sustainability performance of the draft NPS.

The third phase social assessment found that a number of recommendations made during the second social assessment had been incorporated in the 19/vi NPS draft and that the draft NPS had minor to moderate positive contributions towards the achievement of social objectives and sustainability. However, a number of positive contributions towards the achievement of social objectives in the 22/v NPS draft had been removed. As a result, there are a number of slightly negative social impacts identified. Recommendations have been made to reinstate the relevant text within the NPS. In addition, recommendations of how to further improve the social sustainability performance of the draft NPS have been made. Generally it was found that the draft NPS contributes positively to the achievement of most objectives but that its contribution was only minor and therefore not significant in most cases.

The fourth phase social assessment found that a number of the recommendations outstanding from the third social assessment had not been incorporated into the 13/x NPS draft. As a result, a small number of minor negative impacts identified in the third assessment remain present. However, the NPS did provide more detailed guidance for the decision-maker in relation to the assessment of health and well-being impacts resulting from port development which resulted in an increase from a minor to moderate positive impact. As with the third phase social assessment, recommendations of how to further improve the social sustainability performance of the draft NPS were made.

Measures to monitor the significant effects of the NPS (B6) – Recommendations have been made regarding the monitoring of the sustainability of the implementation of the NPS. This includes monitoring the sustainability impact of the existence of the NPS compared to a scenario in which the NPS is not produced and the IPC makes recommendations on port applications to the Secretary of State for Transport. Such monitoring may be useful to help inform any review of the NPS and allow any adverse sustainability impacts to be identified and taken in to account.

It has been suggested that where the IPC (or other decision-maker) gives consent for a port development, the sustainability impact of the implementation of the NPS could be monitored in two ways:

- Analysis of the IPC decision process. This may include the length and nature of the process itself, and any obligations or requirements associated with the Development Consent Order (DCO) relating to specific sustainability impacts;
- Analysis of the implementation of a consented development once it has been operational for a sufficient period of time to allow any impacts to be identified, focusing particularly on

the efficacy or otherwise of mitigation measures and the adequacy of the NPS in ensuring that these are clear and practicable.

STAGE C – AoS Report - This AoS report has been produced detailing the stages undertaken in the Appraisal of Sustainability. It should be read alongside the NPS.

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Appendices

1 Introduction

1.1 Background to National Policy Statements

1.1.1 The Planning Act

The Planning Act was granted Royal Assent on Tuesday 26th November 2008. The legislation builds on the proposals set out in the Planning White Paper, published on 21st May 2007, and introduces a new system for Nationally Significant Infrastructure Projects (NSIPs), alongside further reforms to the Town and Country Planning system.

A major component of this legislation is the introduction of an Infrastructure Planning Commission (IPC), to take decisions on major infrastructure projects (transport, energy, water and waste). To support decision-making, the IPC will refer to the Government's National Policy Statements (NPSs), which will provide a clear long-term strategic direction for nationally significant infrastructure development.

Aside from cases where the Secretary of State intervenes, or where the application is not covered by a designated NPS, the Planning Act 2008, as it is in force at the date on which this NPS was designated, provides that all applications for development consent will be both examined and determined by the IPC. However, the enactment and entry into force of the provisions of the Localism Bill (introduced into Parliament in December 2010) relating to the Planning Act would abolish the IPC, giving its functions of examining applications to a new Major Infrastructure Projects Unit ("MIPU") within the Planning Inspectorate, and its functions of determining applications on major port infrastructure projects to the Secretary of State for Transport (who will receive a report and recommendation on each such application from MIPU).

NPSs are at the heart of the new planning regime for NSIPs. Each NPS sets out Government policy for the infrastructure it covers and the reasons for that policy. This includes the need for new infrastructure; the relative weight to be given to specified criteria such as the benefits of new infrastructure and the adverse impacts that it might have; and, when action should be taken to mitigate adverse impacts. NPSs can set out criteria to be used in deciding whether a location is suitable for a type of infrastructure. They can also identify specific locations that are or might be suitable or unsuitable for a type of infrastructure[1].

Setting out a clear Government policy in this way establishes clear Ministerial accountability for the policy choices that underlie planning decisions on NSIPs. It also:

- provides the primary basis for decisions by the Infrastructure Planning Commission on the applications it receives;
- reduces the need for discussion at public inquiries about what is or should be Government policy – avoiding a situation in which an attempt is made to determine what the national need is on a case by case basis; and,
- gives prospective infrastructure providers clarity as to what proposals are or are not in line with Government policy.

The IPC must, subject to qualifications set out at s.104 of the Act, decide applications put to it in accordance with the relevant NPS. The NPSs are not, however, the only factor. The IPC will also have regard to any local impact report submitted by a relevant local authority; anything that Ministers may prescribe in regulations in relation to a particular type of infrastructure; and anything else that the IPC judges to be both important and relevant to the decision.[2]

Specifically, the IPC has to decide an application[3] in accordance with the NPS unless it is satisfied that to do so would:

- lead to the UK being in breach of its international obligations;
- be unlawful;

[1] See Section 5(5) and (6) of the Planning Act 2008 for the exact specification as to what an NPS may contain
[2] See Section 104(2) of the Planning Act 2008 for the exact position
[3] See Section 104(3) – (8) of the Planning Act 2008 for the exact position

- be in breach of any statutory duty that applies to the IPC;
- result in adverse impacts that outweigh the benefits; or
- be contrary to regulations about how decisions are to be taken.

The IPC is not bound by local or regional development plans but where a proposed infrastructure development would preclude something envisaged in a development plan that may be considered as a potential adverse impact. As a statement of policy at national level the NPS, however, has primacy over local planning documents for planning purposes.

1.1.2 Ports: National Policy Statement for England & Wales

The Ports NPS will apply to development for "the construction or alteration of harbour facilities[4]", referred to the IPC either by virtue of its estimated capacity exceeding the thresholds stipulated in the Act (as stated below), or at the discretion of the Secretary of State. It will also apply, by extension, to related development within the meaning of the Act.

The capacity thresholds set in section 24 of the Act are:

- 0.5M teu [twenty foot equivalent unit] of lo-lo[5] containers per annum;
- 0.25M ro-ro[6] units per annum;
- 5M tonnes per annum of commodities not included in the foregoing; and, in the case of mixed development,
- a weighted sum of the above.

There is no single or definitive way of measuring the capacity of port infrastructure. The Act (s.35) makes the Secretary of State the arbiter, on the basis of the evidence before him or her, of what the capacity of a proposed development is for the purpose of comparison with the thresholds.

The NPS reaffirms the market-led policy to port development and explains how the UK ports sector is a successful market-led sector that should be enabled to provide essential capacity in a sustainable manner. It explains that the market is the best place to determine when, how and where to meet the need for additional port capacity and explains the way in which the IPC should take account of the adverse impacts of port development.

Except where explicitly limited to IPC cases, the policies to be set out in the NPS are also intended to constitute potential material considerations for applications considered by the Secretary of State or by the Marine Management Organisation (MMO).

1.2 Background to Appraisal of Sustainability (AoS)

The Planning Act commits Government departments to assess the social, economic and environmental sustainability of policy stated within a NPS through the production of an Appraisal of Sustainability (AoS). The AoS process relies upon the development of an appraisal framework within which decisions on the relative sustainability of the NPS options can be made, with the purpose of providing decision makers, consultees and others with manageable information on the wider effects of policy implementation and capturing progress towards sustainability.

1.2.1 Meeting the requirements of the Strategic Environmental Assessment (SEA) Directive

The AoS needs to assess the environmental, social and economic effects of the NPS. The approach taken to the AoS has therefore used many of the principles of traditional 'Sustainability Appraisal' (SA) and Strategic Environmental Assessment (SEA). SA aims to promote sustainable development through the integration of social, environmental and economic considerations. SEA is a requirement in the assessment of the effects of certain plans and programmes as set out in the EU Directive 2001/42/EC. SEA provides the basis for, and is integrated into the wider SA process. The

[4] The construction or alteration of harbour facilities would generally cover the provision of new quays or the extension of existing berthing space, supporting infrastructure such as cranes and handling facilities, together with new or improved links to inland transport routes.
[5] lo-lo: lift-on lift-off (as distinct from roll-on roll-off)
[6] ro-ro: roll-on roll-off

environmental component of this AoS fulfils SEA requirements under the provisions of this Directive, as transposed to UK law by SI 2004/1633 'The environmental assessment of plans and programmes regulations 2004', and in Wales SI 2004/1656 'The environmental assessment of plans and programmes (Wales) regulations 2004'. In line with DCLG guidance on the Directive[7], the fulfilment of the SEA requirements has been conducted in a manner appropriate to the strategic nature of the NPS. The elements of an 'Environmental Report', as required by the SEA Directive, are therefore incorporated within this AoS Report. Appendix 6 demonstrates the way in which SEA requirements have been addressed within the AoS.

1.2.2 AoS and Sustainability

This AoS for the Ports NPS, like SA and SEA processes, has been undertaken at the same time as the drafting of the NPS. This ensures that findings from the scoping exercise and the AoS assessment can be taken into account and influence amendments in the draft policy statement prior to the public consultation stage.

The definition of sustainability that underpins this AoS is "*economic and social development that meets the needs of the current generation without undermining the ability of future generations to meet their own needs*" (WCED, 1987[8]). This definition is brought together under what is often referred to as the three pillars of sustainability: economic, social and environmental development. The UK Government has developed strategies to help implement sustainable development.

The Department for Transport's vision is:

> for a transport system that is an engine for economic growth but one that is also greener and safer and improves quality of life in our communities. Delivering this vision effectively means adopting new approaches: devolving control, deregulating and empowering others. And we will work together as a team, to make the most of our talent.
>
> To support economic growth, the Department aims to deliver world-class national and international networks for individuals and industry. An efficient, competitive and resilient transport sector enables growth and helps spread prosperity.
>
> To create a greener transport system, we need to play our part in supporting the green economy and reduce the environmental impacts of travel and transport, such as carbon emissions, ,poorer air quality and noise.
>
> And transport users must have confidence in the safety and security of our system. So we will continue to maintain our excellent safety record and manage future security risks.

The development of the Ports NPS has been consonant with this vision. DfT has been responsible for the development of the NPS document, and the iterative nature of the process has ensured that sustainability issues identified within the AoS have been taken into account in its development where relevant.

1.2.3 Appropriate Assessment

An Appropriate Assessment under the requirements of the Habitats Directive[9] has also been undertaken for the Ports NPS in a separate exercise by DfT. The results have been considered within this AoS Report. As mentioned earlier, the NPS does not form a detailed plan or programme for future port development, but sets out the likely need for port expansion, taking account of published demand forecasts produced for the Department, if lack of appropriate port capacity is not to act as a constraint on future economic growth. DfT has therefore considered what effect the policies set out in the NPS may have on habitats in the context of the relevant European Directives and corresponding national Regulations. An overview of the outcomes of this Appropriate Assessment can be found in Section 7.5

[7] CLG [ODPM] (2005) A Practical Guide to the Strategic Environmental Assessment Directive, available at URL: http://www.communities.gov.uk/documents/planningandbuilding/pdf/practicalguidesea.pdf
[8] WCED (1987) *Our Common Future*, World Commission on Environment and Development.
[9] Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora

1.2.4 Purpose of this AoS Report

The AoS report (this report) is a key output of the AoS process and incorporates the required elements of a SEA 'Environmental Report'. The purpose of this AoS report is to present information on the sustainability effects of the Ports NPS. It also details how the AoS process to date has influenced the development of the draft Ports NPS.

1.3 Structure of this Report

This AoS Report has been structured in the following sections:

- **Section 1 - Introduction (this section):** Introduction to the AoS Report, including an overview of the Planning Act, Ports NPS and AoS.
- **Section 2 - AoS and Appraisal Methodology:** A description of the AoS assessment methodology used to predict sustainability effects of the NPS.
- **Section 3 – Relevant sustainability objectives, baseline and context:** An overview of relevant sustainability objectives emerging from a review of relevant plans, policies and programmes, baseline and context for the assessment, as identified in the Scoping Report.
- **Section 4 - AoS framework:** An overview of the AoS framework, which is used to undertake the assessment of sustainability effects.
- **Section 5 - Compatibility Assessment:** An assessment of the compatibility of the NPS and AoS objectives.
- **Section 6 - Assessment of NPS policy alternatives:** An assessment of the draft NPS strategic alternatives to identify sustainability effects.
- **Section 7 - Appraisal of sustainability – NPS policies:** An overview of the AoS assessment, including predicted sustainability effects of NPS policies. Full assessment tables can be found in Appendices 2, 3, 4 and 5.
- **Section 8 – Monitoring:** An overview of the monitoring requirements of the NPS
- **Section 9 – Next steps:** How to respond to the public consultation on the Ports NPS and AoS Report, and details on the preparation of an AoS Statement.

2 AoS and Appraisal Methodology

This section sets out the methodology used when undertaking the appraisal of sustainability of the Ports NPS.

2.1 AoS Methodology

The AoS of the Ports NPS was originally undertaken by a team of consultants appointed by DfT, led by AEA and including Atkins and MVA. It has been updated by DfT to take account of amendments in the final version.

The following sections provide further details on the AoS methodology. The full AoS methodology is outlined in Figure 1.

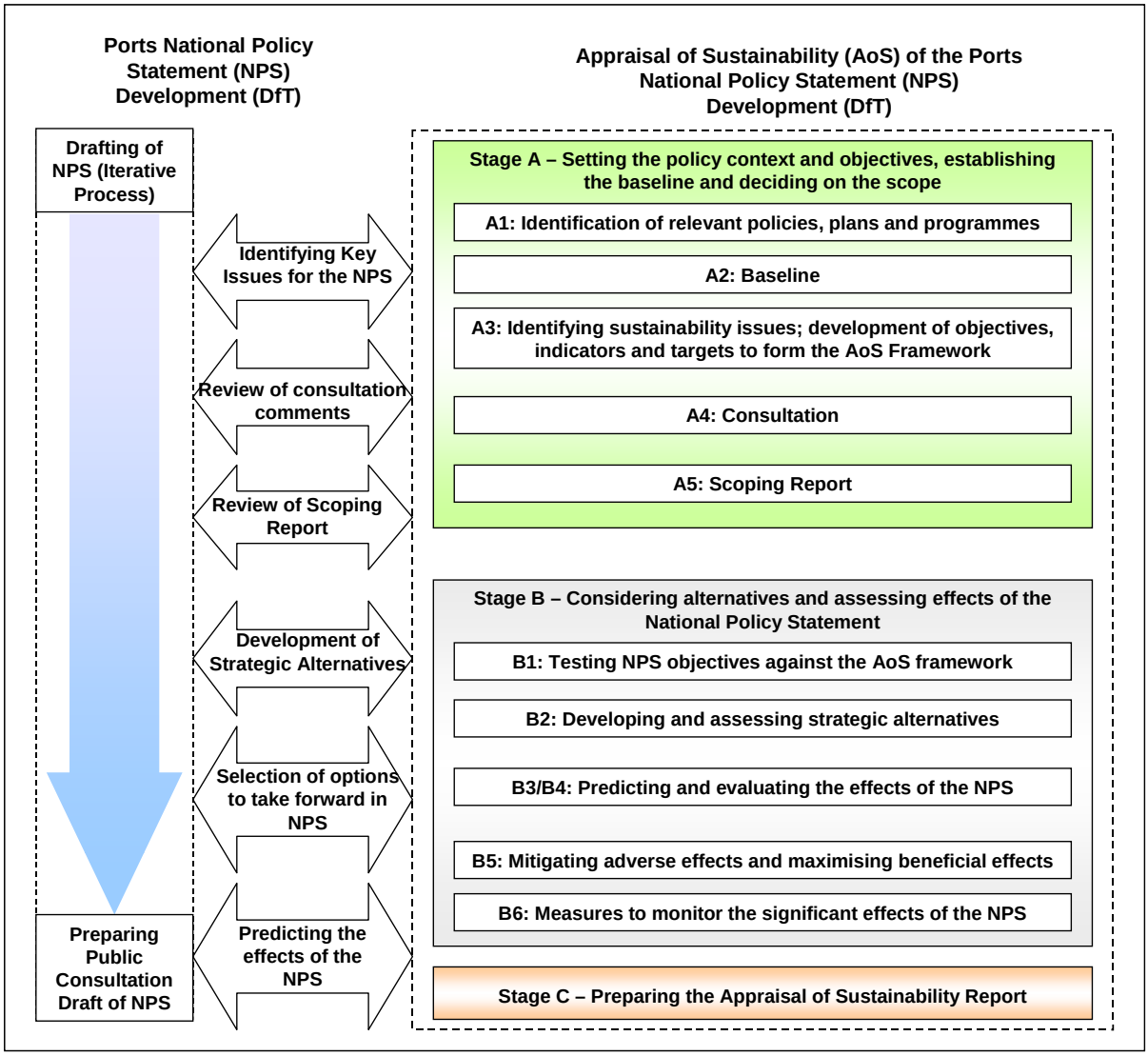

Figure 1: Appraisal of Sustainability of the Ports NPS

2.1.1 Stage A: Setting the policy context and objectives, establishing the baseline and deciding on the scope (Scoping Stage)

Stage A, the Scoping stage, was undertaken between November 2008 and February 2009. The findings of the Scoping Stage were reported on in the AoS Scoping Report, which can be found in Appendix A. The scoping stage involved the following:

- **Identification of relevant plans, policies and programmes (PPPs), and undertaking a review of these documents -** Review of relevant plans, policies and programmes (PPPs) of sustainability relevance to the Ports NPS, and those that have the potential to influence its development was undertaken. Such PPPs can potentially act as constraints, for example where formal limitations, policy contexts or requirements are stated. Through undertaking the review, any constraints have been identified, as well as establishing any sustainability objectives they may contain (see Section 3.1).

- **Identification and collation of relevant sustainability baseline data -** Data on a range of key indicators relating to environmental, social and economic indicators for the policy area were identified and collated. Indicators were used as a way of collating relevant baseline data to ensure that the data collection being carried out is both focused and effective. Indicators were therefore selected for their ability to provide objective data that will offer insight into the trends taking place over time (see Section 3.2).

- **Identification of key sustainability issues -** Through the review of relevant plans, policies and programmes, and the collation of sustainability baseline data, a range of key sustainability issues that could be addressed by or affect the content of the Ports NPS were identified. The key sustainability issues identified for ports-related development and infrastructure, and considerations for the AoS in terms of how to address them, were summarised and grouped by sustainability topic (see Section 3.3).

- **Development of the AoS Framework –** The PPP review, sustainability baseline and key sustainability issues were used to develop a set of sustainability objectives referred to as the AoS framework. This framework has been used to assess the impacts of the NPS (see Section 4).

- **Consultation -** Consultation was undertaken with Statutory Environmental Bodies and other key stakeholders. Consultation on the Scoping stage was undertaken at three points. Firstly, a Scoping Workshop was held at DfT on the afternoon of the 3rd December 2008 (joint workshop for the Ports and National Networks NPSs). Representatives from the five environmental Statutory Bodies for England and Wales (Environment Agency (EA), English Heritage (EH) Natural England (NE), Cadw and Countryside Council for Wales (CCW)) and the Sustainable Development Commission (SDC) were invited to attend. The purpose of the workshop was to consult with these key stakeholders at an early stage in the scoping process to aid the identification of key sustainability issues relevant to the Ports NPS. Representatives from the Environment Agency, English Heritage, Natural England, and the Sustainable Development Commission attended the workshop. In addition, written comments were received from Environment Agency, English Heritage and Natural England following the workshop. The project team recognised that with the exception of the SDC, key stakeholders interests lay primarily with the environmental issues related to the NPS development. Stakeholders were also given four weeks to consider a draft version of the scoping report and provide written comments during January/February 2009. The Scoping Report was revised to reflect these comments (see Appendix 1 – Scoping Report Appendices E and F which detail the changes made).

  Statutory Environmental Bodies were given a further five weeks to comment on a draft of the AoS Scoping Report in August/September 2009 in order to offer specific comments in relation to the applicability of the SEA Directive. These comments were addressed in the AoS Report (rather than the AoS Scoping Report), and the appendices to the AoS Scoping Report where appropriate (the review of plans, policies and programmes and the baseline data) See Appendix 7 for details of how these comments were addressed in the AoS report, associated assessments and appendices.

- **AoS Scoping Report** – An AoS Scoping report was produced detailing the stages undertaken in the scoping stage. The AoS Scoping Report was consulted upon during January/February 2009 and responses were incorporated in to the Scoping Report.

Section 3 summarises the Scoping stage and the AoS Framework is set out in Section 4.

2.1.2 Stage B and C: Considering alternatives and assessing effects of the National Policy Statement and preparing the Appraisal of Sustainability Report

The tasks undertaken in the appraisal stage of the AoS are set out in the Stages B and C of Figure 1. The appraisal stage was undertaken between March and October 2009. The key stages undertaken are described below.

Testing the NPS objectives against the AoS Framework

A compatibility analysis between the Ports NPS objectives and the AoS Objectives set out in the AoS framework was undertaken. This was to identify both potential synergies and inconsistencies, and to ensure that the fundamental aims of the NPS and AoS were not different.

A matrix was used to assess whether each NPS objective is broadly compatible or not compatible with AoS objectives, or whether there was uncertainty over compatibility or no relationship between the objectives (see Section 5).

Developing and assessing strategic alternatives

DfT and the AoS team identified the key strategic policy areas in the draft Ports NPS that have reasonable alternatives. This has been an iterative process by which a set of reasonable alternatives was prepared by DfT in consultation with the AoS team. The appraisal of these alternatives compared to the policies currently set out in the draft NPS has been carried out by the AoS team with input from DfT (see Section 6).

In the appraisal, the strategic alternatives have been compared to the NPS policy. In some cases the alternative options relate to a continuum of degrees of possible government intervention and in these cases the limiting cases have been assessed. The various options have been considered according to whether they would have a broadly positive, negative or no effect on achieving the environmental, economic and social sustainability objectives established in the scoping stage of the AoS, set out in Section 4. Only the main differences between the options were considered at this stage; more detailed appraisal has been made of specific policies in the assessment of the chosen policies contained in the NPS in the assessment tables in Appendices 2, 3, 4 and 5, summarised in Section 7.

Predicting and evaluating the effects of the NPS

During the AoS process, four phases of assessment were undertaken using the methodology outlined below. This was to ensure that the sustainability effects of the developing Ports NPS were being identified and recommendations made to further enhance future versions of the NPS, making this an iterative process. The four phases were as follows:

AoS Assessment Phase 1:

- Draft of Ports NPS (8/iv – April 2009).
- Full AoS assessment undertaken on NPS draft (Phase 1).
- Recommendations made and presented to DfT.
- Please see Appendix 2 for Phase 1 AoS Assessment Tables. A summary of the assessment can be found in Chapter 7.

AoS Assessment Phase 2:

- Revised draft of the Ports NPS (22/v - May 2009), taking into consideration recommendations from first phase of AoS assessment.
- Indication of where recommendations made in the Phase 1 AoS Assessment had/not been addressed in the revised draft of the Ports NPS, documented within the Phase 1 table.

- Full AoS assessment undertaken on 2nd NPS draft (Phase 2).
- Further recommendations made and presented to DfT.
- Please see Appendix 3 for Phase 2 AoS Assessment Tables. A summary of the assessment can be found in Chapter 7.

AoS Assessment Phase 3:

- Revised draft of the Ports NPS (19/vi – June 2009), taking into consideration recommendations from second phase of AoS assessment
- Indication of where recommendations made in the Phase 2 AoS Assessment had/not been addressed in the revised draft of the Ports NPS, documented within the Phase 2 table.
- Full AoS assessment undertaken on 3rd NPS draft (Phase 3).
- Further recommendations made and presented to DfT.
- Please see Appendix 4 for Phase 3 AoS Assessment Tables. A summary of the assessment can be found in Chapter 7.

AoS Assessment Phase 4:

- Revised final public consultation draft of the Ports NPS (13/x – October 2009), taking into consideration recommendations from third phase of AoS assessment
- Indication of where recommendations made in the Phase 3 AoS Assessment had/not been addressed in the revised final draft of the Ports NPS, documented within the Phase 3 table.
- Final full AoS assessment undertaken on 4th NPS draft (Phase 4).
- Final recommendations made and presented to DfT – as set out in this AoS Report.
- Please see Appendix 5 for Phase 4 AoS Assessment Tables. A summary of the assessment can be found in Chapter 7.

AoS Assessment Phase 5:

- Revisions for final NPS to be presented to Parliament, having taken account of public consultation responses and Parliamentary scrutiny, in particular the report of the Transport Select Committee, and subsequent institutional changes.

The SEA regulations require that secondary/indirect, synergistic and cumulative effects be considered in addition to assessing the individual significant effects of a plan or programme. These can be defined as follows:

- **Secondary or indirect effects:** Effects that are not directly a result of the plan (e.g. the construction of service stations as a result of a new motorway).
- **Synergistic effects:** Effects that occur when several effects interact to produce a total effect which is greater than the sum of the individual effects (e.g. a wildlife habitat which becomes progressively fragmented with minor effects on a particular species until the last fragmentation makes the area too small to support the species at all).
- **Cumulative effects:** Effects that arise where several developments or measures each have an insignificant effect but where the combination of these effects is significant overall, or where several individual effects of the plan (e.g. air quality, noise and vibration) have a combined effect.

The term 'cumulative effects' has been used in this report to include secondary, indirect and synergistic effects, as although distinct, they are not mutually exclusive. An overview of the positive and negative cumulative effects of the Ports NPS is provided in Section 7.4. This assessment includes a description of the effect, causes and significance.

The spatial scope of the AoS is the same as that of the Ports NPS, which covers England and Wales. No effects were identified that could affect sustainability issues in neighbouring countries.

All stages of the assessment used AoS assessment tables to aid the prediction of sustainability effects of the Ports NPS. These assessment tables were completed for each of the AoS objectives as identified within the AoS Framework to aid the assessment of the NPS policies. An example assessment table is shown in Table 1.

Table 1: Example AoS Assessment Table							
AoS1: To ensure air quality limit values are not exceeded by port development		• To minimise emissions of air pollutants arising from ports-related development and infrastructure. • To contribute towards efforts to meet air quality limit values in areas of exceedence.					
Relevant NPS Elements		**Description of Effect**	**Duration and Scale of Effect**			**Recommendations / Improvements**	**Recommendations taken onboard in next draft of NPS?**
			ST	**MT**	**LT**		
Para number	*Para/section title*						

Relevant NPS elements - This refers to the sections of the NPS text which are likely to have an impact on the AoS objective being assessed. These are likely to be directly related to the objective (i.e. Air Quality impacts section within the NPS is likely to have direct impacts on the Air Quality AoS objective), but also wider NPS text (i.e. section on inland transport infrastructure within the NPS is also likely to have impacts on the Air Quality AoS objective). The relevant paragraph number and section/title are given in the table as reference.

Description of effect - The likely effect on the AoS objective is described in more detail. This includes a description of what is stated within the NPS and its likely effect (positive/negative) based on the AoS objective and sub-objectives (where applicable), referring back to the key sustainability issues (see Section 3.3). It should be noted that the assessment undertaken is largely qualitative in nature, due to the non-locational nature of the Ports NPS.

Assessing the scale of effect - The assessment of the predicted effect of the NPS policies on the AoS objectives has been determined in terms of duration (short term, medium term and long term – where appropriate), and scale (positive, negative etc). The following key has been used within the assessment tables:

Duration and Scale of Effect

Timescales:	**Degree of effects:**		
ST – Short Term	**0** – no effect	**+++** strongly positive	**---** strongly negative
MT – Medium Term	**?** – uncertain effect	**++** moderately positive	**--** moderately negative
LT – Long Term		**+** slightly positive	**-** slightly negative

The temporal scales that have been considered within the appraisal are: Short term (0-5 years); Medium term (5-15 years); and Long term (15 years+). In some cases varying effects could be identified for the differing temporal scales whereas in others the same effect is predicted from short term to long term. For example, construction of port related infrastructure may have a negative impact on air quality in the short term, but it will not be expected to have an effect on air quality in the medium to long term.

For the purpose of this assessment, strongly and moderately positive, and strongly and moderately negative are considered to be 'significant' effects.

Recommendations/Improvements - Where negative effects are identified, or where elements were missing from the NPS, recommendations and/or improvements were suggested.

Recommendations taken onboard in next draft of NPS? – This column has been used to check whether subsequent drafts of the NPS have addressed recommendations identified in the previous assessment.

Mitigating adverse effects and maximising beneficial effects

Recommendations and improvements have been suggested within the AoS assessment tables at each phase of the assessment where negative effects have been identified, or where elements have been missing from the NPS. This ensures that adverse effects can be mitigated where possible and beneficial effects are maximised.

Measures to monitor the significant effects of the NPS

Suggestions for monitoring the impacts of the Ports NPS have been made. These are included in Section 8 of this report.

Preparing the AoS Report, including non-technical summary (this document)

This AoS Report, including a non-technical summary (NTS) has been prepared to provide a detailed account of the AoS process and the outcomes of the assessment. This document will be consulted on alongside the Ports NPS.

3 Relevant sustainability objectives, baseline and key sustainability issues

The information presented in this section provides an overview of the work undertaken in the AoS Scoping Stage. The process of identifying and reviewing PPPs and collating the sustainability baseline was to inform the development of a set of key sustainability issues relevant to the Ports NPS, and subsequent development of the AoS Framework. The AoS Framework includes a set of sustainability objectives that the NPS has been assessed against.

3.1 Links to other strategies, policies, plans and programmes and sustainability objectives

A review of relevant plans, policies and programmes (PPP) of sustainability relevance to the Ports NPS, and that have the potential to influence its development, was undertaken during the Scoping stage. Such PPPs can potentially act as constraints, for example where formal limitations, policy contexts or requirements are stated. Through undertaking the review, these constraints were identified, as well as establishing any sustainability objectives they contained.

Plans, policies and programmes were categorised into overarching, environmental, economic, social, ports-specific and transport-specific documents. Within each category, the spatial level of relevance of the document was also identified (International, Europe, UK, England, Wales).

The review of PPPs revealed that in the relevant PPP groups (overarching, environmental, social, economic, transport and port specific), similar objectives and targets were required from the international to the local level. An overview of the key objectives and targets from identified relevant PPPs is provided below (full PPP review can be found in Appendix 1, Scoping Report Appendix A).

Overarching PPPs: Overarching PPPs highlighted that; in general, the following objectives and targets should be met:

- Delivering sustainable development;
- Supporting vibrant, healthy sustainable and inclusive urban and rural communities;
- Effective protection of the environment;
- Tackling climate change (mitigation and adaptation);
- Prudent use of natural resources;
- Promoting sustainable economic growth;
- Ensuring quality of life now and in the future; and
- Ensuring that members of the public can make their views heard.

Environmental PPPs: The environmental PPPs outlined objectives, shared priorities and future actions to achieve environmental protection, recommended measures to tackle potential issues and explained the effectiveness of measures currently being implemented. The main objectives of the PPPs are as follows:

- To protect and preserve the environment for today and the future;
- To protect the environment as a whole and human health by setting objectives and emission reduction targets for the main air quality pollutants;
- To reduce greenhouse gas emissions and stabilising climate change (mitigation) and take into account the unavoidable consequences (adaptation);
- To protect and enhance biodiversity and geodiversity in the terrestrial and marine environments;
- To protect and enhance nationally and internationally designated sites for biodiversity, geodiversity, landscape and recreation;
- To protect, maintain and enhance environmental functions, goods and services and to work within safe environmental limits;
- To work towards sustainable waste management;
- To promote the use of renewable energy (including biofuels);

- To promote landscape protection, sustainable management and planning, ensure access to the countryside and protect soil, including the identification and remediation of contaminated land;
- To avoid, prevent or reduce the harmful effects including annoyance due to exposure to noise;
- To protect water quality and allocated water resources efficiently;
- To reduce and manage the risks that floods pose; and
- To preserve and promote heritage for people to enjoy now and in the future.

Economic PPPs: The economic PPPs outline the following broad objectives:

- Delivering strong and sustainable economic growth by providing opportunities for all;
- Continued economic growth and prosperity and the creation of more and better jobs;
- Maximising the competitiveness and productivity of the economy;
- Promoting economic competitiveness; and
- Promoting and developing tourism.

Social PPPs: Social plans, policies and programmes outline the following broad objectives:

- Improve health and well-being (especially vulnerable persons e.g. children, elderly);
- Promote physical activity, tackle discrimination;
- Promote equality;
- Improve accessibility;
- Increasing opportunities for all;
- Make communities safer; and
- Build more cohesive, empowered and active communities

Ports Specific PPPs: Ports specific PPPs have a range of objectives and targets, all of which are relevant to the Ports NPS. Objectives identified are concerned with:

- Achievement of good environmental status of seas;
- Prevention of pollution from ships;
- Safety;
- Protection of the coast and marine conservation;
- Protect and preserve the marine environment from all sources of pollution (including waste and dredging activities);
- Movement of freight;
- Port health; and
- Navigation.

Transport PPPs: The broad transport objectives identified by the review of transport PPPs which were considered to be relevant to the Port NPS included:

- Providing a modern, safe, integrated, efficient and sustainable transport system which breaks the link between transport growth and economic growth;
- Promoting the sustainable distribution of goods; and
- Tackling congestion and pollution.

3.2 Environmental, economic and social baseline characteristics and the predicted future baseline

This section focuses on the environmental, economic, social and general baseline characteristics relevant to the AoS and Ports NPS. Data on a range of key indicators relating to environmental, social and economic indicators for the policy area were identified and collated during the Scoping stage.

Indicators are used as a way of collating relevant baseline data – this has ensured that the data collection carried out was both focused and effective. This task was undertaken at the same time as the review of other relevant plans, policies and programmes, and the identification of sustainability issues. Indicators were therefore selected for their ability to provide objective data that could offer insight into the trends taking place over time.

The collated baseline therefore provided an overview of the environmental, social and economic characteristics of the Ports NPS area (England and Wales), and was important in identifying key sustainability issues potentially relevant to the Ports NPS.

The baseline data has been used to describe the status of the environment that may potentially be affected by the Ports NPS. Baseline information is essential to the assessment process as it is not possible to predict what effects the NPS will have without having an understanding of the current situation (the full baseline data can be found in Appendix 1, Scoping Report Appendix B).

3.2.1 Environmental baseline

Noise
The UK mean noise levels are 56.9dB for daytime noise and 48.0dB for nighttime noise.

Air Quality and Greenhouse Gases
Across England and Wales 208 local authorities have declared AQMAs. Air quality pollution concentrations tend to be higher around major urban areas and the road network. Greenhouse Gases emission hotspots are also seen around urban areas and along main routeways. CO_2 is the major greenhouse gas emitted accounting for 72% of the total GHG emissions in the UK in 2008.

Landscape and Heritage
There are currently 8 National Parks in England covering 8% of the English land area and 3 in Wales, which cover 20% of its land area. In England and Wales there are 40 Areas of Outstanding Natural Beauty. 33% of England's coast and 42% of the coast of Wales are protected under heritage coasts. There are 270 country parks in England and 4 country parks in Wales. There are 159 Landscape Character areas in England and 58 landscapes across Wales however; these don't cover the whole of Wales.

The extent of tranquil areas in England is declining due to large urban areas and extensive transport networks. Wales is more rural than England leading to substantial tranquil tracts.

There are 18 World Heritage Sites; 23,705 Scheduled Monuments; and 403,209 Listed Buildings across England and Wales. The English Heritage Register of Historic Battlefields has identified 43 English Battlefields. In 2007 there were 46 designated wreck sites off the English Coast and 6 sites designated off the Welsh coast. There are 1,595 Registered Parks and Gardens in England, 127 sites were registered at Grade I, 409 at Grade II* and 1,059 at Grade II. In Wales approximately 10% of the sites on the register are Grade I and 23% Grade II*. There are also 5 Areas of Archaeological Importance in England (this designation only applies to England). There are 57 sites designated under the Protection of Military Remains Act 1986.

There are a range of landscape and biodiversity designations within England and Wales, including:
- 97 classified Special Protection Areas;
- 318 Special Areas of Conservation;
- 76 Ramsar sites;
- 2 Marine Nature Reserves;
- 290 National Nature Reserves;
- over 5,019 Sites of Special Scientific Interest (SSSIs);
- 1,480 Geological SSSIs/ ASSIs sites with a notified geological interest;
- over 22,000 areas of ancient woodland;
- over 1,342 Local Nature Reserves;
- 2228 ha covered by Limestone Pavement Orders;
- Biosphere Reserves and 3 Geoparks across England and Wales.

Light
Urban areas have an impact on the night sky through artificial lighting, while rural areas are shown to have low light pollution levels.

Biodiversity
There are 4 pSPAs; 1 SCI, 9SACs and 4 PSACs & dSACs; and 3 proposed Ramsar sites. There are 56 habitats and 943 species of principal importance on the S41 list in England and 55 habitats and 1,015 species of principal importance on the S42 list in Wales.

Water Quality
In 2007 76% of rivers in England and 95% of Welsh rivers were of good chemical quality, 8 sites Failed EQS For List 1 Substances, and 40% of abstractions did not comply with the Surface Water Abstraction Directive standards in England and Wales. In 2008 across England and Wales 71.7% of bathing Water sites met the stricter standards.

Flooding
Around 5 million people, in 2 million properties, live in flood risk areas in England and Wales.

Soil and undeveloped land
In 2003 6,380 ha of agricultural soils were lost to Development. In 2006 62,730 Hectares of previously developed land in England was unused or available for development.

Waste
2007/08 saw the total municipal waste for England and Wales reach 30,378,278 tonnes most of which was landfilled.

3.2.2 Economic baseline

Employment
Between April 2007 and March 2008 the average unemployment rate was 5.6%; the percentage of working age people in work was 74.4%. Only 61% of ethnic minorities were employed, compared with 76% of white people. 12% of ethnic minority people were unemployed (ILO unemployment), compared with only 5% of whites. 21.2% of people were economically inactive in England in 2007 and in 2006 24.6% of people were economically inactive in Wales. The economic activity rate in England was 79.0% and 75.5% in Wales in the third quarter of 2007. 31% of people from an ethnic minority background were economically inactive, compared with only 20% of people from a white background. In 2006 England had an average job density of 0.89 and Wales had an average job density of 0.87. The average earnings, expressed as median gross weekly pay, across England as of April 2008 was £421.0.

Property Value
The average property value in April 2008 across England and Wales was £186,205. In 2006/2007 87% of people in England were satisfied with the area they live in. In 2006/2007 there were 44,330 affordable homes in England. 483 rough sleepers were counted in June 2008.

Deprivation
The most deprived areas[10] in England are spread throughout the regions. Most urban centres in England contain high levels of deprivation. The most deprived region is northeast followed by the northwest. In general levels of deprivation appear highest in the south of Wales and in some parts of north Wales e.g. in the vicinity of the Dee Estuary.

Ports and the Economy
Research for the British Ports Association showed that in 2007, the ports sector directly employed 132,000 people equating to 0.5% of total employment in the UK. Adding together the direct, indirect and induced impacts, ports were estimated to have supported 362,000 jobs in 2007, which was 1.2% of all employment in the UK.[11].

In 2008, ports in the UK handled 562 million tonnes representing about 95% of the total volume of UK trade, and 75% of its value. Regional statistics for 2007 show that, of a UK total port tonnage of 581 million tonnes, 399 million tonnes (68.6%) were handled by English ports and 57 million tonnes (9.7%) by Welsh ports.

[10] Deprivation is an aggregate condition derived from a composite set of indicators described fully by DCLG: Indices of Deprivation 2007, http://www.communities.gov.uk/communities/neighbourhoodrenewal/deprivation/deprivation07/
[11] Oxford Economics for the UK Major Ports Group and One Voice maritime industry group, March 2009

3.2.3 Social baseline

Population
The England and Wales population in mid 2006 was 53,728,000, which accounted for 88.7% of the UK population. 10.5% of people in England in 2004 and 3.2% of people in Wales in 2007 were from a non-white background.

Health and Well-being, including Equalities
Life expectancy at birth in England between 2005 and 2007 was 77.5 for males and 81.7 for females. In Wales Life expectancy in the same period was 76.7 for males and 81.1 for females. In 2003 the English healthy life expectancy for males at age 65 was 12.5 years and 14.4 years for females. In Wales it was 10.9 years for males and 13.5 years for females. The English Standardised Mortality Ratio for 2005 was 98 and the Welsh ratio was 103. The infant mortality rate in England was 5% and 4.3% in Wales. The percentage of the population in 'not good' health in 2001 was recorded as 8% in England and 10% in Wales.

Across England in 2001 there were 4.3 million people of working age who had a disability or long-term illness. Across Wales in 2007 391,000 people of working age had a disability, 21.9% of working age population.

In 2006, 24% of adults (aged 16 or over) in England were classified as obese and 16% of children aged 2 to 15 were classed as obese. In 2005/06 19% of adults in Wales were classified as obese and 2% of girls and 4% of boys aged 13 were classed as obese. Overall, in each year from 2001 to 2006, more women consumed five or more portions of fruit and vegetables per day than men, and consumption was greatest in the highest income groups.

Childhood Poverty: between 2003 and 2006 29% of children in England was living in households with incomes below 60% of the median. 28% of children in Wales still live in households with incomes below 60% of the median. Between 2003 and 2006 18% of pensioners in England lived in households with incomes below 60% of the median.

11% of 16-18 year-olds were not in employment or education in 2006, 75.5% of 19-21 year-olds had Level 2 qualifications or higher.

Accessibility
There are 15 National Trails across England and Wales. In 2005/2006 25% of all trips in England were made by walking or cycling and 20% of all trips in Wales were made by walking. During 2006-7, 22% of all adults took part in moderate intensity sporting activity for at least 30 minutes on at least 3 separate days during the past week.

Transport and transport connections/services are an important element of accessibility. England is generally well connected by rail links, as is the north and south coasts of Wales. England is well served by trunk roads and motorways; the only motorway serving Wales is the M4, however there are a number of trunk roads crossing the country. In 2006 there were 89.4 billion vehicle kilometres on England's motorways and 71.9 billion (rural)/69.2 billion (urban) vehicles kilometres on principal roads and there were approximately 1.2 cars per household. During 2005/06 most trips made were made by car for the purpose of shopping. Bus availability was recorded as 87% and for the period 2006/07 there were 4,669 million Bus and light rail journeys, rail patronage increase by 140% from 95/96 in 2005/06.

Safety
In 2006 across England and Wales there were 241,269 road casualties and in 2007 there were 281 fatal incidents on railways. In 2007/08 there were 4,660,148 recorded crimes across England and Wales.

3.2.4 Evolution of the baseline without the NPS

Due to the nature of the policy statement being considered – the Ports NPS, it is not anticipated that the environmental, economic and social baseline will be affected as a result of its direct implementation. The NPS sets out existing policy, but only aims to affect the process of consenting port-related development projects (including time taken through making it clear what may be

consented), rather than the outcome of decisions. Therefore any trends identified in the baseline are likely to be the same with and without the NPS.

3.3 Key Sustainability Issues identified

Through the review of relevant plans, policies and programmes, and the collation of sustainability baseline data, a range of key sustainability issues that could be addressed by or affect the content of the Ports NPS were identified. The key sustainability issues identified for ports-related development and infrastructure, and considerations for the AoS in terms of how to address them, are discussed in the following sections. For the purposes of this exercise, key issues were grouped by sustainability topic, and are not presented in any particular order of priority. The footnotes highlight PPPs that are specifically relevant to the key sustainability issue identified.

3.3.1 Environmental Key Issues

Key Issue 1: Air quality[12]

The combustion of fossil fuels leads to emissions of a range of pollutants, including NO_X, VOCs, CO, SO_X and PM. Secondary pollutants, such as ozone, are subsequently formed.

The EU Air Quality Framework Directive, adopted in June 2008, sets out a requirement for EU Member States to ensure that air quality limit values for a range of air pollutants are not exceeded. These legally binding targets are closely mirrored by a national set of objectives, detailed in the UK's Air Quality Strategy (July 2007). Where air quality targets are not being met, Local Authorities (LAs) are required to declare Air Quality Management Areas (AQMAs). 208 Local Authorities in England and Wales have declared AQMAs. Ships are a source of airborne emissions, and typical primary emissions include SO_X, smoke and soot. NO_2 and SO_2 are typical pollutants generated by ships while both manoeuvring and berthing and may affect air quality in the hinterland. Ancillary air pollution impacts related to port activity may also result from transport systems that feed the ports and development induced by ports. Pollutants of concern may include particulates, ozone and volatile organic compound such as benzene and 1,3-butadiene. Similar considerations are relevant for inland waterway traffic. The impacts of diffuse sources of air pollution on vulnerable and sensitive habitats and species should also be considered.

Handling of dry bulk cargo including grain, coal, iron ore, or china clay may cause the production of dust. Dust dispersion on land may cover plants and affect terrestrial habitat. The health of the port workers and local people may also be affected by dust, particularly if toxic emissions are included within their emissions.

Air pollution from shipping is likely to have detrimental impacts on human health, vegetation, and vulnerable and sensitive habitats/species.

[See also Key Issues 2, 8, and 25]

The AoS considers:

- The reduction of the negative impacts of port related development (including impacts on access routes) on air quality.
- The requirement for the concentrations of harmful primary air pollutants to be *"avoided, prevented or reduced*" [Air Quality Framework Directive, 96/62/EC].
- The requirement to "*take the necessary measures to ensure compliance with the limit values*" [Air Quality Framework Directive, 96/62/EC].
- The requirement to "*take action when limit values are exceeded in order to comply with these values within the time fixed*" [Air Quality Framework Directive, 96/62/EC].
- The impact of any associated development, to the extent that it is included in an application for development consent alongside a specific port development.

[12] Relevant PPPs: Air Quality Framework Directives (96/62/EC); EU Directive on ambient Air Quality and Management (1996/62/EC) ; EU Thematic Strategy on Air Quality; The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2007); PPS23 – Planning and Pollution Control; PSA Delivery Agreement 28: Secure a healthy natural environment for today and the future

[These requirements are addressed in the UK Air Quality Strategy, where Air Quality Standards have been set – Local Authorities are responsible for ensuring these standards are met]

Key Issue 2: Greenhouse Gas (GHG) Emissions[13]

The Climate Change Act 2008 has committed the UK Government to addressing both the causes and consequences of climate change. The UK has a legally binding target under the Kyoto Protocol, to cut the emissions of a basket of six greenhouse gases to, on average, 12.5% below 1990 levels, between 2008 and 2012. The Climate Change Act (2008) sets the Government a domestic target to reduce the UK's Greenhouse Gas (GHG) emissions, by at least 80% below 1990 levels by 2050. The main component of transport's GHG emissions is carbon dioxide (CO_2) however; two of the other six Kyoto greenhouse gases are also emitted by transport, nitrous oxide (N_2O) and methane (CH_4). N_2O is emitted due to the use of catalytic converters and CH_4 is released from some fuel combustion.

Some of the pollutants emitted from ports and their access routes (as identified in Key Issue 1) are greenhouse gases. These emissions come from ships and inland waterway vessels, lorries, diesel trains accessing ports, fossil-fuel power stations (powering electric trains, port buildings and equipment), and specialised port-handling equipment.

Such emissions can be reduced through measures such as 'cold ironing', where shore-side electrical power is provided to ships in berth. GHG emissions can be minimised through the use of renewable energy, which may also have positive implications for local air quality (see also Key Issue 1). There may also be reductions in GHG emissions as the movement of goods shifts from road to water.

The Planning Act places a requirement on the Secretary of State regarding climate change, and the Climate Change Act is also relevant.

[See also Key Issues 1, 3, 4 and 8]

The AoS considers:

- Compliance with the Act [Planning Act, 2008. Part 2, section 10]:

1) This section applies to the Secretary of State's functions under sections 5 and 6.
(2) The Secretary of State must, in exercising those functions, do so with the objective of contributing to the achievement of sustainable development.
(3) For the purposes of subsection (2) the Secretary of State must (in particular) have regard to the desirability of-

(a) *mitigating, and adapting to, climate change*
(b) *achieving good design.*

The AoS should also consider the duty of the Secretary of State to:
"Ensure that the net UK carbon account for the year 2050 is at least 80% lower than the 1990 baseline[14]*"* [Climate Change Act, 2008. Part 1, Section 1].

Key Issue 3: Climatic Factors and Adaptation[15]

Climate change may lead to a number of changes in England and Wales' climate to which those managing ports and shipping activity will need to adapt. Weather changes that could affect ports include rising sea-levels, greater incidence of storms and wave changes, including the potential increase in frequency and height of storm surges. There may also be an increased risk of drought (see also key issue 6). Ports may also experience flooding, damage to infrastructure and assets and disruption of operations.

Ports and marine facilities, and the transport infrastructure serving ports, are therefore at risk of being inundated or damaged, as a result of rising sea level, whereas extreme weather events, in particular severe storms and waves surge, may lead to the temporary closure of ports, disruption of transport activities, and damage to ports infrastructure. In addition, adaptation to climate change may increase the need to dredge (see Key Issue 7).

[13] Relevant PPPs: Kyoto Protocol to the UN Framework Convention on Climate Change; Climate Change Act (2008); Planning and Climate Change (Supplement to PPS1, 2007); PPS22 – Renewable Energy (2004); PSA Delivery Agreement 27: Lead the Global effort to avoid dangerous climate change; Planning Act (2008)
[14] Emissions of GHG from international aviation or international shipping do not count as emissions from sources in the UK.
[15] Relevant PPPs: Defra – Adapting to Climate Change in England (2008); Planning Act (2008)

The Planning Act requires that all NPSs must have regard to the desirability of mitigating and adapting to climate change.

[See also Key Issues 2, 4, 6 and 7]

The AoS considers:

- Compliance with the Act [Planning Act, 2008. Part 2, section 10]:

1) This section applies to the Secretary of State's functions under sections 5 and 6.
(2) The Secretary of State must, in exercising those functions, do so with the objective of contributing to the achievement of sustainable development.
(3) For the purposes of subsection (2) the Secretary of State must (in particular) have regard to the desirability of-
(a) mitigating, and adapting to, climate change
(b) *achieving good design*

Key Issue 4: Flood Risk and Coastal Change[16]

Where ports are located on coastal flood risk areas, ports may suffer from flooding or, conceivably, cause flooding in their hinterland. Development of port-related infrastructure and related access road/rail can lead to increased risk of coastal, fluvial and surface water flooding of the local environment and the port-related infrastructure itself. This risk is likely to increase over time with the expected impacts from climate change. Therefore such infrastructure should strive to be resilient to flooding. It is particularly important to site port-related infrastructure away from areas at risk from flooding in order to minimise flood risk, and put measures in to place to adapt to the probable impacts of climate change. Although port-related development may have the potential to increase flood risk (e.g. through using cuttings, increases in hardstanding, earthworks), its ability to potentially reduce flood risk, for example, with embankments, should also be acknowledged.

Flooding and coastal inundation are also a cause of coastal erosion which could be exacerbated by port-related development. Port development can contribute to possible erosion risks in a variety of ways, most notably by changing tidal propagation and by changing flow patterns.

[See also Key Issues 2, 3, 7, 8, 9, 14 and 25]

The AoS considers:

Whether ports-related development and infrastructure:
- Is at risk of flooding;
- Would increase the risk of flooding in the hinterland;
- Would decrease the risk of flooding.
- Will contribute to coastal erosion.
- Whether there are any impacts/implications of tidal flow and sediment transport regimes in adjacent offshore areas and 'down coast' of port development.

Key Issue 5: Contamination of Water Quality[17]

Cargo handling and storage may cause runoff, spills or leakage of ingredients, which possibly include toxic or harmful materials, organic matter or oily compounds. There may also be waterway (river/canal) pollution that results from boat discharges. This can lead to the contamination of groundwater, coastal and surface water resources.

Dredging is a port activity considered to be a cause of deterioration in water quality due to contaminated sediments (see Key Issue 7 for more on the impacts of dredging).

The Water Framework Directive sets out requirements to protect, enhance and restore bodies of surface and ground water.

[16] Relevant PPPs: Directive on the Assessment and Management of Flood Risks (2007/60/EC); PPS25 – Development and Flood Risk (2006); The Pitt Review: lessons learned from the 2007 floods (2008);

[17] Relevant PPPs: Groundwater Directive (2006/118/EC); Water Framework Directive (2000/60/EC); Directive concerning the management of bathing water quality (2006/7/EC); Drinking Water Directive (98/83/EC); PPS23 – Planning and Pollution Control; PSA Delivery Agreement 28: Secure a healthy natural environment for today and the future

[See also Key Issues 6, 7, 8, 9 and 25]

The AoS considers:

- The protection of inland water, groundwater and coastal waters (this includes ground and surface water dependent ecosystems, e.g. wetlands) from the risk of runoffs, spills and leakages of cargoes.
- The impacts of reduced/altered water quality on biodiversity (including foraging areas and food supplies) and implications with respect to the Habitats Directive.

Requirements to:

- "*Implement the necessary measures to prevent deterioration of the status of all bodies of surface water*".
- "*Protect, enhance and restore all bodies of surface water*".
- "*Implement the measures necessary to prevent or limit the input of pollutants into groundwater and to prevent the deterioration of the status of all bodies of groundwater*".
- "*Protect, enhance and restore all bodies of groundwater*"
- *'…implement the necessary measures…. With the aim of progressively reducing pollution from priority substances and ceasing or phasing out discharges and losses of priority hazardous substances'.*[Water Framework Directive, 2000/60/EC. Article 4].

Requirements to ensure that the following conditions are met:

(a) all practicable steps are taken to mitigate the adverse impact on the status of the body of water;
(b) the reasons for those modifications or alterations are specifically set out and explained in the river basin management plan required under Article 13 and the objectives are reviewed every six years;
(c) the reasons for those modifications or alterations are of overriding public interest and/or the benefits to the environment and to society of achieving the objectives set out in paragraph 1 are outweighed by the benefits of the new modifications or alterations to human health, to the maintenance of human safety or to sustainable development, and
(d) *the beneficial objectives served by those modifications or alterations of the water body cannot for reasons of technical feasibility or disproportionate cost be achieved by other means, which are a significantly better environmental option. [Water Framework Directive, 2000/60/EC.* Article 4.7].

[These requirements are addressed by the Water Framework Directive - the Environment Agency is responsible for ensuring these requirements are met]

Key Issue 6: Water Resources

Water is a precious natural resource and its sustainable management is essential to protect the water environment and to meet current and future demand. Population, household size and growth and affluence all affect how much water we use. Factors such as climate change are also likely to put supplies under greater pressure in the future, making it important that we manage water supplies effectively.

There is increasing pressure on water supply brought about by changes in societal demand, population increase, changing household patterns and by climate change. As such, it is vital that water resources are managed and protected. Development of ports-related infrastructure can lead to an adverse impact on water resources. This is a particularly significant issue in areas of water stress, such as southeast England. However, such issues are not confined to this area, for example, Southeast Wales and Pembrokeshire are areas where Water Resource Management Plans and Review of Consents have shown the need for sustainability reductions etc.

[See also Key Issues 5, 22 and 25]

The AoS considers:

- Whether proposed developments are likely to affect water resources, including surface water and groundwater.

Key Issue 7: Marine Environment

Cargo handling and storage may cause runoff, spills or leakage of ingredients to the marine environment, which could possibly include toxic or harmful materials, organic matter or oily compounds. Water pollution and bottom contamination resulting from these effluents lead to deterioration of aquatic biota and fishery resources. The dredging of estuaries and inland waterways, more generally, may also be detrimental to wildlife. Effects on the marine environment may also arise due to the need to maintain declared depths and to deepen to accommodate larger ships, which will lead to possible implications for sediment transport and maintenance of sediment budgets and subsequent foreshore and sub-tidal evolution. Channel deepening can change tidal propagation and the degree of foreshore exposure. Dredging also poses smothering impacts, particularly in Clearwater estuaries.

Dredging can lead to a range of environmental impacts, which are described in more detail below:

- Human Health - Dredging may cause re-mobilisation of faecal indicators and pathogenic organisms (e.g. enteroviruses) therefore increasing the risks to the human health and possibly breaching water quality standards.
- Toxic Chemicals - Dredging may mobilise toxic substances into the water column potentially causing breaches in water quality standards and subsequent impacts on invertebrates, fish, algae, birds and marine mammals.
- Algae - The resuspension of sediments may cause a release of nutrients into the water column potentially resulting in excessive primary production. This may lead to deterioration in water quality.
- Habitat - The principal effects of dredging are indirect through alteration of the physical environment. The deepening of channels and following in-filling with finer sediments can leave a destabilised sea bed. Loss of habitat and particularly spawning grounds may cause low numbers of fish such as herring and smelt
- Suspended solids (SS) - Many fish exist in naturally turbid waters but suspended solids may influence fish distribution.
- Eggs and Larvae and some benthic species are not able to migrate and therefore may be smothered by the settling sediments.
- Dissolved Oxygen (DO) - The dissolved oxygen content of waters has critical implications for survival of aquatic organisms. A reduction in DO, will be caused by the release of oxygen demanding substances (e.g. organic matter) from overflow and lost dredged sediments into the water column.
- Reduced Visibility - Since many fish are visual feeders a reduction in visibility leads to impaired reactive distances. The barrier caused by high suspended solids, low DO and disturbance via the dredge may also prevent fish migrating through these localised areas.

Ports tend to exist in transitional waters, which are both critical migratory pathways for a range of species as well as the most productive juvenile marine nursery grounds available. These issues need to be considered in both biodiversity and socio-economic terms.

The discharge of ships' ballast water presents a risk to marine environment, including the introduction of non-native species. Non-native species can have a severe detrimental effect on local biodiversity and ecosystem functioning and are of increasing concern to conservation agencies. Alien species can also be carried on the surface of ship hulls.

[See also Key Issues 4, 5, 8 10, and 11]

The AoS considers:

- Identifying and protecting existing marine biodiversity, fisheries (sea fish, freshwater wish and migratory fish) and coastal habitats from the risk of runoffs, spills and leakages of cargoes as well as dredging.
- Assessing options on disposal of dredged material.
- Future UK Marine Policy Statement (will set out a framework of high level objectives for the marine environment, and how it should be managed, in order to enable sustainable economic development to progress, within environmental limits). A network of Marine Protected Areas including new Marine Conservation Zones, which will need to be taken into, account once they are designated.

- The EU Marine Strategy Framework Directive (2008/56) will put in place targets aimed at protecting and restoring the marine environment – targets will cover issues such as contamination from hazardous substances, marine litter and protection of biodiversity.
- Requirements of the Water Framework Directive (2000/60/EC) (see Contamination of Water Resources)
- Contributing towards achieving Good Ecological Status or Potential as defined in the Water Framework Directive, and Good Environmental Status as defined by the Marine Strategy Framework Directive (to be transposed 2010).
- Marine and Coastal Access Bill, and the likelihood that this will trigger Marine Conservation Zones.
- Possibility of tidal deflection by ports and associated development and changes to sediment regimes, including potential induced effects on aggregate resources and dune sediment supply.
- The impacts of discharge of ballast water and the risk of introduction of marine alien species.

Key Issue 8: Biodiversity and Geological Conservation[18]

There are currently some 95 Special Protection Areas (SPAs), 313 Special Areas of Conservation (SACs), 146 SACs with marine components, 73 designated Ramsar sites, 290 National Nature Reserves (NNR), over 5,000 SSSIs, 2 Marine Nature Reserve (MNR), 56 habitats and 943 species of principal importance for biodiversity conservation in England, over 22,000 ancient woodland sites, 4 biosphere reserves, and over 1,342 Local Nature Reserves (LNR) in England and Wales.

Existing, extended and new ports-related or inland waterway infrastructure and development may be detrimental to biodiversity in these designated areas, either directly through destruction or damage to habitats and species, or indirectly, e.g. air pollution impacts on the integrity of habitats or wildlife exposure, noise disturbance etc. Port development can also lead to changes in tidal propagation and sediment transport that can be important both for biodiversity and for coastal defences – shortfalls or changes can lead to localised loss. Port development can also provide opportunities for biodiversity gain. For example, port hinterlands can be designed to be much more wildlife friendly, as has been demonstrated at the port of Bristol.

Ensuring that each development coming forward for consideration complies with any applicable provisions of the Habitats Directive and Wild Birds Directive (as implemented by regulation) will ensure that impacts on SPAs, SACs and cSACs are considered. The Government's policy is also that pSPAs and Ramsar Sites should also be subject to the same protection. Additional measures to protect and restore biodiversity may be necessary in the future to meet the requirements of the Marine Strategy Framework Directive.

In particular, the Habitats Directive and implementing regulations provide a process that must be followed to identify the likely effect of any plan or project on a protected site, and require that certain requirements must be met before consent can be given to any plan or project that would adversely affect the integrity of a protected site.

Account of the guidance associated with the list of species and habitats of principal importance will ensure that impacts on them are considered, including biodiversity and ecology outside of designated sites. The impact on trees, woods and forests should also be considered. The impact of port-development on non-designated biodiversity sites will also be of importance.

The impact of transporting plants and plant products via ports should also be considered in respect of plant health – measures need to be in place to ensure that the introduction or spread of serious pests and diseases of plants and plant produce are prevented.

The term ‘biodiversity’ as used within this report and associated assessment should be taken to include both terrestrial and marine biodiversity assets.

[See also Key Issues 1, 2, 4, 5, 7, 9, 11, 13 and 18]

[18] Relevant PPPs: Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive) (92/43/EEC); Directive on the Conservation of Wild Birds (79/409/EEC); Water Framework Directive (2000/60/EC); Ramsar convention on Wetlands of International Importance; EU Biodiversity Strategy; Conserving Biodiversity – The UK Approach (2007); Defra - UK Biodiversity Action Plan (1994); PPS9 – Biodiversity and Geological Conservation (2005); PSA Delivery Agreement 28: Secure a healthy natural environment for today and the future

The AoS considers:

- The "*preservation, protection and improvement of the quality of the environment, including the conservation of natural habitats and of wild fauna and flora*."
  - "*1. The aim of this Directive shall be to contribute towards ensuring bio-diversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States to which the Treaty applies.*
  - *2. Measures taken pursuant to this Directive shall be designed to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest.*
  - *3. Measures taken pursuant to this Directive shall take account of economic, social and cultural requirements and regional and local characteristics*" [Habitats Directive, 92/43/EEC. Article 2].
- In relation to Special Protection Areas, "*take appropriate steps to avoid pollution or deterioration of habitats or any disturbances affecting the birds, in so far as these would be significant having regard to the objectives of this Article. Outside these protection areas, Member States shall also strive to avoid pollution or deterioration of habitats*" [Wild Birds Directive, 79/409/EEC, Article 4]
- The requirement to "*ensure the establishment of a register or registers of all areas lying within each river basin district which have been designated as requiring special protection under specific Community legislation for the protection of their surface water and groundwater or for the conservation of habitats and species directly depending on water*" [Water Framework Directive, 2000/60/EC, Article 6 – SPAs and SACs]
- Biodiversity designations covered by the Habitats Directive include (either through the implementing regulations or as a matter of Government policy):
  - Special Protection Areas (SPAs) as well as proposed SPA sites.
  - Special Areas of Conservation (SACs) as well as proposed SCA sites.
  - Ramsar and Natura 2000 sites
- Many of the above sites will have a marine component.
- The loss of ancient woodland and aged 'veteran' tress outside ancient woodland should be avoided and conservation encouraged.
- Other designations of biodiversity importance (not covered by the Habitats Directive) include:
  - National Nature Reserves.
  - Sites of Special Scientific Interest.
  - Marine Nature Reserve.
  - Ancient woodland sites.
  - Biosphere reserves.
  - Local Nature Reserves.
  - Local Wildlife and Geological Sites
  - Habitats and Species of Principal Importance
- Impacts on non-designated biodiversity sites should also be considered.
- Preserving and protecting the range of species, whilst ensuring the individual species within the range remain viable.
- Contributing towards achieving Good Ecological Status or Potential as defined in the Water Framework Directive, and Good Environmental Status as defined by the Marine Strategy Framework Directive (to be transposed 2010).
- Marine and Coastal Access Bill, and the likelihood that this will trigger Marine Conservation Zones.
- The impacts of discharge of ballast water and the risk of introduction of marine alien species.
- Transport of plants and plant produce and its potential effects on plant health.

Biodiversity is also covered by the Marine Strategy Framework Directive – to meet the Directive's requirements it will be necessary to put in place measures to ensure that for UK waters, "Biological diversity is maintained. The quality and occurrence of habitats and the distribution and abundance of species are in line with prevailing physiographic, geographic and climatic conditions".

Key Issue 9: Soil and Land Resources[19]

Soil/land may become contaminated through port development - cargo handling and storage may cause runoff, spills or leakage of ingredients, which possibly include toxic or harmful materials, organic matter or oily compounds. Soil functions and values can be affected by development, including soil

[19] Relevant PPPs: EU Thematic Strategy for Soil Protection; EU Soil Framework Directive (proposed)

sealing (increasing the area of non-permeable surfaces) and reducing soil's ability to deal with flooding and water management. Land take can also be an issue where previously undeveloped land is used for port-related development.

[See also Key Issues 4, 5, 8 and 22]

The AoS considers:

- Safeguarding of soil quality and quantity from the risks of runoffs, spills and leakages of cargoes.
- Minimising the use of previously undeveloped land.

Key Issue 10: Waste Management[20]

Ports are a possible source of waste from development (e.g. construction) and operations (e.g. dredging) as well as from the potential shipping of waste, operations at the waterfront and waste reception from ships. Recycling and the use of recycled materials in port development and operation will be important. There is also the need to consider potentially hazardous waste in terms of spillages during port operations.

In terms of dredging, the Maintenance Dredging Protocol (England) provides assistance to operators/regulators seeking or giving approval for maintenance dredging activities that could potentially affect European sites around the coast of England (Natura 2000/N2K sites) (also relevant for Key Issue 8). The Protocol draws upon current and historical dredging patterns in the relation to the conservation status of European Sites in an area. However, the potential impacts of dredging activities are highly location-specific and will have to be assessed on a case by case basis.

More generally, the Waste Directive sets out a requirement for Member States to encourage the prevention and production of waste, as well as the requirement for the recovery of waste (recycling etc), and use of waste as a potential source of energy.

The AoS considers:

- Reusing any waste created locally.
- The use of recycled materials when constructing transport-related infrastructure.
- The handling and treatment of hazardous waste
- The Maintenance Dredging Protocol (2008).

The Waste Directive (2006), specifically:
"*Member States shall take appropriate measures to encourage:*
(a) First, the prevention or reduction of waste production and its harmfulness, in particular by:
(i) the development of clean technologies more sparing in their use of natural resources;
(ii) the technical development and marketing of products designed so as to make no contribution or to make the smallest possible contribution, by the nature of their manufacture, use or disposal, to increasing the amount or harmfulness of waste and pollution hazards;
(iii) the development of appropriate techniques for the final disposal of dangerous substances contained in waste destined for recovery;
(b) Second:
(i) the recovery of waste by means of recycling, re-use or reclamation or any other process with a view to extracting secondary raw materials; or
(ii) the use of waste as a source of energy". [Waste Directive, 2006/12/EC. Article 3]

[See also Key Issue 7]

Key Issue 11: Landscape and Seascape[21]

In England and Wales there are currently 11 National Parks, 274 Country Parks, 40 Areas of Outstanding Natural Beauty (AONBs), and 46 heritage coasts. Certain SSSIs (see Key Issue 6) have geological significance. Tranquillity in England and Wales has been mapped (CPRE, CCW).

[20] Relevant PPPs: Directive on Waste (2006/12/EC); Defra - Waste Strategy (2007); PPS10 – Planning for Sustainable Waste Management (2005)
[21] Relevant PPPs: European Landscape Convention; PPG2 – Greenbelts (2001); Countryside Rights of Way Act (2000);

Future development of ports potentially has implications for landscape and seascape. Landscape Character Area and Seascape Assessments have been/are being undertaken which provide an understanding of the character of an area and the importance of understanding past, present and future forces of change. Associated infrastructure can introduce light and noise into otherwise rural and/or tranquil areas, and have an impact on overall landscape and its character. Impacts of port-related development will also be of importance on non-designated landscape/seascape.

The Planning Act requires that there is regard to the desirability of 'good design', which is of relevance to landscape and seascape issues. The Environmental Protection Act also recognises the importance of maintaining and managing nature reserves/National Parks.

[See also Key Issues 7, 8, 12, 13, 18 and 25]

The AoS considers:

- The conservation and enhancement of landscape designations:
  - Areas of Outstanding Natural Beauty.
  - National Parks.
  - Heritage Coasts.
  - The Broads.
- Consideration of the following local designations:
  - Country Parks.
- Consideration of impacts on non-designated landscape areas.
- The potential impacts of port-related development on the character of the landscape (including Areas of Great Landscape Value (AGLV) and seascape (with reference to Landscape Character Areas).
- Compliance with the Act [Planning Act, 2008. Part 2, section 10]:

1) This section applies to the Secretary of State's functions under sections 5 and 6.
(2) The Secretary of State must, in exercising those functions, do so with the objective of contributing to the achievement of sustainable development.
(3) For the purposes of subsection (2) the Secretary of State must (in particular) have regard to the desirability of-

(a) *mitigating, and adapting to, climate change.*
(b) *good design*

- Achievement of the UK's commitments to all landscapes under the European Landscape Convention.

Key Issue 12: Light

Lighting at port developments has the potential to be intrusive, particularly at night, which is often essential to operations and safety. Over bright or poorly directed lights can lead to intrusion to those residing nearby. Lighting can also detract from what may otherwise be considered 'tranquil areas', or can potentially have an impact on the ecology and wildlife of an area, affecting the behavioural patterns of mammals, birds, insects and fish. Light is also likely to have impacts on human health, for example, it can have detrimental effects on sleep and mental health.

[See also Key Issues 11 and 25]

The AoS considers:

- Encouraging sensitive design and installation of lighting associated with port development.

Key Issue 13: Noise and Vibration[22]

Noise sources in port areas are either industrial or traffic-related. Industrial noise sources can be as diverse as port services and facilities, terminals (cargo handling and warehousing), industrial areas, machinery workshops, vessel repair and maintenance, shunting yards and vessels when berthed (engine noise). Traffic related noise sources can include road traffic and rail accessing the ports. Underwater noise, from piling, dredging and other port-related activity, is also likely to be an issue.

[22] Relevant PPPs: EU Directive relating to the Assessment and Management of Environmental Noise (The Environmental Noise Directive) (2002/49/EC); WHO Guidelines for Community Noise (2000); PPG 24: Planning and Noise; European Union Environmental Noise (END) Directive implemented in Wales under Environmental Noise; Noise Insulation (Railway and other Guided Transport System) Regulations 1996; Noise emission in the Environment by Equipment for Use Outdoor Regulations 2001; Environmental Noise (England) Regulations 2006

Where ports are located adjacent to or in proximity to areas of human occupation, industrial and traffic-related noise and the implications for annoyance, sleep disturbance and related human health issues will be a consideration, as noise may be an issue to local human populations either adjacent to the ports, or to the routes (road/rail) that access them. [See also Key Issues 11, 22 and 25]

Industrial and traffic-related noise and vibration also has the potential to cause disturbance to animals and birds inhabiting marine SACs and other habitats. [See also Key Issue 8]

The AoS considers:

- The effects of industrial, underwater activities and traffic-related noise on all environmental receptors such as humans, wildlife and marine life.
- Strategies/ policies to reduce noise levels as much as practicable.

Key Issue 14: Historic Environment[23]

Port development may cause direct damage to historic harbour structures and buildings. Redevelopment projects that involve advancing the line of the quayside could result in burial of, and compaction damage, to near-shore structures and wrecks. Also port development could have significant inland effect associated with the onward/inward transport of goods and passengers, as this can adversely affect the existing historic character of an area, especially when new transport and/ or access infrastructure is proposed to enable efficient transport connections.

There may also be issues associated with certain inland waterways representing industrial heritage that require protection. The waterways are remnants of the industrial revolution and the 200-year-old inland waterway network is considered a national heritage asset to be protected

Some port operations such as capital dredging projects to aid navigation may result in localised changes to currents, which could result in exposure of buried items, including previously unknown wrecks, but also damage to wrecks of archaeological interest or other sites, through impact or recovery. In 2007 there were 46 designated wreck sites[24] off the English Coast and 6 off the Welsh coast. The disposal of dredged material may also cause damage to buried items.

[See also Key Issues 11 and 18]

The AoS considers:

- The need to safeguard the historic and archaeological environment from the impact of port development, relating to actions such as advancing the line of the quayside, additional traffic, use of inland waterways and dredging.
- Historic designations:
  - World Heritage Sites.
  - Scheduled Ancient Monuments.
  - Historic Battlefields.
  - Designated Protected Wrecks.
  - Listed Buildings.
  - Registered Parks and Gardens.
  - Registered Historic Landscapes.
  - Military Remains
- Non-designated Archaeological sites
- Locally significant heritage assets and their setting:
  - Conservation Areas.
  - Locally Listed Buildings.
  - Historic Landscape Character.

[23] Relevant PPPs: UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage (1972); PPS15 (draft) Planning for the Historic Environment (2009); DCMS - *Heritage Protection for the 21st Century,* 2007; Ancient Monuments and Archaeological Areas Act 1979; Planning (Listed buildings and Conservation Areas) Act 1990; The Welsh Historic Environment Position Statement, 2006; Welsh Office Circular 60/96 Planning and the Historic Environment: Archaeology; Welsh Office Circular 60/96 Planning and the Historic Environment: Historic Buildings; HA - Assessing the Effect of Road Schemes on Historic Landscape Character (2007)

[24] Those sites that may be subject to statutory protection under the Protection of Wrecks Act 1973 as either “historic wrecks” or “dangerous wrecks” and other military losses at sea afforded statutory protection under the Protection of Military Remains Act 1986.

3.3.2 Economic Key Issues

Key Issue 15: Productivity Benefits for Ports and their Users[25]

Ports are vital gateways for trade and travel. Beneficial effects for port users may occur where the development leads to significant supply side improvements, particularly where a shortage of national port capacity has been identified as causing (or being likely to cause) increased supply chain costs for businesses.

The development of port facilities and inland waterways may, in some cases, make a significant difference to the supply chain for shippers and journeys for passengers, through reducing overall transport costs and journey times and improving reliability.

Port developers expect to profit from port development, and any resulting benefits of more efficient distribution can be expected to spread through the logistics chain to the end consumers.

[See also Key Issues 20 and 21]

The AoS considers:

- Any identified port capacity shortfall.
- Existing logistics issues that may be affected by port development.
- The impact of port/shipping costs on logistics costs (and ultimately import/export prices).
- The benefits (or otherwise) of increasing Gross Value Added of ports.

Key Issue 16: Wider Economic Benefits[26]

New port capacity also has wider effects on the economy. Congested ports and inland routes are an obstacle to obtaining these wider economic benefits. Additional port facilities may make it easier to replace road transport (which is subject to driver hour restrictions and increasing congestion) with coastal or short-sea shipping or rail transport. The actual modal shares depend, of course, on the physical connection of the networks with the port and the quality of transport services offered.

New port capacity supports economic growth through the facilitation of trade.

New ports can also encourage added-value activities to be located in the UK (e.g. container transhipment, offshore wind turbine facilities), which benefit 'UK plc' by producing profit.

The AoS considers:

- Levels of congestion on road and rail networks serving existing and potential port locations and other impacts on transport reliability.
- The use of modes such as rail, coastal shipping and inland waterways associated with existing or potential port locations.
- The programming of supporting infrastructure (i.e. how to ensure that essential transport infrastructure is in place in advance of commencement of new or additional port development).
- Scope for increasing economic activity in the UK (specifically in England/Wales) by attracting profitable activities from abroad, for example in renewable energy, as a result of improved port facilities.

[See also Key Issues 15, 17 and 18]

[25] Relevant PPPs: Modern Ports: A UK Policy, DfT (2000); PPG13 Transport (2001); PPS1: Delivering Sustainable Development (2005); Securing the Regions' Futures – Strengthening the Delivery of Sustainable Development in the English Regions (2006); Planning for a Sustainable Future, CLG (2007); Building Sustainable Transport into New Developments DfT (2008).

[26] Relevant PPPs: PPG13 Transport (2001); European Transport Policy for 2010: A Time to Decide, (2001); The Future of Transport White Paper – A Network for 2030 (2004); Inland Waterways Freight – Policy Update (2003); Sustainable Distribution: a Strategy, DfT (1999/ 2004); Planning for Freight on Inland Waterways, DfT/Defra (2004); Freight logistics - the key to sustainable mobility EU (2006); Towards a sustainable Transport System (TaSTS); The Eddington Transport Study, DfT/HM Treasury, (2006); Planning for a Sustainable Future: White Paper (2007); Towards a Sustainable Transport System : Supporting Economic Growth in a Low Carbon World, DfT (2007); Interim Report on Ports Policy, DfT (2007)

Key Issue 17: Employment, Regeneration and Local/ Regional Development[27]

Ports have the potential to create jobs in often relatively peripheral and disadvantaged locations and can contribute significantly to local economic growth and the sustainability of fragile communities. This can occur through direct employment or through the development of local supporting activity and services.

Port development may take place in areas of high unemployment, possibly associated with other indicators of deprivation such as low household incomes, proportion of population receiving benefits, and condition of housing stock. A regeneration impact is more likely if there is likely to be a long term impact, on for example local, long-term unemployment and participation rates in the labour force (where the skills required for jobs in the port development are likely to be possessed by the local unemployed, or would be potentially, with appropriate training). However, where the development gives rise to a high proportion of specialist jobs, there may be vulnerability in terms of long-term employment if the port activity declines in the future.

There is some evidence (e.g. the DfT Port Employment and Accident Rates studies) that ports can have a positive impact on local employment. Possible double counting must be taken into account, however, as transfers of traffic from one UK port to another will result in regional transfers of employment.

[See also Key Issues 22, 24 and 25]

The AoS considers:

- The scope for increasing sustained employment in the ports sector and in support services.
- Impact on training posts/apprenticeships in the ports sector.
- Impact on any perceived regional economic balance.

Key Issue 18: Leisure and Tourism[28]

Coastal areas are often prized for their remote location and landscape. The development of new port facilities (or expansion of existing ports) may adversely affect access to the coastline and changes on the natural landscape and view. This can have significant effect on walkers (local or visitors) and tourism generally. Provisions for coastal access may be strengthened in the future as the Marine and Coastal Access Bill goes through the parliamentary processes. It can also have an impact on water-based recreational activities, such as bathing, canoeing and fishing.

Alternatively the development of facilities for cruise ships in more inaccessible locations may help to develop local tourism where there was little before.

Port developments may also facilitate additional inbound passengers and increase activity in the national tourist sector.

[See also Key Issues 1, 5, 8, 11, 13 and 14]

The AoS considers:

- Impacts on opportunities for leisure for the local community (e.g. coastal paths, access to the coast).
- Impacts on opportunities for water-based recreation.
- Impacts on local/regional/national tourism (e.g. provision for new facilities for cruise ships).
- Any development work by Natural England in the interim that may have a bearing upon ways of facilitating access around impediments (created by port development).

[27] Relevant PPPs: PPG13 Transport (2001); Port Employment and Accident Rates, DfT (2005); PPS1: Delivering Sustainable Development (2005); Securing the Regions' Futures – Strengthening the Delivery of Sustainable Development in the English Regions (2006)

[28] Relevant PPPs: PPG13 Transport (2001); PPS1: Delivering Sustainable Development (2005); Securing the Regions' Futures – Strengthening the Delivery of Sustainable Development in the English Regions (2006)

Key Issue 19: Competition and Security of Supply[29]

Sea transport is essential for many imports and exports. Having a range of port import facilities available to regional markets will help to ensure competitive pricing for port services and the availability of alternatives in case of disruption of specific facilities, at both a regional and a national level.

The degree of direct shipment of goods to the UK (i.e. as opposed to transhipment of UK traffic in mainland Europe and onward shipment by feeder vessel) may be an issue. Transhipment may impact on the competitive position of UK importers/exporter by increasing handling costs (and therefore total shipping costs) as well as increasing the susceptibility of UK supply chains to disruptions on the Continent. Alternatively, transhipment and the use of feeder vessels may result in less need for the largest port and marine facilities (e.g. to handle super-post-panamax containerships).

There is also a national defence consideration linked to the resilience of port facilities for the defence supply chain (i.e. availability of ports to support maritime forces if needed), and ensuring that ports are available to support maritime forces if required.

The AoS considers:

- The impact on national/regional competition for port services.
- Contribution to providing strategic alternatives for regional economies and the national economy, in case of disruption.
- The desirability (or not) of attracting direct call shipping services to UK ports and importing cargo-handling activity (e.g. transhipment) from mainland Europe.
- Contribution to defence and national security through the availability a range of strategic facilities for the support of maritime forces and the defence seaborne supply chain.

[See also Key Issues 15 and 26]

Key Issue 20: Funding Arrangements for Ports and Associated Rail/ Road/ Waterways Connections[30]

If ports are going to use their full capacity, then good inland/waterways connections to and from ports are crucial. The application of policy on developer funding has often been difficult to translate into practice. Previous arrangements for funding transport connections related to ports were sometimes seen by promoters as protracted, ad-hoc, opportunistic, inconsistent, unpredictable and unfair. The requirement to fund related landside transport infrastructure may also make some port developments commercially unattractive. At the least, the approach leads to delay. The DfT has recently published 'Funding transport infrastructure for strategically significant developments[31]', which provides greater certainty to developers.

The AoS considers:

- The adequate use of developer contributions available for expenditure on inland transport infrastructure or on navigational channels/ aids.
- Whether adequate public funding arrangements are also in place.
- Potential impact on other NPS (e.g. national networks) and the impact of public sector funding on Government expenditure/ revenue.
- Transport links to non-road-based domestic transport limiting emissions and development of road-based infrastructure.

[See also Key Issues 15 and 16]

[29] Relevant PPPs: Freight logistics - the key to sustainable mobility EU (2006); Sustainable Distribution: a Strategy, DfT, March (1999/2004); Towards a sustainable Transport System (TaSTS); The Eddington Transport Study, DfT/HM Treasury, (2006); Planning for a Sustainable Future: White Paper (2007); Towards a Sustainable Transport System; Interim Report on Ports Policy, DfT (2007)
[30] Relevant PPPs: Section 106 of the Town and Country Planning Act 1990; Section 278 of the Highways Act 1980
[31] DfT (2009) Funding transport infrastructure for strategically significant developments', TSO, UK. URL: http://www.dft.gov.uk/pgr/regional/fundingtransportinfrastructure/devconguideline.pdf

Key Issue 21: Foreign Direct Investment and Trade[32]

The variety of port ownership means that there are increasing examples of Foreign Direct Investment (FDI) in the port sector – for example development of Felixstowe by Hutchison (a Hong Kong based multinational) and Thames Haven by DP World (the Dubai Ports company that acquired P&O Ports and is promoting the London Gateway project). This investment potentially adds to overall investment in the national economy.

Port development often provides an opportunity to develop a new trade or activity – for example, the import of Liquefied Natural Gas.

Also, more generally, a port development may affect the decision of foreign firms to invest or locate in the UK. Such a decision might be related to particular cargoes being handled, or be part of a wider port or marine development. (See also key issue 17)

The AoS considers:

- The opportunities that exist for inward investment and the potential benefits to the national economy.
- The impact on Foreign Direct Investment (FDI) e.g. by maintaining the current neutral stance towards ownership.
- Opportunities to develop new trades or activities.

[See also Key Issues 16 and 17]

3.3.3 Social Key Issues

Key Issue 22: Population[33]

Population in communities close to expanding ports may grow as a result of new employment at the port at a rate where key services (e.g. affordable housing, education, health facilities) are not adequate to meet demand and this may impact negatively on those communities.

Conversely, if ports do not effectively serve a region of the country they may contribute to a net economic and population migration from that region. Population will also have associated impacts on goods, services and employment.

[See also Key Issues 9, 17, 18 and 24]

The AoS considers:

- The likely population growth that a port may stimulate and the capacity of key services to meet that demand locally.
- The extent to which ports can reduce inequalities in population trends between regions.

Key Issue 23: Equality[34]

Inequality of access to employment and services, including those associated with ports, can perpetuate social, economic and health inequalities between individuals, communities and regions.

Population groups prone to social exclusion, including disabled people, the elderly, children and groups from ethnic minorities may require greater assistance or specific features in the port if it is to be of benefit to them as both a service and a source of employment.

[32] Relevant PPPs: The Eddington Transport Study, DfT/HM Treasury, (2006); Focus on Ports, DfT (2006); Towards a Sustainable Transport System : Supporting Economic Growth in a Low Carbon World, DfT (2007); Interim Report on Ports Policy, DfT (2007); Funding Transport Infrastructure for Strategically Significant Developments: A Consultation on Draft Guidelines, DfT (2008)

[33] Relevant PPPs: Planning for a Sustainable Future (2007); Planning for a Sustainable Future (2007); Integrated Guideline for Growth and Jobs 2008-2011 (2007); Rural Strategy (2004)

[34] Relevant PPPs: Integrated Guideline for Growth and Jobs 2008-2011 (2007); Tackling Health Inequalities (2003); CEHAPE (2004); Council Directive 2000/78/EC – employment equality; Council Directive 2000/43/EC – race equality; DfT – Older people: Their transport needs and requirements; DfT – Young people and transport: Their transport needs and requirements; Every Child Matters (2003); Joint Report on Social Protection and Social Inclusion (2008); Opportunity Age; WHO (2006) – health and transport sectors promoting physical activity

External effects of ports, including noise, pollution, community severance, accidents/safety and risk are likely to specifically affect local populations. Where those populations include concentrations of equality target groups the port may widen inequalities. Regional inequalities may also occur as a result of port development.

[See also Key Issues 1, 5, 12, 13, 24, 25 and 26]

The AoS seeks to:

- Ensure consistency with the DfT's duties under the Disability Discrimination Act (1995,2005), Sex Discrimination Act (1975), Race Relations Act (1976, 2000) and Human Rights Act (1998).

The AoS considers:

- Development of ports lead to different levels of service, levels of accessibility or costs that disadvantage vulnerable groups in terms of accessing the services and employment opportunities of the port.
- There are externalities from port development that affect vulnerable groups more.
- Regional inequalities may occur.

Key Issue 24: Accessibility[35]

Accessibility to goods, services and opportunities for employment, education and recreation are fundamental to individual and communal quality of life. Ports provide a crucial gateway for both freight and passengers to either directly or indirectly access goods and services.

Ports can enhance accessibility to important goods and services and, with the appropriate features, can reduce inequality of accessibility.

Where ports are unsuitable for some users or where, they introduce barriers to movement, particularly for vulnerable modes, they can reduce accessibility. Local movement networks, including highways and public rights of way for road users and pedestrians and cyclists may be subject to severance by the port itself or by changes in the design of, or flows of traffic on, access roads to the port.

[See also Key Issue 17, 23, 25 and 26]

The AoS considers:

- The access needs of all users.
- The identification of severance and the reasonable steps required to mitigate its effects.

The AoS seeks:

- Assess the extent to which the NPS encourages the enhancement of access to ports by all types of users, including public transport users, pedestrians and cyclists.

Key Issue 25: Health and Well-being[36]

Life expectancy in the UK has increased year on year in all social groups in the last decade. However, there remain health inequalities[37] resulting from a wide variety of factors including living environments and poverty. Ports may contribute negatively to health and well-being outcomes where noise and chemical and light pollution reduce the quality of living environments or, conversely, can improve health and well-being by stimulating economic and social opportunities.

Road use generates external costs to society - through noise, pollution and accidents - in the form of illness, injuries, deaths and damage to mental health and social relationships. The access traffic generated by ports can contribute to these effects. Health and well-being may also be an issue related

[35] Relevant PPPs: DfT – Older people: Their transport needs and requirements; DfT – Young people and transport: Their transport needs and requirements; Education and Skills – Delivering Results; Every Child Matters (2003); Joint Report on Social Protection and Social Inclusion (2008); PPG13 Transport (2001); Review of Community Rail Development Strategy; Tackling Health Inequalities – A Programme for Action (2003)
[36] Relevant PPPs: Joint Report on Social Protection and Social Inclusion (2008); Tackling Health Inequalities (2003); Together for Health (2007); Working for a Healthier Tomorrow (2008); CEHAPE (2004); WHO (2005) – Health effects of transport-related air pollution; WHO (2000) – Transport, environment and health
[37] Relevant PPPs: Department of Health, Health Inequalities, Progress and Next Steps (2008)

to the port environments, including those that are created for port employees, including and open space for recreation and visual pleasure.

There are potential adverse health impacts related to the transport of animals, humans and food. Therefore, issues such as zoonosis (infectious diseases that can be transmitted to humans from animals/birds, and between animals), imported diseases via the movement of infected people, plants and pests, and legislation relating to imports of food (of animal origin and those not of animal origin) should be considered related to ports and their operations. This will include consideration of the WHO International Health Regulations concerning public health and infectious disease and the proper provision of facilities for enforcement officers to undertake their duties in respect of all food imports at ports.

[See also Key Issues 1, 5, 11, 12 13 and 17]

The AoS considers:

- How the health and well being of vulnerable groups will be affected by port development
- How the impacts on human health, including air, noise and light pollution generated by port operations, and other impacts (such as poor access) can be mitigated.
- The impact of port operations and port access traffic on reducing health inequalities.
- How port development may facilitate healthier lifestyles (e.g. promoting accessibility to leisure and recreation areas), including the consideration of the potential loss of amenity land to port development.
- The impact of ports in terms of regenerating regions and the socio–economic benefits that can be delivered.
- The impacts of transporting food and animals, imported diseases via the movement of infected people, plants and pests, and the potential impact on human health.

Key Issue 26: Security and Safety

Ports are by definition places for the transit of goods and people. This can result in an increase in opportunities for crime. The appropriate facilities need to be in place to minimise the risk of crime at the port or within the host community.

In recent years there has been growing concern over the perceived threat of terrorist attacks on the UK with ports as a potential target due to their role as gateways.

Ports generate significant road traffic, including heavy vehicles that may present a road casualty risk to host communities. Connecting infrastructure for ports needs to be appropriate for the vehicle types and flows. Facilities at ports for lorry checks to prevent unsafe vehicles from overseas entering the roads system can mitigate some risk. Similarly facilities at ports to enable drivers to rest and comply with regulations on driving hours etc. can ensure that unfit drivers are not moving heavy vehicles through local communities.

[See also Key Issues 15, 19 and 24]

The AoS considers:

- How ports will contribute to meeting national policy targets for road casualty reduction.
- How ports will contribute to a reduction in the level of crime and fear of crime.

The AoS seeks to:

- Assess the extent to which the NPS will mitigate the threat of terrorist attacks on ports and the networks that serve them.

3.3.4 Interrelationships between key sustainability issues

A number of interrelationships between key sustainability issues exist, and are explored further in Table 2 below.

Table 2: Interrelationships between key sustainability issues

AoS Key Sustainability Issues	Related key sustainability issues	Nature of relationship
1. Air Quality	2, 8, 25	Air pollutant emissions are often associated with the emission of GHGs, and their direct and indirect effects on biodiversity (habitats and species). Most important is the impact that air pollution emissions have on human health.
2. Greenhouse Gas Emissions	1, 3, 4, 8	Greenhouse gas emissions are directly related to the climate change and associated adaptation and mitigation measures. Impacts include those on biodiversity.
3. Climatic Factors and Adaptation	2, 4, 6, 7	Climatic factors and adaptation is directly linked to the emission of greenhouse gases, but also has impacts on water resources (in terms of availability), and the marine environment.
4. Flood Risk and Coastal Erosion	2, 3, 7, 8, 9, 14, 25	Flood risk and coastal erosion are likely to be affected by emissions of greenhouse gases and climate change/adaptation. Flooding/erosion is also likely to have an impact on the marine environment and biodiversity in terms of habitats, and can negatively impact upon historical assets. Finally, flooding can have a negative impact on human health and well-being, particularly where homes, drinking water and personal safety are affected.
5. Contamination of Water Quality	6, 7, 8, 9, 25	Poor water quality will have a direct effect on the marine environment, biodiversity, soil and land resources, and human health and well-being.
6. Water Resources	5, 22, 25	Water resources can be directly affected by the quality of water, and therefore have impacts on population and health and well-being (availability of water).
7. Marine Environment	4, 5, 8, 10, 11	Poor water quality and dredging can potentially have negative effects on the marine environment, including species and their habitats. This includes the impacts of coastal erosion.
8. Biodiversity	1, 2, 4, 5, 7, 9, 11, 13, 18	Air pollutant and greenhouse gas emissions, poor water quality, contaminated soil and land resources and light and noise pollution can all potentially have negative effects on biodiversity, including species and their habitats. Tourism is also likely to have links with biodiversity, both in terms of its enjoyment, but also contributing to negative impacts (related to visitor numbers and associated impacts – access to sites, noise etc).
9. Soil and Land resources	4, 5, 8, 22	Contaminated and poor water quality and the possibility of flooding can potentially lead to contamination of soil and land resources. This can further affect biodiversity habitats and species (terrestrial and marine), but also have consequences for humans/population where land and soil become contaminated.
10. Waste Generation and Resource Use	7	Dredging requirements are likely to have a direct impact on the marine environment, including habitats and species.

11. Landscape and Seascape	7, 8, 12, 13, 18, 25	Landscape and seascape can act as habitats for a range of biodiversity species (terrestrial and marine), and their integrity and tranquillity can be affected by light and noise pollution, which can cause disturbance to species/habitats. Landscapes and seascapes are also of key importance in terms of tourism and health and well-being in terms of providing areas of open/green space and enjoyment.
12. Light	11, 25	Light pollution can directly affect landscapes and seascapes, but also affect their enjoyment by humans, therefore affecting health and well-being.
13. Noise	8, 11, 22, 25	Noise can have negative impacts on both the natural environment in terms of biodiversity (marine and terrestrial – disturbance to habitats and species), landscape (tranquillity), and human health and well-being.
14. Historic Environment	11, 18	The historic environment often has strong links with the landscape and seascape in terms of protected designations. The historic environment also often creates a basis for tourism in an area.
15. Productivity Benefits for Ports and their Users	20, 21	A competitive ports sector, providing required capacity where it is needed can support the productivity in the regional and national economy.
16. Wider Economic Benefits	15, 17, 18	Improving the provision of ports can have knock-on effects on the local, regional and national economy. New port facilities can also make regions more accessible or attractive for tourism.
17. Employment Regeneration and Local/Regional Development	22, 24, 25	Port development can stimulate the local economy through direct employment, increased expenditure on local goods and services and secondary effects, such as related employment the income multiplier.
18. Leisure and Tourism	1, 5, 8, 11, 13, 14	Port developments can have both negative and positive impacts on local tourism and leisure activities, with secondary impacts on the local environment and ecology as well as the historic environment.
19. Competition and Security of Supply	15, 26	Maintaining competition for port services will help to minimise the costs of international transport to the economy.
20. Funding Arrangements for Ports/Associated Rail/Road/Waterways Connections	15, 16	In some cases, the wider benefits of improving transport links to ports – both to port users and non-users - will justify an additional contribution of public expenditure.
21. Foreign Direct Investment and Trade	16, 17	More efficient ports can help to stimulate international trade. FDI can result in net investment in ports and related developments.
22. Population	9, 17, 18, 24	Port developments may lead to a substantial net increase in employment, leading to inward migration to the area which may negatively impact on the availability of local public services (such as affordable housing, education and healthcare). This could, in turn, lead to negative impacts on the health and well-being of the local population. Port development can also have a positive impact on tourism, which could also lead to an increase in demand for local services. Port developments could lead to a negative impact on soil and land resources which could potentially bring about a net population change in the region.
23. Equality	1, 5, 12, 13, 24, 25, 26	The air quality, water quality, light, noise, severance and safety impacts of ports may lead to

		disproportionate negative effects on particular regions, users or vulnerable social groups.
24. Accessibility	17, 23, 25, 26	Enhanced access to ports and the jobs, services and social networks they create will have a positive impact on employment regeneration and therefore help stimulate the local economy. In contrast, port developments that contribute to severance of transport routes may negatively impact on the ability of the local population to access employment opportunities. Port developments that reduce access to leisure and tourism opportunities will have a negative impact on the levels of access for all types of users. This in turn, could have an impact on the health and well-being of the local population and leisure users. Ports may contribute to the reduction of crime and fear of crime, therefore removing potential barriers for vulnerable groups and port users allowing them to more freely access the opportunities created by port developments.
25. Health and Well-being	1, 5, 11, 12, 13, 17	Ports may contribute negatively to health and well-being outcomes where environmental effects (including noise, chemical and light pollution, contamination of water quality, reduction of water resources, and release of a range of emissions such as odour, dust, steam, smoke, artificial light, insects and vibration) reduce the quality of living environments of local communities. In addition, changes to the landscape and seascape may impact on local communities and leisure users in terms of their ability to access open and green spaces and recreational facilities. Ports may also increase local employment opportunities and access to travel and transport opportunities may be improved through local regeneration, therefore potentially contributing to health improvement of the local population.
26. Security and Safety	15, 19, 24	Increased security and resilience to all accidents and incidents at ports will have a positive impact on the productivity of ports (through reduced disruption) and will enhance the economic competitiveness of ports while helping ensure security of supply. Port developments that contribute to the reduction of crime and fear of crime among vulnerable groups and port users may also have a positive impact in enhancing access to ports and the jobs, services and social networks they create, together with reducing non-physical barriers that cause severance of transport routes and recreational areas.

3.3.5 Scoping out of Topics

None of the key sustainability issues/topics have been scoped out from the AoS assessment. The scope of the Ports NPS and the potential range of port-development proposals that may be brought before the IPC are quite far reaching. Therefore, it was not appropriate to scope out any of the sustainability topics.

4 AoS Framework

A set of sustainability objectives, referred to as the AoS framework, was developed during the scoping stage and has been used within the appraisal process to assess the Ports NPS for its sustainability. These sustainability objectives have been developed from the sustainability key issues and are organised in to environmental, economic and social objectives.

The objectives are set out in Table 3, including any relevant sub-objectives. Sub-objectives have been identified where a range of issues are addressed by the main AoS Objectives. The AoS Objectives and sub-objectives will be the main mechanism by which the Ports NPS will be appraised. Other appraisal processes typically additionally use indicators within the appraisal process. However, the NPS is a high-level, non-locationally-specific policy document; it does not form a detailed plan or programme for future port development, but sets out the likely need for port expansion. To this extent, available indicators will not often be relevant/applicable to this appraisal, and targets are not appropriate. The existing policy and criteria presented to the IPC within the Ports NPS has therefore been appraised through determining the extent to which they meet the AoS objectives and sub-objectives. Despite this, indicators were identified during the AoS scoping process that may be used at the scheme/development proposal appraisal level as they are brought forward, and highlight potential considerations in the future assessment of proposals (see Appendix 1, Scoping Report Appendix C), although of course the specific indicators used would depend on the particulars of the proposal under consideration.

Table 3: AoS Framework – Ports: NPS

AoS Key Issue Areas	AoS Objectives / Sub-Objectives [Please note: The AoS objectives should not be interpreted as being unqualified policy objectives. There will inevitably need to be trade-offs between the AoS objectives set out here. They cannot all be achieved simultaneously. Therefore these AoS objectives set a framework for assessing the sustainability of NPS policies]
ENVIRONMENTAL	
1. Air Quality	**AoS1: To ensure air quality limit values are not exceeded by port development** • To minimise emissions of air pollutants arising from ports-related development and infrastructure. • To contribute towards efforts to meet air quality limit values in areas of exceedence.
2. Greenhouse Gas Emissions	**AoS2: To minimise emissions of greenhouse gases arising from port-related development and infrastructure** • To encourage measures aimed at reducing GHG emissions from ships and land transport (including encouraging mode shift if and where appropriate). • To encourage the use of renewable energy.
3. Climatic Factors and Adaptation	**AoS3: To mitigate and adapt to climate change** • To reduce the vulnerability of ports-related infrastructure to the impacts of climate change.
4. Flood Risk and Coastal Erosion	**AoS4a: To increase resilience of ports infrastructure against the risk of flooding and coastal erosion** **AoS4b: To reduce the risk of flooding in the hinterland** • To consider the impacts of port-related infrastructure in terms of risk of flooding in the hinterland. • To reduce the impacts on coastal erosion.
5. Contamination of Water Quality	**AoS5: To avoid adverse effects on water quality for all water bodies, including inland, coastal and groundwater**

Table 3: AoS Framework – Ports: NPS	
AoS Key Issue Areas	**AoS Objectives / Sub-Objectives** [Please note: The AoS objectives should not be interpreted as being unqualified policy objectives. There will inevitably need to be trade-offs between the AoS objectives set out here. They cannot all be achieved simultaneously. Therefore these AoS objectives set a framework for assessing the sustainability of NPS policies]
6. Water Resources	**AoS6: To protect water resources** • To avoid adverse effects on water resources by port-related development.
7. Marine Environment	**AoS7a: To preserve and protect the marine environment from the risk of runoffs, spills and leakages of cargoes.** • To enhance the marine environment within port proposals where possible. • To preserve and protect the marine environment from the inappropriate discharge of ballast water and the risk of damaging marine species introductions. **AoS7b: To minimise damage to the marine environment as a result of dredging activities.**
8. Biodiversity	**AoS8: To preserve, protect and improve biodiversity** • To preserve, protect and improve biodiversity as per the Habitats Directive (SACs and SPAs). • To preserve, protect and improve other internationally, nationally and locally designated biodiversity sites, including Ramsar sites, NNRs, SSSIs, MNRs, LNRs, Local wildlife and geological sites, Ancient woodland sites and Biosphere reserves. • To preserve and protect species and habitats of principal importance for biodiversity conservation in England and Wales. • To avoid adverse impacts on non-designated biodiversity sites. • To enhance the biodiversity environment within port proposals where possible. • To consider green infrastructure and increase connectivity where appropriate.
9. Soil and Land Resources	**AoS9a: To protect soil and land resources from the risk of contamination due to runoffs, spills and leakages of cargoes** **AoS9b: To minimise the use of previously undeveloped land for which there are competing uses.**
10. Waste Generation and Resource Use	**AoS10a: To encourage the increased use of recycled materials in the construction of infrastructure** **AoS10b: To reduce, re-use or recycle the waste generated by port infrastructure, including from construction** **AoS10c: To consider the design of infrastructure such that the potential for waste products draining to water and soil resources is reduced, and potentially hazardous waste managed.** **AoS10d: To minimise the adverse impacts of dredging**
11. Landscape and Seascape	**AoS11: To preserve, protect and, where possible, improve landscape and seascape, whilst making it more accessible** • To preserve, protect and, where possible, improve areas nationally and locally designated landscape, including AONBs, NPs, and Heritage Coasts. • To avoid adverse impacts on areas of non-designated landscape and seascape • To increase access to the natural environment (landscape and townscape) where appropriate. • To preserve the character of the landscape and seascape.

Table 3: AoS Framework – Ports: NPS

AoS Key Issue Areas	AoS Objectives / Sub-Objectives [Please note: The AoS objectives should not be interpreted as being unqualified policy objectives. There will inevitably need to be trade-offs between the AoS objectives set out here. They cannot all be achieved simultaneously. Therefore these AoS objectives set a framework for assessing the sustainability of NPS policies]
12. Light	**AoS12: To minimise light pollution arising from ports development**
13. Noise	**AoS13: To reduce industrial and traffic noise related to ports** • To encourage the prevention of noise generation at source. • To minimise exposure of people to noise. • To minimise exposure of wildlife to noise. • To minimise underwater noise from port-related activities.
14. Historic Environment	**AoS14: To protect and enhance sites, features and areas of historical and cultural value** • To protect internationally or nationally significant heritage assets and their settings, whether designated or not (e.g. World Heritage Sites, Scheduled Ancient Monuments, nationally important, but non-designated archaeological sites, Listed Buildings, Protected Wreck Sites, Registered Parks & Gardens, Registered Historic Landscapes, Registered Battlefields, Military Remains). • To protect locally significant heritage assets and their settings (including Conservation Areas and locally listed buildings). • To protect archaeological remains. • To avoid adverse impacts on non-designated historic environment assets/areas. • To enhance the significance of heritage assets and their settings (where appropriate).
ECONOMIC	
15. Productivity Benefits for Ports and their Users	**AoS15: To support productivity benefits for ports and their users** • To maximise benefits for intermediate and end consumers of transported goods by enabling access to international markets and by encouraging effective links from ports including rail and waterways (where appropriate). • To aim to address identified shortfall in national or regional port capacity. • Where possible, to resolve any logistic bottlenecks for international trade.
16. Wider Economic Benefits	**AoS16: To encourage wider economic benefits** • To maximise opportunities for using sustainable transport (e.g. railways and short sea shipping) to reduce the need for road transport to distribute freight within the UK. • To encourage new port capacity in order to support economic growth through the facilitation of trade.
17. Employment, Regeneration and Local/ Regional Development	**AoS17: To contribute to local/ regional employment, regeneration and development** • To contribute to reducing disparities in regional economic activity and employment. • To provide more employment in the ports sector and support services. • To encourage the development of apprenticeship training in ports.

Table 3: AoS Framework – Ports: NPS	
AoS Key Issue Areas	**AoS Objectives / Sub-Objectives** [Please note: The AoS objectives should not be interpreted as being unqualified policy objectives. There will inevitably need to be trade-offs between the AoS objectives set out here. They cannot all be achieved simultaneously. Therefore these AoS objectives set a framework for assessing the sustainability of NPS policies]
18. Leisure and Tourism	**AoS18: To support local/regional/national tourism** • Help to open up the coastline to visitors and local communities. • To support the local/regional/national tourist sector. • To encourage and enhance the opportunities for leisure and recreation on land and water. • To protect facilities aimed at tourists as far as possible. • To encourage coastal access in accordance with the aims of the Marine and Coastal Access Bill.
19. Competition and Security of Supply	**AoS19: To ensure competition and security of supply** • To contribute to national competition for port services. • To contribute to security of supply through the availability of strategic alternative supply chains, in case of disruption of individual sites/routes. • To contribute to defence and national security through the availability of strategic facilities for the support of maritime forces and the defence seaborne supply chain.
20. Funding Arrangements for Ports and Associated Rail/ Road/ Waterways Connections	**AoS20: To ensure adequate funding arrangements are in place for new or upgraded port and supporting transport infrastructure**
21. Foreign Direct Investment and Trade	**AoS21: To promote Foreign Direct Investment and Trade**
SOCIAL	
22. Population	**AoS22: To consider the impact of net population change in regions when this is associated with ports**
23. Equality	**AoS23: To ensure the needs of different social groups are taken into account in port planning and service delivery:** • To take opportunities to benefit equality target groups by actively considering how ports could benefit each group. • To reduce any disproportionate negative effects ports could have on particular regions, users or vulnerable social groups. • To promote inclusive design of port facilities.
24. Accessibility	**AoS24a: To enhance access to ports and the jobs, services and social networks they create, including for the most disadvantaged:** • To enhance access for all types of users, including pedestrians and cyclists. **AoS24b: To contribute to reduced severance of transport routes and recreational areas as a result of port development and operations**

Table 3: AoS Framework – Ports: NPS	
AoS Key Issue Areas	**AoS Objectives / Sub-Objectives** [Please note: The AoS objectives should not be interpreted as being unqualified policy objectives. There will inevitably need to be trade-offs between the AoS objectives set out here. They cannot all be achieved simultaneously. Therefore these AoS objectives set a framework for assessing the sustainability of NPS policies]
25. Health and Well-being	**AoS25: To encourage the consideration of opportunities to improve health and well-being and minimise negative changes in living environments and health of the public that may result from port development and operations or port economic effects** • To consider the environmental health effects of port development on vulnerable groups (including children and the elderly). • To ensure that port development is undertaken in a manner that will facilitate healthier lifestyles (e.g. promoting accessibility to leisure and recreation areas). • To ensure that amenity space that may encourage the improvement of health and physical fitness (including open space, sports facilities) is not lost to port development. • To ensure the risk to human health from the transportation of food, animals and imported diseases via the movement infected humans is minimised. See also Air Quality (1), Light (12), Noise (13) and Access to jobs under Accessibility (24).
26. Security and Safety	**AoS26a: To contribute to the reduction of crime and fear of crime among vulnerable groups and port users** **AoS26b: To increase security and resilience to all accidents and incidents at ports and reduce risk to the users of the road and rail links used to access ports.** • To increase security and resilience to marine accidents. • To increase security and resilience to other port-related accidents (including workers). • To increase security and resilience to terrorist attacks.

4.1.1 Testing the compatibility of AoS Objectives

Compatibility analysis was undertaken between the AoS objectives to identify the existence of any tensions between objectives that cannot be resolved. In such analysis, where tensions are identified, they can be clarified so that subsequent decisions can be well based and mitigation or alternatives considered.

A table displaying the results of the compatibility analysis is presented in Figure 2. The compatibility analysis revealed that in the majority of cases, AoS objectives were largely compatible, or had no direct relation. However, uncertainty exists around the compatibility of a number of pairs of objectives, particularly where one relates to the economy and the other to the environment or social objectives. For example, in some cases the promotion and encouragement of further trade, development and investment may be incompatible with environmental or social well-being objectives, but this will depend on the way in which such objectives are promoted. The appraisal has determined in more detail whether these economic AoS objectives are likely to have an adverse impact on environmental or social factors, and vice versa.

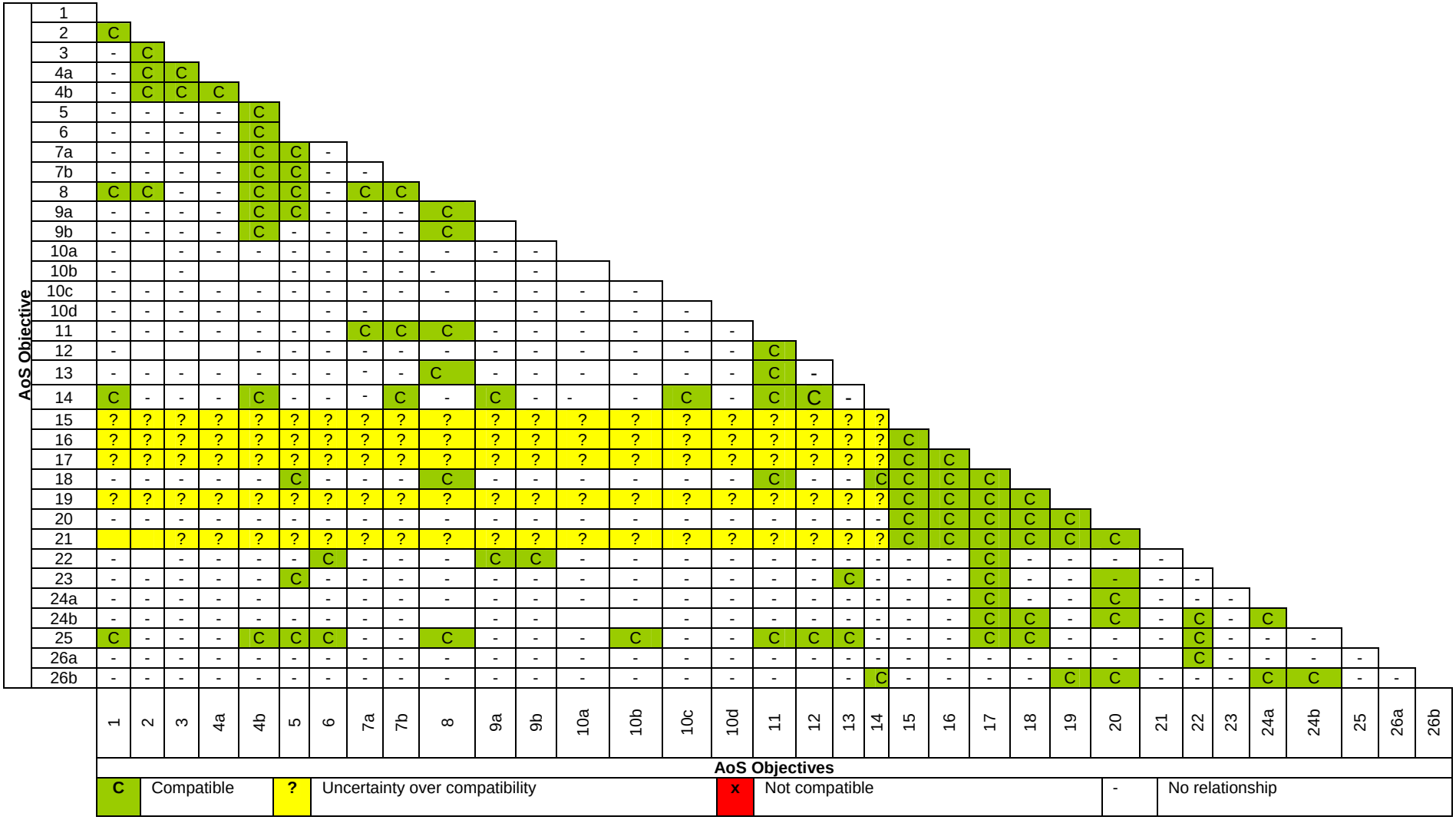

Figure 2: Compatibility Analysis – AoS Objectives

5 Compatibility Assessment – NPS Objectives against AoS Objectives

A compatibility analysis between the Ports NPS objectives and the AoS Objectives (as identified in the AoS Scoping Report) was undertaken. This is to identify both potential synergies and inconsistencies, and to ensure that the fundamental aims of the NPS and AoS are not different.

5.1 Ports NPS objectives

The NPS objectives are outlined in the box below (19/vi draft):

NPS Objective 1 [Para 3.3.1]

In summary, the Government seeks to:

- encourage sustainable port development to cater for long-term forecast growth in volumes of imports and exports by sea with a competitive and efficient port industry capable of meeting the needs of importers and exports cost effectively and in a timely manner (NPS1a);
- allow judgments about when and where new developments might be proposed to be made on the basis of commercial factors by the port industry or port developers operating within a free market environment (NPS1b);
- ensure all proposed developments satisfy the relevant legal, environmental and social constraints and objectives, including those in the relevant European Directives and corresponding national regulations (NPS1c).

NPS Objective 2 [Para 3.3.3]

In order to help meet the requirements of the Government's policies on sustainable development, new port infrastructure should also:

- preserve, protect and where possible improve marine and terrestrial biodiversity (NPS2a);
- minimise emissions of greenhouse gases from port related development (NPS2b);
- be well designed functionally and environmentally
- be adapted to the impacts of climate change (NPS2c);
- minimise use of greenfield land (NPS2d);
- contribute to local employment, regeneration and development (NPS2e);
- ensure competition and security of supply (NPS2f);
- provide high standards of protection for the natural environment (NPS2g); and
- enhance access to ports and the jobs, services and social networks they create, including for the most disadvantaged (NPS2h).
- ensure that access to and condition of heritage assets are maintained and improved where necessary

NPS Objective 3 [Para 3.3.5]

The Government wishes to see port development wherever possible:

- supporting sustainable transport by offering more efficient transport links with lower environmental disbenefits (NPS3a);
- providing a basis for trans-modal shifts from road transport to shipping and rail, which are generally more sustainable (NPS3b);
- supporting sustainable development by providing additional capacity for the development of renewable energy (NPS3c); and
- being an engine for economic growth (NPS3d).

NPS Objective 4 [Para 3.5]

When determining an application for an order granting development consent in relation to ports, the decision-maker should accept the need for future capacity to:

- cater for long-term forecast growth in volumes of imports and exports by sea for all commodities indicated by the demand forecast figures set out in the MDST forecasting report accepted by Government, taking into account capacity already consented. The Government expects that ultimately all of the demand forecast in the 2006 ports policy review is likely to arise, though in the light of the 2008-09 recession, not necessarily by 2030 (NPS4a);
- support the development of offshore sources of renewable energy (NPS4b);
- offer a sufficiently wide range of facilities at a variety of locations to match existing and expected trade, ship call and inland distribution patterns and to facilitate and encourage coastal shipping (NPS4c);
- ensure effective competition between ports and provide resilience in the national infrastructure (NPS4d); and
- take full account of both the potential contribution port developments might make to regional and local economies (NPS4e).

5.2 AoS objectives

AoS objectives were developed in the AoS scoping report, and were categorised as being environmental, economic or social (see Section 4). The AoS objectives should not be interpreted as being policy objectives. There will inevitably need to be trade-offs between the AoS objectives set out here. They cannot all be achieved simultaneously. Therefore these AoS objectives set a framework for assessing the sustainability of NPS policies.

5.3 Compatibility Analysis

Figure 3 shows the compatibility between the NPS objectives and AoS objectives.

Key:

C	Broadly compatible
?	Uncertainty over compatibility
X	Not compatible
-	No relationship

		NPS Objectives										
		NPS1a	NPS1b	NPS1c	NPS2a	NPS2b	NPS2c	NPS2d	NPS2e	NPS2f	NPS2g	NPS2h
AoS Objectives	AoS1	-	-	C	-	-	-	-	-	-	C	-
	AoS2	-	-	C	-	C	-	-	-	-	C	-
	AoS3	-	-	C	-	C	C	-	-	-	C	-
	AoS4a	-	-	C	-	C	C	-	-	-	C	-
	AoS4b	-	-	C	-	C	C	-	-	-	C	-
	AoS5	-	-	C	-	-	-	-	-	-	C	-
	AoS6	-	-	C	-	-	-	-	-	-	C	-
	AoS7a	-	-	C	C	-	-	-	-	-	C	-
	AoS7b	-	-	C	-	-	-	-	-	-	C	-
	AoS8	-	-	C	C	-	-	C	-	-	C	-
	AoS9a	-	-	C	-	-	-	C	-	-	C	-
	AoS9b	-	-	C	-	-	-	-	-	-	C	-
	AoS10a	-	-	C	-	-	-	-	-	-	C	-
	AoS10b	-	-	C	-	-	-	-	-	-	C	-
	AoS10c	-	-	C	-	-	-	-	-	-	C	-
	AoS10d	-	-	C	-	-	-	-	-	-	C	-
	AoS11	-	-	C	C	-	-	C	-	-	C	-
	AoS12	-	-	C	-	-	-	-	-	-	C	-
	AoS13	-	-	C	-	-	-	-	-	-	C	-
	AoS14	-	-	C	-	-	-	C	-	-	C	-
	AoS15	C	C	-	-	-	-	-	C	-	-	-
	AoS16	C	C	-	-	-	-	-	C	-	-	-
	AoS17	C	C	-	-	-	-	-	C	-	-	C
	AoS18	-	-	-	C	-	-	C	-	-	-	-
	AoS19	C	C	-	-	-	-	-	-	C	-	-
	AoS20	-	-	-	-	-	-	-	-	-	-	-
	AoS21	C	C	-	-	-	-	-	-	-	-	-
	AoS22	-	-	-C	-	C	-	-	-	-	C	-
	AoS23	-	-	C	-	-	-	-	-	C	C	-
	AoS24a	-	-	-C	-	-	-	C	-	C	-	C
	AoS24b	-	-	C	-	-	-	-	-	-	-	C
	AoS25	-	-	C	C	C	C	C	-	C	C	C
	AoS26a	-	-	C	-	-	-	-	-	-	-	-
	AoS26b	-	-	C	-	C	-	-	-	-	-	-

		NPS Objectives								
		NPS3a	NPS3b	NPS3c	NPS3d	NPS4a	NPS4b	NPS4c	NPS4d	NPS4e
AoS Objectives	AoS1	C	C	C	-	-	-	-	-	-
	AoS2	C	C	C	-	-	C	-	-	-
	AoS3	-	-	-	-	-	C	-	-	-
	AoS4a	-	-	-	-	-	-	-	-	-
	AoS4b	-	-	-	-	-	-	-	-	-
	AoS5	-	-	-	-	-	-	-	-	-
	AoS6	-	-	-	-	-	-	-	-	-
	AoS7a	-	-	-	-	-	-	-	-	-
	AoS7b	-	-	-	-	-	-	-	-	-
	AoS8	-	-	-	-	-	-	-	-	-
	AoS9a	-	-	-	-	-	-	-	-	-
	AoS9b	-	-	-	-	-	-	-	-	-
	AoS10a	-	-	-	-	-	-	-	-	-
	AoS10b	-	-	-	-	-	-	-	-	-
	AoS10c	-	-	-	-	-	-	-	-	-
	AoS10d	C	-	-	-	-	-	-	-	-
	AoS11	C	-	-	-	-	-	-	-	-
	AoS12	C	-	-	-	-	-	-	-	-
	AoS13	C	-	-	-	-	-	-	-	-
	AoS14	C	-	-	-	-	-	-	-	-
	AoS15	-	-	-	-	C	-	C	C	C
	AoS16	-	-	-	-	C	-	C	-	C
	AoS17	-	-	-	-	C	-	C	-	C
	AoS18	-	-	-	-	-	-	-	-	
	AoS19	-	-	-	-	C	-	C	C	C
	AoS20	-	-	-	-	-	-	-	-	-
	AoS21	-	-	-	-	C	-	C	C	-
	AoS22	-	-	-	-	-	-	-	-	-
	AoS23	-	-	-	C	-	-	-	-	-
	AoS24a	-	-	-	-	-	-	C	-	-
	AoS24b	-	-	-	-	-	-	-	-	-
	AoS25	C	C	C	C	-	-	-	-	-
	AoS26a	-	-	-	-	-	-	-	-	-
	AoS26b	-	-	-	-	-	-	-	-	-

Figure 3: Compatibility Analysis – NPS and AoS Objectives

5.4 Discussion

In all cases, the NPS objectives were either broadly compatible with the AoS objectives, or there was no relationship identified between objectives (this was the case for the majority of objectives).

NPS Objective 1 is concerned with the Government's policy for ports. The sub-objectives NPS1a and NPS1b are mainly compatible with the majority of the economic AoS objectives (in particular AoS15, AoS16, AoS17, AoS19 and AoS21). However, NPS1c, which aims to ensure that proposed development satisfies the relevant legal, environmental and social constraints and objectives, is compatible with all of the environmental and social AoS objectives.

NPS Objective 2 focuses on ensuring that new port infrastructure meets the requirements of the Government's policies on sustainable development, which includes the consideration of impacts on biodiversity; greenhouse gas emissions; climate change adaptation; the use of previously developed land; contribution to local/regional employment, regeneration and development; competition and security of supply; and access to ports and associated jobs, services and social networks. Compatibility between NPS and the AoS objectives were achieved for a range of environmental, economic and social AoS objectives, including AoS2, AoS3, AoS4a, AoS4b, AoS7a, AoS8, AoS9a, AoS11, AoS14 (environmental), AoS15 to AoS19 (economic), AoS22 to AoS25, and AoS26b (social).

NPS Objective 3 outlines further requirements for port development, which include issues relating to the provision and use of sustainable transport, support of sustainable development (through provision of renewable energy), high standards of protection for the natural environment, and supporting economic and social cohesion. Like NPS2, this objective is therefore compatible with as range of environmental, social and economic AoS objectives. In particular NPS3d, provide high standards of protection for the natural environment, has compatibility with all of the environmental AoS objectives (AoS1 to AoS14).

NPS Objective 4 sets out the requirements determining an application for an order granting development consent in relation to ports. The sub-objectives (NPS1a to NPS1e) set out how the decision-maker should attach substantial weight to the need for future capacity. These objectives are mainly compatible with the majority of the economic AoS objectives (in particular AoS15, AoS16, AoS17, AoS19 and AoS20). However, there is also compatibility with AoS2 (greenhouse gases), AoS3 (adaptation to climate change) AoS24a (accessibility to ports, jobs, services and social networks).

6 Assessment of NPS policy alternatives

6.1 Developing and assessing strategic alternatives

The assessment set out in Section 7 considers the sustainability of the policies in the draft NPS. In addition to this, an assessment has been made of the sustainability of those chosen policies in the round, as compared to other policies that could have been chosen in their place. This section sets out the outcomes of this broad assessment of the reasonable strategic alternatives to the current NPS policies.

DfT and the AoS team identified the key strategic policy areas in the draft Ports NPS that have reasonable and feasible alternatives. This has been an iterative process by which a set of reasonable alternatives were prepared by DfT in consultation with the AoS team. The appraisal of these alternatives compared to the policies currently set out in the draft NPS has been carried out by the AoS team with input from DfT.

In this appraisal, the strategic alternatives have been compared to the current NPS policy. In some cases the alternative options relate to a continuum of degrees of possible government intervention and in these cases the limiting cases have been assessed. The various options have been considered according to whether they would have a broadly positive, negative or no effect on achieving the environmental, economic and social sustainability objectives established in the scoping stage of the AoS, set out in the AoS Framework in Section 4. Only the main differences between the options have been considered at this stage; more detailed appraisal has been made of specific policies in the assessment of the chosen policies contained in the NPS in Section 7.

Please note that this assessment does not consider the 'no plan' alternative, which would consider the sustainability effect of producing a NPS compared to not producing a NPS. The assessment of this alternative has been considered in the Impact Assessments which accompanied the publication of the draft and final NPS.

6.2 Draft NPS Alternatives

DfT and the AoS team identified seven strategic alternatives from the draft Ports NPS - they were as follows:

1. Market-led versus **central planning approach to port development**

2. Locational NPS versus **non-locational NPS**

3. Support for development versus **no support for development**

4. Subsidising versus **not subsidising port investment**

5. Letting the promoter decide on the need for new development versus **consideration by the decision maker**

6. Mitigation of impacts versus **mitigation of impacts to minimum requirements**

7. Developer funding versus **state funding of road/rail/inland connections**

Each of these strategic alternatives is considered in the following sections. Please note that the development of the NPS policy options set out in the following sections originally took place as part of DfT's Ports Policy Review, for which consultation was undertaken. The consultation documents and

the Department's summary of responses can be found on the Department's website[38]. The present Government's policy choices remain consistent with this analysis.

6.3 Issue 1: Market Led versus Central Planning Approach

6.3.1 Overview of Alternatives

The policy options in this area are on a continuum of government intervention, with a market-led approach without required mitigation at one end and a central planning approach at the other. Both of these alternatives have been assessed below in comparison to the current NPS policy, which is between the two extremes.

A. Market-led Approach

A market-led policy is one which considers that port operators are best placed to make decisions about when and where to invest, with no direction or intervention by government.

B. Central Planning Approach

A central planning policy is one in which the Government makes decisions regarding when and where to invest in port development and dictates these decisions to the sector. Appropriate mitigation and compensation provisions are implemented through the planning system to counter adverse effects.

C. NPS Policy – Market-led, but with mitigation/compensation guaranteed as necessary by the planning system

The Government's intended NPS policy is that a market-led approach to identifying and responding to future demand and exploiting available commercial opportunities is the most effective way of meeting the key objectives for the ports sector. However, the Government also believes that the adverse impacts of port development should be countered through appropriate mitigation and compensation provisions, and that these should be guaranteed through the planning system where that is the best mechanism.

6.3.2 Environmental, economic and social impacts of alternatives

Environmental Impacts

A purely market-led approach to port development (A) in which there is no intervention by government may result in the environmental impacts of development not being sufficiently considered. In comparison, the central planning approach (B) may provide an opportunity for environmental issues to be considered in a more balanced way, removing potential bias of the proposal promoter towards the economic advantages, and recognising/addressing the environmental effects/issues. However, through ensuring that mitigation and compensation are guaranteed as necessary by the planning system alongside the market-led approach to bringing forward proposals (C), and in view of the duty on the IPC to reject applications where the adverse impacts exceed the benefits, provided that any additional effect of cumulative impacts is taken into account at the appropriate stage, it is unlikely that significant negative environmental impacts will ensue.

Economic Impacts

Ports play an essential role in supporting national economic growth and in order to do this effectively port capacity needs to be both sufficient and in the right place. The central planning approach (B) is unlikely to be the best way of ensuring this since Government has only a partial knowledge of current capacity and market conditions, and of the effective operating capacities of existing facilities. A

[38] http://www.dft.gov.uk/consultations/archive/2006/ppr/

market-led approach (as per options A and C) allows ports to make commercial decisions regarding port development based on their own view of future patterns of demand and their ability to attract it. Competing firms also only have a partial knowledge of the regional and national freight and logistics markets and may take different views on investment; this may result in some abortive costs when a view that turns out to be wrong, but this cost is likely to be less than the cost incurred by a single state entity taking a view on future patterns of demand with only a partial, arms-length knowledge of the sector. In recent years, the (mainly privately-owned) UK ports sector has demonstrated that it has an ability to bring forward development applications without being directed to do so by Government.

It should be noted that the current UK market-led approach is unusual in Europe and the underlying assumption — that the optimal solution is arrived at through following the self-interest of individual scheme promoters — is not universally accepted. A market-led policy (as per options A and C) may be criticised if it is viewed as derogating power of strategic direction of port development on the national territory and not considering the effects on national productivity or regional development/employment.

A market-led approach (as per options A and C) contributes to competition in the port sector whilst a central planning approach is likely to suppress competition. This is likely to promote efficient use of existing infrastructure, as logistics costs are largely internalized. A market-led approach would also promote foreign direct investment since the opportunities for investment would be greater.

It is also possible that a market-led approach may lead to greater capacity than strictly required. However, this could have beneficial resilience and competition effects.

In summary, the NPS approach of a 'market-led' approach (Option C), that has mitigation/compensation guaranteed as necessary by the planning system, although unusual on a European level, appears to give a reasonable basis to ensure that economic objectives are met.

Social Impacts

A purely market-led approach to port development (A) in which there is no intervention by government may result in the social impacts of development not being sufficiently considered, , whereas the central planning approach (B) may mean such issues are given more prominence. However, through ensuring that mitigation and compensation are guaranteed as necessary by the planning system alongside the market-led approach to bringing forward proposals (C), and in view of the duty on the IPC to reject applications where the adverse impacts exceed the benefits, it is unlikely that significant negative social impacts will ensue.

6.3.3 Conclusion

In conclusion, a market-led approach with mitigation / compensation guaranteed as necessary through the planning system is unlikely to lead to significant negative environmental or social impacts. Although a central planning approach might allow for specific environmental or social considerations to be targeted, the economic disbenefits of doing so (e.g. in terms of loss of competitive pressure) are considered to outweigh the benefits that would be derived. Economically, there is a need to ensure that port capacity is both sufficient and in the right place, and it is considered that a market-led approach provides an effective way of achieving these objectives since it allows port developers to take commercial decisions based on their view of future patterns of demand. This approach has not given rise to any major shortfalls in needed capacity. There are also competition and investment benefits arising from a market-led approach.

Therefore, option C (market-led, but with mitigation/compensation guaranteed as necessary by the planning system) is considered to be a sustainable option.

6.4 Issue 2: Locational NPS versus non-locational NPS

6.4.1 Overview of Alternatives

A. Non-locational policy (NPS Policy)

The intended NPS policy is a non-locational policy whereby the Government believes that port operators are best placed to make decisions about where and when to invest in the ports sector and that it would be against the overall public interest to stipulate where port development should and should not occur.

B. Locational Policy

The locational policy alternative would be a policy that the Government should play a directive role in determining the location of port development. This could take a variety of different forms: the state determining exactly where development should take place; the state ruling out certain areas; or the state singling out certain areas for development but allowing the private sector to determine whether or not they are viable.

6.4.2 Environmental, economic and social impacts of alternatives

Environmental Impacts

In terms of the environmental effects, there may be benefits to having a locational NPS (B) to enable the assessment of the potential environmental constraints associated with future port development at a strategic level, e.g. the identification of sensitive or protected biodiversity and landscape sites. Guidance could then be provided in the first instance regarding where port development may be acceptable, and proposals can subsequently be forthcoming from promoters already meeting these criteria. It is acknowledged that more detailed criteria on more local environmental designations and criteria would have to be considered at the scheme level. Development could then be restricted or further expansion can be restrained in certain locations where it is believed adverse environmental effects may arise. However, it is acknowledged that under a non-locational policy (A) such constraints would be identified through the EIA and associated processes at the detailed scheme/project assessment stage, which would be likely to lead to the same result for the ensuing port development, albeit much later in the planning and consent process. Option B would avoid the costs associated with applications being made and rejected due to environmental constraints, but would involve significant public sector costs by the need to undergo an extensive exercise to identify the environmental constraints on a national basis, which may or may not be possible in practice.

It could be argued that one benefit of a locational policy from an environmental perspective would be the ability to direct the location of ports so as to bring ports closer to inland markets, reducing the lorry miles required to move goods from ports to the market. However, the MDST transhipment study[39] has shown that (in the deep-sea container sub-sector) any reduction in HGV sensitive lorry mileage would tend to be offset by maritime costs. It is also the case that road-to-rail modal shift potential can be reduced if traffic switches from a larger terminal to a more dispersed set of smaller ones since greater consolidated loads over longer distances tend to be more economic and attractive for rail.

Economic Impacts

Ports play an essential role in supporting economic growth and in order to do this effectively port capacity needs to be both sufficient and in the right place. Option A, in which port project promoters determine the location of port development, is – on balance – considered to be more likely to put capacity in those places in which it is needed since the Government does not have sufficient 'hands on' information on future effective capacity and market demand to be able to direct in advance where port development should take place to satisfy need. Conversely, the ports industry has demonstrated that it can and does bring forward appropriate development proposals to meet capacity where it is needed.

It could be argued that one benefit of a locational policy (B) would be the ability to direct the location of ports so as to locate new port development in regions needing economic regeneration. This might, for example, involve constraining container terminal expansion in the Greater South East (GSE) in order to encourage development elsewhere. However, the national economic impacts of this policy would probably be negative on balance, partly since an absence of sufficient capacity in the GSE would likely lead to transhipment of UK goods via other European hub ports rather than a redistribution of traffic to other UK destinations.

[39] http://www.dft.gov.uk/consultations/archive/2006/ppr/containerporttranshipment.pdf

Social Impacts

Like environmental impacts, there may be some benefits to having a locational policy (B) to enable a strategic assessment of suitable locations for port development based on any existing social constraints. However, it is assumed that if such constraints exist, these would equally be identified under the non-locational policy option (A), particularly as policies will be accompanied by clear policy ensuring that appropriate mitigation and compensation provisions should be imposed by the planning system to counter any adverse effects. Option B would involve significant public sector costs by the need to undergo an extensive exercise to identify the social constraints on a national basis, which may or may not be possible in practice.

6.4.3 Conclusion

A locational policy (B) may allow environmental and social constraints on location to be considered at a strategic level, but this is unlikely to result in differing environmental and social impacts as compared to such constraints being considered at the specific proposal assessment level, which would happen under a non-locational policy (A).

From an economic perspective, a non-locational policy is more likely to lead to port development coming forward in the locations in which it is needed, since Government does not have sufficient information on future effective capacity and market demand to be able to direct in advance where port development should take place to satisfy need.

Therefore, option A (non-locational policy) is considered to be a sustainable option.

6.5 Issue 3: Support for new development vs. no support for new development

6.5.1 Overview of alternatives

A. Support for new port development (NPS policy)

The intended NPS policy is that the Government wishes to see substantial additional port capacity developed over the next 20-30 years, to ensure the realisation of sustainable economic gains from the expected resumption of growth in UK trade, and to maintain flexibility and resilience while living within environmental limits. The additional capacity is explained as being required to:

- cater for long-term forecast growth in volumes of imports and exports by sea for all commodities indicated by the demand forecast figures set out in the MDS Transmodal report, taking into account capacity already consented. The Government expects that all of the demand forecast in the 2006 ports policy review is likely to arise, though in the light of the subsequent recession, not necessarily by 2030;

- support the development of offshore sources of renewable energy;

- offer a sufficiently wide range of facilities at a variety of locations to match existing and expected trade, ship call and inland distribution patterns;

- ensure effective competition between ports and provide resilience in the national infrastructure; and

- take full account of both the potential contribution port developments might make to regional and local economies.

This policy also states that while it will in some cases be possible to increase the efficiency of existing ports, this cannot be relied on as a way of meeting forecast demand, meaning that new port infrastructure will need to continue to be developed.

B. No support for new port development

An alternative to the intended NPS policy would be to state that the Government does not wish to see new port capacity developed.

Given that the majority of port developments are in the private sector, policy would not be able to preclude increases in the effective capacity of existing ports under Permitted Development Rights. Therefore under this policy there may still be some increase in overall capacity as the result of efficiency improvements.

6.5.2 Environmental, economic and social impacts of alternatives

Environmental Impacts

Option A would result in more port development being approved. It could therefore be argued that option A is likely to have a greater adverse environmental impacts as a result, but since it is current policy that any adverse environmental effects of new port development (once that development has been justified taking account of its unavoidable adverse impacts) should be mitigated or compensated for, including through the planning process (as per the current NPS policy in issue 1), such adverse impacts would be minimised.

However, option B would restrict capacity at UK ports, which would inevitably push goods on to aviation, road and rail (via the Channel Tunnel for international movements). These modes may have greater environmental impacts than shipping, and could require infrastructure developments of their own to accommodate increased demand.

Option B may have a detrimental effect on the development of offshore renewables energy since there may be insufficient capacity at ports to support installation and maintenance.

Economic Impacts

Option B would result in a restriction of capacity at UK ports. It would not result in an absolute halt to the provision of additional capacity since port operators would be able to use existing Harbour Orders and Permitted Development Rights to increase the effective capacity of existing ports. In the short-term, restrictions on capacity may be overcome by ports operating more efficiently, for example using demand management systems, such as lorry delivery pre-booking systems. But in the long-term, these methods are unlikely to be able to cater sufficiently for the expected increase in demand for port services.

The demand forecasts published on behalf of DfT indicate that demand for port services will grow over the foreseeable future (i.e. the next twenty years or so). The current recession is likely to delay this growth in demand, but it is expected to resume once the economy starts to recover. The UK is an island trading nation which relies on importing and exporting goods by sea to sustain economic growth. Although currently consented capacity is expected to roughly match growth in the container, ro-ro and bulk sectors for the next twenty years, this consented capacity is site-specific and changes in the pattern of demand may require capacity at alternative locations over this period. It is in the economic interest for additional port development to be provided when and where it is needed. Option B would not allow for this to take place, significantly hampering economic growth since alternative modes would not be able to offer the required capacity at cost-effective prices.

Option B would, therefore, be likely to lead to demand exceeding supply at specific locations, which would result in any existing ports at these locations operating at maximum capacity. This is unlikely to be the most efficient operating level, and may therefore lead to delays at ports, further restricting economic growth. The lack of spare capacity would also be likely to limit the effectiveness of competition between ports, driving up prices for users. The lack of spare capacity would also offer limited national resilience in the event of delays or closure at one or more facilities.

An absence of sufficient capacity and associated delays to ships loading/unloading would be likely to lead to transhipment of more UK goods via European hub ports which would tend to increase the costs for UK importers and exporters.

In contrast, Option A would allow for sufficient capacity in the right places (as determined by the market) to support economic growth, allow ports to operate at an efficient capacity, facilitate competition between ports and offer national resilience in port services. It would enable the UK ports sector to respond to commercial opportunities, allowing the sector to grow and provide the local and regional economic benefits that port development can bring.

Social Impacts

Option A would result in more port development being approved. It could therefore be argued that option A is likely to have greater adverse social impacts as a result, but since it is current policy that any adverse social effects of new port development should be mitigated or compensated for, including through the planning process (as per the current NPS policy in issue 1) such adverse impacts would be minimised.

The adverse economic effects of restricting capacity as per option B have been set out above. This would be likely to have a wider effect on employment prospects, which may have adverse social impacts, which option A would avoid.

Conclusion

In conclusion, option B would have adverse impact on the UK's long term economic growth since it would result in insufficient capacity in the right places leading to delays at ports, suppressed competition and transhipment via European ports which will increase costs for users. The ports sector would be unable to react flexibly to the market by bringing forward new port locations. The resilience of the UK's port infrastructure would also be impaired. Local and regional economic benefits would not be realised.

Option A may result in more development proposals being brought forward, which may result in greater adverse social and environmental impacts. However, since it is current policy that any adverse environmental or social effects of new port development should be mitigated or compensated for, including through the planning process, and in view of the duty on the IPC to reject applications where the adverse impacts exceed the benefits, it will not lead to significant negative environmental or social impacts.

Option B would have unpredictable environmental effects as the result of traffic being pushed on to alternative modes with potentially greater environmental impacts and infrastructure requirements. The offshore renewables sectors may also be affected. Option B would also be likely to have adverse social effects as a result of the economic effects described above.

Therefore, option A is considered to be a sustainable option.

6.6 Issue 4: Subsidising versus not subsidising port investment

6.6.1 Overview of Alternatives

A. Subsidy policy

A subsidy policy is one where public subsidy for port development is provided. This could take various forms depending on the objectives and consequent structure of that subsidy. The ultimate limiting case would be nationalisation of the ports industry and central planning of port development, aimed at primarily non-commercial objectives.

B. Non-Subsidy of Port Investment (NPS Policy)

The intended NPS policy is that ports should continue to operate on a commercial basis, very largely without public subsidy, and that subsidy to direct port investment should normally be avoided even where positive externalities might be held to justify it, though exceptions can arise *e.g.* for targeted

improvements through freight facilities grant or the recent productivity Transport Innovation Fund (TIF).

6.6.2 Environmental, economic and social impacts of alternatives

Environmental Impacts

One argument might be that a subsidy policy (A) would allow Government to support proposals with the least environmental impact, but since any adverse environmental effects could be mitigated or compensated for through the planning process (as per the current NPS policy in issue 1), this is unlikely to have any additional beneficial environmental effect. Furthermore, it is a general principle of environmental economics that polluting activity should not be subsidized because, at the highest level of generality, that tends towards over-production of that activity.

However, environmental benefits would be likely to be secured under a subsidy policy if the subsidy was targeted at remedying specific negative environmental externalities. The Government's position is that there are more effective and direct ways of addressing such externalities than through subsidy to ports.

Economic Impacts

In terms of economic effects, the justification for subsidy (A) could be argued from the position of socio-economic efficiency, which may influence locational choice (e.g. to support 'solidarity' with disadvantaged regions). However, there is a risk that subsidy could distort inter-port competition, unless targeted at very specific market failures, interfering with the decentralised market approach discussed in Issue 1.

In addition, the ports sector has demonstrated a willingness to fund adequate levels of port development, and it could therefore be viewed as a wasteful use of public money to subsidise port development, as it would be using public money to do something that the private sector is willing to do without charge to the public purse.

Social Impacts

One argument might be that a subsidy policy (A) would allow Government to support proposals with the least social impact, but since any adverse social effects could be mitigated or compensated for through the planning process (as per the current NPS policy in issue 1), the additional beneficial effect is likely to be limited.

However, social benefits would be likely to be secured under a subsidy policy if the subsidy was targeted at remedying specific negative social externalities. The Government's position is that there are more effective and direct ways of addressing such externalities than through subsidy to ports.

In addition, a more generalised subsidy policy in which the Government supported failing ports might provide some social benefits by maintaining employment. The Government's position is that this would not be an effective way of delivering such benefits since it ultimately results in inefficiency and waste of productive potential in the economy.

6.6.3 Conclusion

In conclusion, specific subsidy policies targeted at remedying specific negative environmental, social and economic externalities would be likely to secure benefits in these areas. However, the Government's position is that there are more effective and direct ways of addressing such externalities than through subsidy to ports. A policy of more generalised subsidy, in which the Government supported uncommercial ports might result in some short-term social benefits, but the Government's position is that these would be over-ridden by long-term disbenefits, such as loss of competitiveness in the ports sector.

In terms of economic effects, the potential benefits of using subsidy to support port development in disadvantaged regions is largely over-ridden by the potential negative impact of subsidy on competition between ports and the inefficient use of public money.

Therefore, option B (non-subsidy of port investment) is considered to be a sustainable option.

6.7 Issue 5: Letting the promoter decide on the need for new development versus consideration by the decision-maker

6.7.1 Overview of Alternatives

A. Letting the promoter decide on the need for new development compared to making better use of existing facilities (NPS Policy)

This policy is that decision makers should attach value to efficient capacity utilisation but should not substitute their judgement for that of the applicant as to the commercial need for the additional development.

The current NPS policy is nuanced in that it acknowledges the requirement for a different approach when the habitats and birds Directives (and Ramsar sites, as a matter of policy) are engaged. In such cases there is a specific legal requirement for the competent authority to consider the need for the development and part of this should be consideration of the availability or otherwise of spare capacity in current facilities, including those not under the control of the applicant.

B. Consideration by the decision-maker of the need for new development compared to making better use of existing facilities

This alternative policy is that the decision-maker should override the applicant's commercial view of the need for a new development by separately considering the efficiency of use of current facilities to determine the need for the new development and can reject if it considers that there is no need for the new development, even in cases where the habitats and birds Directives are not engaged.

To comply with legal requirements, this policy would also be nuanced to acknowledge the requirement for a different approach when the habitats and birds Directives (and Ramsar sites as a matter of policy) are engaged. In such cases there is a specific legal requirement for the competent authority to consider the need for the development and part of this should be consideration of the availability or otherwise of spare capacity in current facilities, including those not under the control of the applicant.

C. Consideration by the decision-maker on the need for new development compared to making better use of existing facilities, including facilities of competing ports

A further iteration of option B would be that the decision-maker should also consider the efficiency of use of current facilities not under the control of the applicant, i.e. of competing ports, even in cases where the habitats and birds Directives are not engaged.

6.7.2 Environmental, economic and social impacts of alternatives

In the discussion below it is assumed that a choice between options A and B would only rarely have an impact on the number of new developments approved. This is based on the fact that there is a strong commercial incentive to the promoter to have made best use of its own current facilities before undertaking expensive land acquisition and capital investment, i.e. a promoter is quite unlikely to put forward an application for new development in a case where examination by the decision-maker would result in the decision-maker concluding that better use could be made of the applicant's existing facilities as a substitute for the new development, although there may be a difference at the margins.
However, option C – in which the decision-maker considers the efficiency of use of non-applicant-controlled facilities – will have a more unpredictable impact on the number of developments approved.

Environmental Impacts

Option A could result in more port development being approved than options B and C. It could therefore be argued that option A is likely to have a greater adverse environmental impact as a result, but since it is current policy that any adverse environmental effects of new port development should be mitigated (and where appropriate compensated for) through the planning process (as per the current NPS policy in issue 1) such adverse impacts would be minimized. Options B and C by resulting in less port development would obviate the occurrence of environmental impacts in the first place and make best use of available resources and would therefore have some an environmental benefit over option A.

In terms of biodiversity impacts, option A (as well as options B and C) includes the nuance that in cases where the habitats and birds Directives are engaged there is a more specific legal requirement for the competent authority to consider the need for the development and that part of this should be consideration of the efficiency of use of current facilities (including those not under the control of the applicant), so the adverse environmental impacts of option A are further limited.

Economic Impacts

Having sufficient port capacity is essential for the nation's economic growth. The promoter is, by virtue of their assumed specialist operational expertise, likely to be better placed to take a view on the efficient utilisation of the current port facilities and will therefore – in general – be more effective at judging the need (and therefore commercial demand) for new development. This supports option A from an economic perspective since it is in the economic interest for additional port development to be provided when (and where) it is needed. This does not mean that all developments brought forward by promoters will be successful, but it is considered that the cost of any abortive investment is acceptable (in terms of its impact on the national economy), especially in the light of the NPS policy that adverse environmental and social effects of development should be mitigated and compensated for via the planning system.

Options B and C would both require the decision-maker to make a judgement as to the commercial need for the new development. This would compromise the ability of the ports sector to provide capacity when and where it is needed since this ability relies on ports making commercial decisions about the need for new port development based on their view of future patterns of demand and their ability to attract it.

Furthermore, option C would be likely to have the effect of suppressing competition between ports since it would not allow for the spare capacity necessary for firms to operate flexibly and to compete for trade.

Social Impacts

Option A could result in more port development being approved than options B and C. It could therefore be argued that option A is likely to have a greater adverse social impact as a result, but since it is current policy that any adverse social effects of new port development should be mitigated or compensated for through the planning process (as per the current NPS policy in issue 1) such adverse impacts would be minimised.

6.7.3 Conclusion

In conclusion, option A ('Promoter decides on need') could result in more development proposals being brought forward, especially compared to option C in which the decision-maker would consider the efficiency of use of current facilities not under the control of the applicant. However, since it is current policy that any adverse environmental or social effects of new port development should be mitigated or compensated for through the planning process, and in view of the duty on the IPC to reject applications where the adverse impacts exceed the benefits, it is unlikely to lead to significant negative environmental or social impacts. It wouldn't, however, obviate impacts in the first place which may be a more environmentally sustainable approach.

From an economic perspective, allowing the promoter to decide on the need for new development is likely to be a more effective way of ensuring that sufficient port capacity is provided where it is needed. Competition would be likely to be suppressed if the decision-maker were to consider the efficiency of facilities not under the control of the applicant, since this may result in port development being restricted.

Therefore, option A (letting the promoter decide on the need for new development compared to making better use of existing facilities) is considered to be a sustainable option.

6.8 Issue 6: Mitigation of impacts versus mitigation of impacts to minimum requirements

6.8.1 Overview of alternatives

The policy options considered in this area are mitigating impacts to the minimum requirements (as set out in regulations etc) and going further and mitigating impacts such that residual impact is not significant (NPS Policy).

A. Mitigation of impacts to minimum requirements

This policy would be one where no mitigation is required for the adverse environmental, economic and social impacts of port development in order for consent to be granted, and no compensation is required, over and above legal requirements, for example as set out in EIA and habitats regulations. Policy on mitigation and compensation set out in existing Planning Policy Guidance and Planning Policy Statements would be disapplied.

However, this policy could not preclude the IPC's duty to reject applications where the adverse impacts exceed the benefits.

B. NPS policy – mitigation of impacts such that residual impact is not significant

The intended NPS policy is a pragmatic approach whereby mitigation is required for the adverse environmental, and potentially economic and social, impacts of port development, and compensation where appropriate, in order that the residual impact is considered not significant. The level of acceptability will vary for each impact; under this policy the NPS would set out the mitigation required to ensure this for each.

6.8.2 Environmental, economic and social impacts of alternatives

Environmental Impacts

Option B (mitigation of impacts such that the residual impact is not significant) would have a more positive environmental effect than option A since in some cases it would require more extensive mitigation and compensation. However, in cases where certain legal requirements apply, the differences between the two options may be negligible.

Economic Impacts

Option B would allow port development applications to be consented as long as the adverse impacts were mitigated such that the residual impacts were not significant, going further (in some cases) than the minimum required. In previous applications for development, the ports sector has demonstrated an ability to mitigate adverse impacts to a significant level, indicating that this approach would result in port development being consented.

Option A would also allow port development to be consented, and would not require port developers to pay for mitigation or compensation other than what is legally required. However, not mitigating adverse environmental or social impacts in this way may have a negative economic impact, for example via its effect on local tourism.

Furthermore, at the local and regional level there may be cases where port developments have adverse economic effects, for example as the result of a new development competing for traffic currently using other ports, or because of an adverse effect on the local tourism sector as a result of development. In such cases, there will also be some local economic benefit derived from option B over option A.

Social Impacts

Option B (mitigation of impacts such that the residual impact is not significant) would have a more positive social effect than option A since in some cases it would require more extensive mitigation and compensation.

6.8.3 Conclusion

In conclusion, option B (mitigation such that the residual impact is acceptable) would be likely to have a beneficial environmental, economic and social impact compared to option A (minimum required mitigation). The extent of the benefit will depend in part on the suitability of the definition of 'significant' levels for each impact, which will be considered in the main assessment section of this AoS.

Considering these findings, option B is considered to be a sustainable option.

6.9 Issue 7: Developer funding versus state funding of road/rail/inland connections

6.9.1 Overview of Alternatives

The policy options in this area are on a continuum, with full developer funding of inland connections (including any necessary capacity upgrades beyond the local connection) at one end and full state funding at the other. Both of these alternatives have been assessed below in comparison to the current NPS policy, which is between the two extremes. This area has been recently clarified by the Government's new guidelines on developer funding.

A. Full Developer Funding of Inland Connections

Developer to pay for the entirety of the required connections to the road or rail network, irrespective of beneficiaries.

B. Full State Funding of Inland Connections

Highway authority or the Exchequer through the rail network provider to pay for the entirety of the required connections to the road or rail network, irrespective of beneficiaries.

C. Beneficiary pays (NPS Policy)

Guidance on funding transport infrastructure for strategically significantly developments was recently published by DfT following a consultation period[40]. The guidelines set out the Department's approach to negotiating developer contributions. The underlying principle is that port developers will continue to be expected to fund, in full, the required connections to the road or rail network which are to be used predominantly by hauliers and others using the port, but that a cost sharing arrangement may be agreed if there are third party beneficiaries.

6.9.2 Environmental, economic and social impacts of alternatives

Environmental Impacts

It is unlikely that the options set out above would have different environmental impacts, unless for some reason inadequate facilities were provided for as a result of the difference in funding arrangements. This is considered very unlikely since any enhancements required would be based on a transport assessment of the proposed development, and therefore should be substantially the same whether the developer or the Government were funding.

Options requiring some developer funding (A and C) are more likely to encourage port development in locations where inland connections are sufficient to cope with the additional expected traffic (or would be with fewer enhancements) since the cost of the connections will act as a price signal to developers. Given that inland connections can have an adverse environmental effect these policies could be argued likely to have a smaller adverse environmental impact than full state funding (B), but the net effect would depend on the specifics of each case since, for example, a site with fewer required enhancements to inland connections might be less environmentally desirable in other ways.

Economic Impacts

From an economic point of view, lack of government funding (A) or only partial government funding (C) may put UK ports at a disadvantage to many mainland European ports that receive full public funding for surface transport links (and navigation channels). Providing such full funding (B) might help to provide a 'level playing field' with many mainland European ports. However, there is little evidence to suggest that investment in UK ports has been suppressed below economically efficient levels as a result of requiring developers to fund connecting infrastructure.

Any element of public funding could be argued to place an unfair burden on the taxpayer. Furthermore, in a period of constrained public finances relying on the state to fully fund connecting infrastructure (option B) may have the effect of delaying new developments at ports if the state is obliged to wait for funding cycles to complete before committing funds. This may delay the development of port capacity critical to the UK's national economic prosperity.

Some element of developer funding (A or C) ensures that a cost signal is given to developers in determining the location of port development and associated surface access measures and obligations, meaning that port development may be more likely to take place in locations where there is surplus capacity on connecting infrastructure, although this will of course depend on the particulars of each case.

The 'beneficiary pays' option (C) balances these issues since it requires the developer to fund the required improvements to be used predominantly by users of the port, thus giving a price signal to the developer and avoiding undue cost to the taxpayer. Where there are third-party beneficiaries, a cost sharing agreement may be agreed, with Government acting as a proxy for other beneficiaries of the enhanced infrastructure.

Social Impacts

It is unlikely that the options set out above would have different social impacts, unless for some reason inadequate facilities were provided for as a result of the difference in funding arrangements. This is

[40] DfT (2009) *Funding Transport Infrastructure for Strategically Significant Developments*, DfT, UK. URL: http://www.dft.gov.uk/pgr/regional/fundingtransportinfrastructure/devconguideline.pdf

considered very unlikely since any enhancements required would be based on a transport assessment of the proposed development, and therefore should be substantially the same whether the developer or the Government were funding.

Options requiring some developer funding (A and C) are more likely to encourage port development in locations where inland connections are sufficient to cope with the additional expected traffic (or would be with fewer enhancements) since the cost of the connections will act as a price signal to developers. Given that inland connections can have an adverse social effect these policies could be argued likely to have a smaller adverse social impact than full state funding (B), but the net effect would depend on the specifics of each case since, for example, a site with fewer required enhancements to inland connections might have a greater social impact in other ways.

6.9.3 Conclusion

In conclusion, the options considered are unlikely to cause different environmental or social impacts except that some element of developer funding would act as a cost signal to developers on locations and therefore possibly lead to a reduced levels of infrastructure enhancements, which might have positive environmental or social externalities.

From an economic perspective, there is no evidence to suggest that investment in UK ports has been suppressed as a result of requiring developers to fund connecting infrastructure (or navigation channels). Option C, in which the beneficiary pays for the appropriate proportion of enhancements, gives a price signal to developers and avoids undue cost to the tax-payer.

Therefore, option C (beneficiary pays) is considered to be a sustainable option.

6.10 Summary

The assessment of alternative NPS options presented here has shown that the selected NPS policies are considered to be sustainable options.

7 Appraisal of Sustainability - NPS policies

This section provides a summary of the main appraisal of sustainability assessment of the NPS policies – 'predicting and evaluating the effects of the NPS'. Three stages of assessment have been undertaken based on three drafts of the Ports NPS. Please see Section 2.1.2 for a full description of the methodology used.

The assessment was undertaken using AoS assessment tables. The full assessment tables can be found in Appendix 2 (Phase 1 Assessment), Appendix 3 (Phase 2 Assessment), and Appendix 4 (Phase 3 Assessment).
Please refer to these assessment tables for detailed consideration of the sustainability of the NPS. The text below summarises the findings of the assessment for each AoS objective.

Please note that the terms first, second and third NPS drafts in the text below refer to the iterations of the NPS that were assessed for this purpose. The first assessed draft was a draft on 8/iv, the second assessed draft on 22/v and the third assessed draft on 19/vi (current NPS).

7.1 Overview of results – Environmental Assessment

Summary

The appraisal was undertaken against the environmental objectives and associated sub-objectives highlighted in Table 3 (Chapter 4).

The results of the first phase of the environmental assessment generally found that the draft NPS (Draft 8/iv) contributed positively to the achievement of most objectives but that its contribution was only minor and therefore not significant in most cases. A number of recommendations were made to improve the environmental sustainability performance of the draft NPS.

The second phase environmental assessment found that the majority of recommendations made during the first environmental assessment had been incorporated in the 22/v NPS draft and that the draft NPS had minor to moderate positive contributions towards the achievement of environmental objectives. Recommendations outstanding from the first phase assessment and additional recommendations were made to improve the environmental sustainability performance of the draft NPS.

The third phase environmental assessment found that a number of recommendations made during the second environmental assessment had been incorporated in the 19/vi NPS draft and that the draft NPS had minor to moderate positive contributions towards the achievement of environmental objectives and sustainability, with only a small number of remaining slightly negative impacts identified. Recommendations of how to further improve the environmental sustainability performance of the draft NPS have been made.

The fourth phase environmental assessment found that a number of recommendations made during the third environmental assessment had been incorporated in the 13/x NPS draft and that the draft NPS had minor to moderate positive contributions towards the achievement of environmental objectives and sustainability, with only a small number remaining slightly negative impacts identified. Recommendations of how to further improve the environmental sustainability performance of the draft NPS have been made.

AoS1: To ensure air quality limit values are not exceeded by port development
AoS2: To minimise emissions of greenhouse gases arising from port-related development and infrastructure

The first phase environmental assessment found that the air quality impacts of proposed port development, including those from inland transport accessing the site, were considered within the 8/iv draft of the NPS. The draft also included the ways in which air pollution from ships can be minimised while in port, the need to consider the impact of dust, the impacts that the development could have on

existing AQMAs and the role of modal share in reducing air pollution from connecting infrastructure. The NPS noted that consent should be refused if the development would be likely to cause an exceedence of pollution limits. The 8/iv draft also considered the potential impacts that port development could have on the emissions of greenhouse gases, both directly from port activities and indirectly from inland connections and ships. The draft explained the way in which port development can contribute to reductions in the emission of greenhouse gases, for example through integrating renewable energy sources in to developments, improving the efficiency of energy use and influencing the way in which port users access the port.

The first assessment identified the following areas for improvement:

- Construction-related air quality impacts, including a possible requirement for construction management plans for port proposals.
- The pollutant PM2.5 should be considered.
- The assessment of air quality impacts should be against the short-term and long-term air quality objectives set out in the UK air quality strategy.
- The impact of air quality on wildlife and habitats should be mentioned.
- Methods to suppress dust / particulate nuisance should be outlined.
- More emphasis should be placed on implementing all economically reasonable measures to improve air quality regardless of the achievement of air quality objectives.
- Consider mitigation for pollution generated by ships accessing the port.
- Guidance on how to judge if modal share proposals are adequate.
- Minimisation of GHGs should be considered wherever possible.

The second phase environmental assessment found that the majority of these recommendations had been incorporated in the 22/v NPS draft, although recommended that further detail be added on construction-related air quality impacts, for example through noting the possibility of construction management plans. Recommendations relating to methods to suppress dust / particulate nuisance, implementing all economically reasonable measures to improve air quality, considering mitigation of ship-generated pollution and giving guidance on how to judge if modal share proposals are adequate had not been considered in the 22/v draft and therefore remained as recommendations for the next draft.

The 22/v draft of the NPS referred to the requirement that the assessment should follow the Project Appraisal Framework for Ports when appraising developments. In terms of air quality, this means that the implications on pollutants covered by the Air Quality Strategy will have to be considered in port developments that lead to significant changes in ship calling patterns and that the effects of dust on the local area will be considered. In terms of greenhouse gases, the Project Appraisal Framework for Ports recommends that an assessment of CO_2 emissions from ships due to changes in calling patterns arising from port developments and from road and rail vehicles serving ports is carried out. The 22/v draft included a section on nuisance effects, which requires the consideration of nuisance effects including the release of dust.

The third phase environmental assessment found that the recommendations relating to methods to suppress dust / particulate nuisance and implementing all economically reasonable measures to improve air quality have been considered in the 19/vi draft of the NPS, including addressing the recommendation that further detail should be added on construction-related air quality impacts. The 19/vi draft of the NPS also considered the assessment of modal share accessing the port developments within the transport section. However, mitigation of ship-generated pollution was not incorporated into the 19/vi draft.

The 19/vi draft considered the air quality impacts of proposed port development, suggested mitigation measures to minimise air pollution from port developments and states that all reasonable economic measures to improve air quality should be considered. The NPS required the impacts that the development could have on existing AQMAs, the general air quality impact especially upon long and short-term air quality limits, impact of any potential nuisance and the impact of emissions on wildlife to be assessed. In terms of GHGs arising from port development, the 19/vi draft recognised the potential impact that port developments could have on emissions of GHGs. Importantly, it required that measures be set out to minimise the local emissions and how these are likely to affect GHGs. Mitigation may include good design and fuel efficiency in the operation of buildings.

The fourth phase environmental assessment found that the 13/x draft of the NPS had addressed the recommendations made, including making specific reference to the air quality related construction impacts in the air quality section, and including the need to consider mitigation for ships. The 13/x draft of the NPS still adequately considered the air quality impacts of proposed port development, suggested mitigation measures to minimise air pollution from port developments and suggested that more weight should be given to air quality considerations where a project may have an impact on air quality inside or adjacent to an AQMA, but is also important in those areas not designated AQMAs and statutory air quality limits should be taken into consideration. With regards to greenhouse gas emissions, the 13/x draft of the NPS continued to recognise the potential impact that port developments could have on emissions of GHGs, and requires that measures be set out to minimise the local emissions and how these are likely to affect GHGs. Port developments should provide capacity and support the development of renewable energy, further reducing the greenhouse gas impacts.

These points remain in the final version.

AoS3: To mitigate and adapt to climate change
AoS4a: To increase resilience of ports infrastructure against the risk of flooding
AoS4b: To reduce the risk of flooding in the hinterland

The first phase of environmental assessment of the 8/iv draft found that climate change adaptation and mitigation measures were well considered in terms of the design of new port developments. The potential impact of flooding and other consequences of climate change on ports was highlighted and the text made it clear that the applicant is responsible for the resilience of the port development, taking in to account climate change projections. Possible adaptation measures such as changes to the height and configuration of harbour walls and the integration of permeable surfaces to the port estate were noted. The impacts of any future port-related development on flooding in the hinterland were also highlighted to be an important consideration, including the appropriate assessment of risk. The impacts of flooding on coastal erosion were also considered within the draft.

The first assessment identified the following areas for improvement:

- In terms of adaptation, it would be useful to highlight the need to ensure developers have considered climate change adaptation requirements for the port estate.
- An explanation of what is considered to be an ‘increased risk to third parties’ is required in order to be helpful to both developers and decision-makers.
- Port developments should take into account, not just existing water resources at the time of application, but also projected trends in availability in terms of adaptation to climate change.
- In relation to flood risk, there is a need to consider the risk in relation to future flood risk projections in the flooding section as well as the section on climate change adaptation
- Inclusion of reducing the risk of flooding through design should be included in the ‘design section’

The second phase environmental assessment found that the majority of these recommendations had been incorporated in the 22/v NPS draft. In particular, text was expanded to require that applicants provide evidence that they have taken into account UKCCRA and the latest set of UK climate projections, and a new section was added providing further details on risks to third parties (both climate change and adaptation). Flooding and its impacts were also given more consideration in the climate change adaptation section, and the potential to reduce the risk of flooding through design was emphasised. The recommendation relating to port developments taking into account existing and future water resources had not been considered in the 22/v draft and therefore remained as a recommendation for the next draft.

The 19/vi draft of the NPS recognised the challenges that climate change presents and the requirements to adapt to these changes in light of any future port development, including taking into account the projected trends in water availability. However, the 19/vi draft of the NPS did not mention that adaptation to climate change may involve the increased the need to dredge, which could in turn have negative impacts on the marine environment and wider biodiversity. Flooding and coastal erosion, which are also closely related to climate change and adaptation, were given particular attention within the 19/vi draft, recognising the risk that port development may pose to potential flooding in the port estate and hinterland and associated wider impacts, but also ways in which the potential impact can be assessed and minimised.

The fourth phase environmental assessment found that the 13/x draft of the NPS had not addressed the recommendation made, which was to make clear the that action taken to adapt to climate change may increase the need to dredge, and identify appropriate mitigation. When considering climate change adaptation, the 13/x draft of the NPS again recognised the challenges that climate change presents and the requirements to adapt to these changes in light of any future port development. Flooding and coastal change were given dedicated sections within the 13/x draft of the NPS. The flooding section focused on the potential impacts of port development on increasing the risk of flooding to the project itself, associated development, and outside of the port area. The NPS also requires that Flood Risk Assessments accompany all applications for port development. Whilst appropriate mitigation measures are required and examples are provided within this version of the NPS, the NPS no longer identified the minimising of non-permeable surfaces in an attempt to reduce/mitigate flood risk – it was recommended that this be included in any future drafts. The recommendation to include material on adaptation to climate change possibly including an increased need to dredge also remained.

The final version of the NPS retains an extensive section on adaptation. It takes account of ports' adaptations studies demonstrating their ability to cope with the expected range of climate change consequentials, and explicit reference to possible increase in need to dredge was not considered necessary.

AoS5: To avoid adverse effects on water quality for all water bodies, including inland, coastal and groundwater
AoS6: To protect water resources
AoS9a: To protect soil and land resources from the risk of contamination due to runoffs, spills and leakages of cargoes
AoS9b: To minimise the use of previously undeveloped land for which there are competing uses

The first phase of the environmental assessment of the 8/iv draft found that water quality issues were well covered through reference to the need for all reasonable measures to be taken to reduce contamination, the applicability of the Water Framework Directive and River Basin Management Plans and the importance of effective waste management. The impact on water resources and the efficient use of water within developments were also addressed. In addition, the issues related to protecting soil and land resources from the risk of contamination due to runoffs, spills and leakages of cargoes were incorporated. The main issues related to minimising the use of previously undeveloped land were also covered, with a focus on Green Belt and the requirement for compliance to the Habitats directive.

The first assessment identified the following areas for improvement:

- In terms of water quality, the potential responses to incidents that could cause water pollution could be elaborated on.
- In relation to the protection of water resources, text should stipulate a requirement to consider whether water needs to be potable or non-potable potential sources of water.
- The text on water resources should include additional guidance on the way in which water use can be minimised through more efficient measures.
- Reference should be made in the text to the potential adverse effects that port developments may have on human health as a result of effects on water resources.

Most of these recommendations were not addressed in the 22/v draft, and therefore remained for the next draft. The 22/v draft included additional text to signpost the IPC to guidelines on water pollution control, but made no specific reference to emergency procedures. The second assessment found that the NPS included additional guidance to the IPC on how water impacts should be assessed and noted the reference to the Project Appraisal Framework for Ports document, in which the assessment is required to consider the protection of water. However, the reference to Green Belt land had been removed in the 22/v draft. It was recommended that this reference be reinserted in the next draft.

The majority of the remaining recommendations from the first stage of assessment were addressed in the 19/vi draft. Text requiring applicants to have emergency response procedures in place to deal with any potential pollution incident quickly has been added to the 19/vi draft. In relation to stipulating whether water needs to be potable or non-potable potential sources of water the 19/vi draft requires that the assessment of water resources distinguish saline estuary/tidal; direct fresh water; and mains water requirements. Additional text on health implications in relation to port development has also been included in the 19/vi draft, and the reference to Green Belt has been reinserted. However, the NPS does not include further guidance on the way in which water use can be minimised.

The third phase environmental assessment of the 19/vi draft found that the NPS considered the issues relating to the protection of water resources and the efficient use of water within developments. Proposals are required to be in accordance with the Water Framework Directive which will reduce the risk of water deterioration. Issues related to protecting soil and land resources from the risk of contamination due to runoffs, spills and leakages of cargoes were addressed; it was clearly outlined that appropriate management systems should be in place and should be compliant with relevant legislation. Minimisation of the use of previously undeveloped land was also covered; and regard to inappropriate development on Green Belt is a significant feature that was been incorporated into the NPS.

The fourth phase environmental assessment found that the 13/x draft of the NPS had addressed the recommendations made, including recognising within the NPS that planning and design for efficient use of water, including water recycling, can minimise the impact on local resources. The 13/x draft of the NPS recognised the adverse impacts that could arise on water quality and resources as a result of port development, and requires that proposals should be in accordance with the Water Framework Directive, reducing the risk of water deterioration.

Issues related to the protection of soil and land resources, and the use of previously developed land are primarily dealt with in the 'open space, green infrastructure, sport and recreation' and 'landscape and visual amenity' section of the 13/x version of the NPS. Whilst the NPS was predicted to have positive effects on these AoS objectives in terms of protecting resources and minimising the use of previously undeveloped land, further prominence could be provided to these topics through the inclusion of a dedicated section.

It was not considered appropriate to recast the coverage of these issues in the final NPS. They continue to be dealt with in substance.

AoS7a: To preserve and protect the marine environment from the risk of runoffs, spills and leakages of cargoes
AoS7b: To minimise damage to the marine environment as a result of dredging activities
AoS8: To preserve, protect and improve biodiversity

The first phase of the environmental assessment of the 8/iv draft found that the issues related to preserving and protecting the marine environment (through consideration of contamination of soil and water, directly polluting the marine environment and through waste management) were considered. This draft also included a range of issues relating to dredging (capital and maintenance), and the potential impacts that it is likely to have for the marine environment including the requirements of the Water Framework Directive and the Marine Spatial Plan. The draft recognised the direct effects of port development on designated biodiversity sites including those covered under the Habitats directive. The indirect effects of port development (for example relating to air pollution from transport, noise, contamination of soil/water and waste management) on biodiversity and the ways in which such impacts could be minimised were also considered.

The first assessment identified the following areas for improvement:

- Measures should be included to enhance the biodiversity environment where possible, with some specific reference to the enhancement of the marine environment due to its specific relevance.
- In relation to the marine environment, the NPS should clearly indicate how the impacts of capital dredging of channels in estuaries/sea on marine wildlife might be minimised.
- A reference to the need to incorporate mitigation measures in the design of port facilities to reduce the risk of introduction of non-native species via ballast water should be included in the text on biodiversity.

- In terms of biodiversity impacts, the NPS should ensure that light pollution would not have an adverse effect on migration routes and vulnerable species.
- The NPS should consider the impacts of port development on other designated and non-designated biodiversity sites.

The second assessment found that text was improved in the 22/v draft through the inclusion of the requirement to 'enhance' in addition to protect both the marine environment and biodiversity. Biodiversity text was also improved in this draft through ensuring that other designated and non-designated sites were taken into consideration in port development. The 22/v NPS draft made it clear that dredging would need to comply with relevant legislation, which should ensure the impact on the marine environment is minimised. However, recommendations related to how light should be a consideration in relation to the assessment of biodiversity impacts and the incorporation of mitigation measures to reduce the risk of introduction of non-native species via ballast water were not addressed in the 22/v draft and therefore remained for the next draft.

The 22/v version of the NPS required that the decision-maker should have regard to the requirements of the Marine Strategy Framework directive when implemented, whilst stating that Marine Conservation Zones (MCZs) were to be established at varying levels of protection for the marine environment. With regards to biodiversity, the importance networks of natural habitats was recognised, and decision-makers were asked to maintain existing networks, and protect natural habitats from fragmentation and isolation. The text of the biodiversity section was also updated to explain that assessment should follow the Project Appraisal Framework for Ports methodology, which includes the protection of the water environment, and to maintain and enhance biodiversity to meet the requirements of the Habitats Directive.

An additional recommendation was made regarding the 22/v draft, which was:

- In relation to text on biodiversity, the NPS should consider the option of alternative design of developments in addition to alternative sites in order to mitigate harm to biodiversity and geological conservation interests.

The 19/vi draft has addressed the recommendations concerning considering alternative design as well as alternative sites as mitigation measures and the impact of light on fish migration routes. However, the impact of light on other wildlife and reference to the need to incorporate mitigation measures in the design of port facilities to reduce the risk of introduction of non-native species via ballast water have not been included.

The third phase environmental assessment found that the 19/vi draft had removed text relating to encouraging enhancement of biodiversity features, preventing harm to biodiversity and geological conservation interests, outlining the hierarchy of consent (alternatives, mitigation, compensation and refusal) and retaining the biodiversity interest of previously developed land.

The 19/vi draft of the NPS considered issues related to preserving and protecting the marine environment (through consideration of contamination of soil and water, directly polluting the marine environment and through waste management) and included a range of issues relating to dredging (capital and maintenance), and the potential impacts that it is likely to have for the marine environment. Similarly, the draft recognised both the direct effects that both designated and non-designated sites, and indirect effects (air pollution from transport, noise, contamination of soil/water and waste) of port development on biodiversity and suggested ways in which such impacts could be minimised. However, the 19/vi draft of the NPS did not consider the impact of transporting plants and plant products via ports. Without appropriate measures in place, the introduction or spread of serious pests and diseases of plants and plant products may not be prevented.

The fourth phase environmental assessment found that the 13/x draft of the NPS has addressed the majority of the recommendations made, including recognising that incorporating mitigation measures into the design of port facilities could reduce the introduction of non-native species; and notes the requirement to include light pollution effects (including those on local amenity, rural tranquillity and nature conservation), when assessing the potential impacts during construction and operation on views and visual amenity. Text was also reinserted into the 13/x draft of the NPS that states that decision-makers should aim to prevent harm to biodiversity and geological conservation interests, and reintroduces the hierarchy of consent. It also identifies the opportunities that development proposal have in terms of building-in beneficial biodiversity or geological featured as part of good design and

decision-makers are encouraged to maximise such opportunities using conditions or planning agreements where appropriate. However, the impact of transport plants and plant products via ports is not considered, and remains a recommendation.

The 13/x draft of the NPS required that proposals be considered under the Habitats Regulations, and that all major port infrastructure proposals should be subject to the EIA Directive, both of which should have positive impacts for the protection of terrestrial and marine biodiversity interests. The 13/x draft of the NPS also required that applicants should demonstrate how the project takes advantage of opportunities to both conserve and enhance biodiversity. The NPS recognises the potential impacts that port-related activities can have, both on land and at sea, leading to potentially negative effects on terrestrial and marine habitats and species. In terms of minimising impacts on the marine environment, the 13/x version of the NPS highlights the statutory protection offered marine Conservation Zones (England) and Highly protected Marine Conservation Zones (Wales). A range of separate regulation covering pollution control and other environmental consenting regimes is also included within the NPS, which is likely to cover processes and pollutants that may cause harm to the marine environment and biodiversity. It also sets out considerations relating to capital and maintenance dredging, the need to identify the potential impacts of dredging related to port development, and to ensure that dredged arisings are used on land, rather than dumped at sea. However, a further recommendation was made for the section on green infrastructure to more explicitly recognise the importance for biodiversity.

The final version of the NPS retains these elements.

AoS10a: To encourage the increased use of recycled materials in the construction of infrastructure
AoS10b: To reduce, re-use or recycle the waste generated by port infrastructure, including from construction
AoS10c: To consider the design of infrastructure such that the potential for waste products draining to water and soil resources is reduced, and potentially hazardous waste managed
AoS10d: To minimise the adverse impacts of dredging

The environmental assessment of the 8/iv draft (and subsequently the 22/v draft) found that the NPS included the requirement for the provision of waste disposal facilities and considered the design of developments to ensure that effects on water and soil were minimised. The NPS also clearly stated that the developments should comply with the relevant legislation on the management of hazardous waste. The impacts of capital and maintenance dredging related to waste generation and management were also addressed. However, there was no content in the NPS relating to the use of recycled materials.

The first assessment identified the following areas for improvement:

- The NPS should state the need to consider the use of recycled materials in the construction of infrastructure in the advice to decision-makers under the waste generation/management section.
- The requirements for applications should state how waste will be reduced, re-used or recycled.

These recommendations were not addressed in the 22/v draft, and therefore remained for the next draft. The majority of the text relating to waste and waste management remained largely unchanged since the 8/iv draft.

The third phase environmental assessment found that the 19/vi draft has addressed these recommendations. The NPS now states that recycled materials should be used in construction of port developments where appropriate, applicants are required to prepare a site waste management plan, and that all waste reception and management arrangements must meet the relevant legislative and regulatory standards.

The 19/vi draft clearly covered the issues relating to waste generation and resource use associated with port development, with an emphasis on sustainable waste management – advocating the waste hierarchy of reduction, reuse, recycling and composting, using waste as a source of energy and only disposing as a last resort. The 19/vi draft also covered the issues relating to dredging and potential negative impacts in a number of sections of the NPS, including Biodiversity (focussing on capital and maintenance dredging), Water and Cultural Heritage.

The fourth phase environmental assessment found that few changes had been made to the 13/x version of the NPS waste sections, and the NPS therefore covered the majority of the key issues relating to waste management and resource use and minimising the impact of dredging. This included discussing the treatment/disposal of waste during construction and operation phases, advocating the waste hierarchy of reduction, reuse, recycling and composting, using waste as a source of energy and only disposing as a last resort, and issues related to dredging and the potential negative effects. However, some material has been taken out relating to recycled materials and the potential for waste products to drain to water and soil resources. It was recommended that a positive effect could be achieved if the NPS included a preference for using recycled materials in the construction of port-related infrastructure. The NPS could also specifically mention that careful design of the port development could reduce the potential for waste products to drain to water and soil resources, facilitating adherence to good integrated pollution prevention and control practice.

AoS11: To preserve, protect and, where possible, improve landscape and seascape, whilst making it more accessible
AoS14: To protect and enhance sites, features and areas of historical and cultural value

The environmental assessment of the 8/iv draft found that the NPS considered the impacts that future port development was likely to have on the landscape and seascape, including a range of designations including those of local importance. The NPS noted that good design of port developments could provide positive aesthetics. The issue of respecting existing rights of way to maintain access to the natural environment was identified. When considering historical value, the main issues were covered and sufficient guidance was given on how impacts on the historic environment should be assessed and mitigated. This included consideration of the impact of development on on-shore and off-shore structures, changes to the layout and scope of the project to minimise these impacts and specific requirements for archaeological remains. It was acknowledged that inland and sea connections to the port may also have an impact on heritage assets.

The first assessment identified the following areas for improvement:

- In relation to landscape and seascape, the NPS should make reference to Heritage Coasts, Country Parks and the potential impacts on non-designated sites.
- Requirements should also be set out for applications to state how preservation and access to natural environment could be improved.
- The NPS should refer to the need for obligations or conditions to be set where necessary to protect the historic environment.
- The possibility of refusing consent in cases where the impacts on the historic environment (both on-shore and off-shore) are significant and cannot be mitigated through changes in the lay-out and scope of the proposed development should be clearly addressed.
- The NPS should also include reference to non-designated historic environment assets/areas.

The second phase environmental assessment found that all recommendations relating to historic environment were incorporated in the 22/v NPS draft. The text referred to the importance of protecting non-designated heritage assets and discussed circumstances under which consent should be refused of conditions imposed to ensure protection. The NPS also required that there is a need to minimise any negative impacts on heritage assets of local or regional significance, and that where they may be yet unknown historic or archaeological assets, appropriate procedures should be in place for the identification and treatment of such assets through construction. The assessment of the second NPS draft indicated an appropriate appraisal framework (*Project Appraisal Framework for Ports, 2005*) that considers protecting the heritage of historic resources.

Two additional recommendations were made regarding the 22/v draft, which were:

- Military Remains should be recognised as designated asset; and
- The potential for damage to buried features from the disposal of dredged material should be considered by the NPS.

The recommendations relating to landscape and seascape were not addressed in the 22/v draft, and therefore remained for the next draft. The 22/v draft did include reference to the need to protect the wider countryside, which therefore incorporated the recommendation for consideration of non-designated sites.

The second assessment identified that the 22/v draft of the NPS required that the assessment should follow the Project Appraisal Framework for Ports – in terms of landscape this includes the objective to protect the character of the landscape and townscape. The NPS required that existing open space and green infrastructure should not be built upon unless an assessment has clearly shown them to be surplus to requirements. The NPS also stated that major development should not be permitted in designated landscapes except in exceptional circumstances where it can be demonstrated to be in the public interest. Finally, the 22/v draft made it clear that although statutorily designated landscape should be awarded very high protection, non-statutory landscape should still be a material consideration in the decision-making process.

An additional recommendation was made regarding the 22/v draft, which was:

- The impact of the development on local rights of way and the extent that steps have been taken to avoid severance of these routes should be addressed.

The third phase assessment found that the 19/vi draft of the NPS had taken these recommendations into account. Heritage Coasts (but not Country Parks) were specifically mentioned as important non-designated sites that should be considered alongside new port developments. The 19/vi draft also recognised that port developments may lead to severance, and that assessments should state, where possible, how access to the natural environment could be improved.

The third phase environmental assessment of the 19/vi draft of the NPS found that the two additional recommendations made on the 22/v NPS draft for the historic environment regarding Military Remains and potential for damage to buried features from the disposal of dredged material were still not incorporated.

The fourth phase environmental assessment found that the 13/x version of the NPS addresses recommendations through making reference to a range of local landscape designation whilst maintaining the distinct status of national designations, but does not specifically mention Country Parks. The recommendation regarding the potential for damage to buried features from the disposal of dredged material is also addressed in the 13/x draft of the NPS. However, the recommendation regarding Military Remains being recognised as designated asset is still not incorporated.

The 13/x draft of the NPS recognised a wide range of designated sites and assets in the historic environment and the majority of the potential impact that ports developments can have on them. Guidance and advice was provided on the measures to protect these historic assets, including assessments and surveys as inputs to EIA. Whilst the 13/x draft of the NPS advised using a range of tools to assess the potential impacts on the landscape, including landscape and visual assessment, seascape visual assessment was no longer mentioned, and it was recommended that this be reinserted. Additionally, it was recommended that reference to encourage improvements or enhancements to the landscape should be made within the NPS, in order fully to meet the AoS objective. As some elements of the NPS regarding historic environment have been removed from the 13/x draft of the NPS, although they were present on the 19/vi draft of the NPS, four additional recommendations are made regarding the 13/x draft of the NPS, which are:

- Reference to capital or maintenance dredging and its potential negative impact on underwater historic assets should be included;
- Potential negative impacts on the historic environment arising from traffic increase, especially on the inland connections to ports, should be addressed;
- Possible mitigation measures to alleviate negative impacts on the historic environment should be included; and
- Heritage assets of local or regional significance and the need to minimise any negative effects on them should be considered on the NPS.
- In addition, the recommendation to recognise military remains is still outstanding.

In the final version the potential importance of underwater assets (implicitly covering direct or indirect impacts from dredging) and of non-designated heritage assets that are demonstrably of equivalent significance to designated ones, is made clear. The future impact of operations is referred to, which implicitly encompasses impacts from inland traffic. Reference is now made to protected military remains.

AoS12: To minimise light pollution arising from port development

AoS13: To reduce industrial and traffic noise related to ports

The environmental assessment of the 8/iv draft found that the NPS covered most of the main issues and gave sufficient guidance on how light impacts should be assessed and mitigated including the need to detail the location, intensity and timing of light pollution and ensure that lighting affecting neighbours is at a reasonable level. The NPS also covered most of the main issues surrounding noise from both construction and operation of the facility and gave sufficient guidance on how noise impacts should be assessed and mitigated.

The first assessment identified the following areas for improvement:

- The NPS should mention predicted light impacts on wildlife and appropriate mitigation measures.
- Underwater port-related activities and the impacts of noise on wildlife and marine life should be considered within the NPS.
- The NPS should clearly set out the requirements for situations where sufficient mitigation of noise cannot be achieved.

The second assessment found that the first and second recommendations, relating to the impact of light, underwater activity, such as effects of dredging noise on fish and marine life, and effects of high levels of noise on wildlife were not addressed in the 22/v draft, and therefore remained for the next draft. The third recommendation was incorporated through discussing the need for decision-makers to include appropriate mitigation for noise, make it clear that orders should not be granted until all reasonable steps have been taken, and that noise levels after mitigation were below a specified level.

The second NPS draft covered common law nuisance and statutory nuisance issues which include light and noise emissions. The 22/v draft also explained that the assessment should follow the standard framework designed by DfT, which is recommended to all port applicants, the *Project Appraisal Framework for Ports,* which identified issues such as nuisance to people working in, using and living in the vicinity of ports caused by noise and dust.

An additional recommendation was made regarding the 22/v draft, which was:

- The introduction to the Nuisance Effects section within the NPS should recognise that noise levels associated with new port development should be kept within acceptable levels even though increases might occur.

The third phase environmental assessment found that the 19/vi draft of the NPS partially addressed the recommendation concerning the impact of light on fish migration routes. However, the impact of light on other wildlife and appropriate mitigation measures was not addressed in the draft.

The recommendation relating to port developments taking into account the impact of noise on wildlife is considered and the biodiversity chapter of the NPS addresses the impact of noise on fish and aquatic mammalian behaviour patterns. However, underwater activities noise, such as noise impacts on fish and marine mammals arising from dredging activities, was still not considered in the 19/iv draft. The recommendation for the NPS to recognise that noise levels associated with new port development should be kept within acceptable levels even though increases might occur is incorporated and the need to use British Standards when assessing noise was also clearly stated in the NPS.

However, the reference to day-time noise present in draft 22/v of the NPS had been removed from this third draft and new text covering night-time noise specifically was been added. As a result of this change, an additional recommendation was been made regarding the 19/vi draft:

- Day-time noise levels thresholds for port development activities should be identified in the NPS.

The fourth phase environmental assessment found that the 13/x version of the NPS addressed the recommendation concerning the impact of light on wildlife and use of appropriate mitigation measures – it now acknowledged that light emitted during the construction and operation of port infrastructure can alter or hinder the migration of fish through estuaries, and that the predicted impacts on wildlife and appropriate mitigation should be included within Environmental Statements. It also noted the requirement to consider light pollution effects (including those on local amenity, rural tranquillity and nature conservation), when assessing the potential impacts during construction and operation on views and visual amenity.

The 13/x draft of the NPS required that light pollution effects, including those on local amenity, rural tranquillity and nature conservation, be considered within landscape assessments.

The fourth phase environmental assessment regarding noise found that the 13/x version of the NPS covered all the main issues surrounding noise from construction, commissioning and operation phases and provided comprehensive guidance on how noise impacts should be assessed and mitigated. Although stipulation of specific thresholds for night-time noise levels had been removed from the 13/x version of the NPS, there was now reference to relevant British Standards, which cover day and night-time noise levels, therefore addressing the earlier recommendation on the inclusion of day-time noise level thresholds for port development activities.

However, the recommendation relating to port developments taking into account underwater activities noise, such as noise impacts on fish and marine mammals arising from dredging activities, was still not considered in the 13/x version of the NPS, and an additional recommendation was made regarding the 13/x version of the NPS, which was:

- Decommissioning stage should also be considered in the NPS. The 13/x version of the NPS only considers noise levels related to construction, commissioning and operation phases.

The final NPS does not include reference to decommissioning in the context of noise and vibration. Following further consideration it was concluded that it would not be appropriate to require applicants and decision-makers to try to anticipate how and when decommissioning would be carried out so as to provide in advance for its noise and vibration impacts.

7.2 Overview of results – Economic Assessment

Summary

The appraisal was undertaken against the seven economic objectives and associated sub-objectives highlighted in Table 3 (Chapter 4).

The results of the first iteration of appraisal generally found that the first draft NPS (Draft 8/iv) contributed positively to the achievement of most objectives but that its contribution was only minor and therefore not significant in most cases. A number of recommendations were made to improve the economic sustainability performance of the draft NPS.

A major recommendation emanating from the first iteration of appraisal was that the NPS could assist decision makers by underlining the role of the *Project Appraisal Framework for Ports (2005)* to provide a summary of economic (and other) impacts and to provide some guidance on when a more detailed assessment using NATA/WebTAG guidance might be appropriate for more significant impacts (e.g. significantly increased employment or other economic activity). The *Project Appraisal Framework for Ports* would identify at the outset any likely major economic, competition, commercial or employment impact, including the contribution of the project to providing required national/regional port capacity and any impact on overall port sector employment and skills levels. Guidance could then be provided to the decision-maker to assess whether these impacts should be considered or not in more detail, although the presumption would remain that national and regional impacts would not normally have to be considered.

The results of the assessment of the second draft NPS (Draft 22/v) confirmed that the major recommendation emanating from the first iteration was addressed to a large extent. It was further clarified that the assessment should follow the standard framework designed by the Department for Transport and recommended to all port applicants (*A Project Appraisal Framework for Ports*), which allows all the material considerations to be taken into account in a systematic manner using both quantitative and qualitative indicators. This will be a useful baseline document for decision-makers. However, consideration should therefore be given to updating this guidance document to bring it fully into line with the Ports NPS. Furthermore, consideration should be given to providing some additional guidance for decision-makers as to when more detailed analysis of economic impacts might be required.

In the third draft NPS (Draft 19/vi) further mention was made of the more detailed assessments available under NATA/WebTAG; however, the potentially key role of the *Project Appraisal Framework for Ports* in identifying likely significant impacts at the outset of the application assessment was still

understated. It should be noted that this guidance includes a wide range of impacts – not just economic effects.

The fourth draft NPS (Draft 13/x) made few changes, although some text related to economics impacts was rewritten. This editing resulted in less emphasis on productivity benefits than the previous version ('productivity' is only mentioned once in the draft); however, the desire for increased national productivity underlies the change in planning approach (of which the NPS is a part). Also the need to revise the *Project Appraisal Framework for Ports*, remains a recommendation.

The text below offers some further detail on the assessment against each objective. The full assessment results are presented in Appendix 2 (Phase 1 assessment), Appendix 3 (Phase 2 assessment), Appendix 4 (Phase 3 assessment) and Appendix 5 (Phase 4 assessment).

AoS15: To support productivity benefits for ports and their users

The first phase economic assessment, which was of the 8/iv draft, against objective **AoS15** found that the draft NPS had a significant positive effect through ensuring that impacts on inland transport are assessed through a Transport Assessment. However, the assessment found that the draft NPS did not give sufficient guidance to decision makers on how impacts should be assessed as it relies wholly on a Transport Assessment being carried out. The draft NPS recognised that port developments are needed to provide additional capacity to cater for long-term forecast volumes of imports and exports by sea for all commodities. Although current traffic forecasts were provided in the draft NPS, the process and programme for updating demand forecast was not outlined and indicative capacity shortfall forecasts were not provided. The first assessment identified the following areas for improvement:

- The process and programme for updating demand forecasts could be outlined
- Forecasts of the expected shortfall in capacity could be produced
- Clarification regarding the reference to 'inland transport assessment' and its scope

The assessment of the second draft NPS indicated that the recommendations above had been addressed to a large extent. The 22/v draft clarified expected capacity requirements in broad terms. It clarified that the methodology to be used in Transport Assessment is that in applicable DfT (NATA/WebTAG), the Highways Agency and the rail network provider guidance. It also identified the Project Appraisal Framework for Ports, 2005 for assessing the economic impact on port users thus providing further methodological clarification. However, it was recommended that the DfT may need to consider whether the *Project Appraisal Framework for Ports*, which was developed in 2005, should be updated to be consistent with the NPS requirements. The recommendation for a process and programme for updating demand forecasts to be outlined also remained outstanding.

The assessment of the third draft NPS (draft 19/vi) found that the recommendation for a process and programme for updating demand forecast to be outlined has not been addressed – it is recommended at least a mention that these forecasts would have to be updated in due course, as major port developments could be expected to have an impact on the forecast port capacity shortfall.

The assessment of the fourth draft NPS (Draft 13/x) noted that there were few changes in the relevant text, beyond the editing referred to in the section above, resulting in a reduced emphasis on productivity benefits. It was recommended that the NPS make more references to productivity contributions of new port development (accepted in final version). The recommendation for a process and programme for updating demand forecasts to be outlined had not been addressed and therefore remained a recommendation. Apart from this, the main issues under this objective have been dealt with in the NPS.

The intention remains, as stated in the final NPS, to update the demand forecasts in due course.

AoS16: To encourage wider economic benefits

As for achieving objective **AoS16** it was found that the NPS Draft 8/iv had a significant positive effect in the maximisation of opportunities for using sustainable transport and in encouraging new port capacity to support economic growth. However, it did not provide sufficient guidance to decision makers on how to assess the impact of any new economic activity attracted to the UK (e.g.

transhipment or the replacement of existing transhipment with direct vessel calls). The first phase of the assessment recommended that:

- The NPS should explain how any new economic activity attracted by a proposed development should be assessed.
- The policy relating to national economic benefits should be clarified as the NPS does not sufficiently state the policy assumption that market-led port development in responding to a commercially identified need will produce a national economic benefit.

The assessment of the second NPS draft, 22/v, indicated an appropriate appraisal framework (*Project Appraisal Framework for Ports, 2005*) which provides guidance covering issues that are likely to be material to planning application decisions and thus important to decision makers, including the encouragement of new economic activity. It was noted, however, that the proposed appraisal framework could be reviewed in terms of coverage of national impacts as it mainly covers impacts to the local and regional economy. The second NPS draft included additional text that described in more detail the role that ports play in enabling and supporting economic growth. The previous iteration recommendation asking for the policy assumption that ports are normally expected to bring net economic benefits to be stated more explicitly was not addressed in full and the text could be further clarified. In addition, the 22/v draft referred to the AoS as guidance on the broad nature and scale of economic effects in relation to port development. It was recommended that this should be amended to refer to the Project Appraisal Framework for Ports, which – in turn - might need to be revised and updated in the light of the NPS AoS Assessment.

The assessment of the third draft NPS (draft 19/vi) found that the recommendation for the addition of a statement that the decision-maker should normally assume that a port development delivers a net economic benefit at national level has been addressed through stating that a significant weight should be given to the need for future capacity. Also, the reference to the AoS (as a guidance document – which it is not) was amended to a reference to *Project Appraisal Framework for Ports*. With regards to the policy alternatives considered and although the NPS summarises the drawbacks of some alternative policy approaches, it is recommend that the AoS report could usefully be referred to by the NPS as it does describe the analysis of policy alternatives in more detail.

The assessment of fourth draft NPS (Draft 13/x) noted that there were few changes in the text related to this objective and the issues related to this objective are dealt with. However, this version did not include any reference to the consideration of alternatives documented in the AoS report, and it was recommended that a comment on this be included in the NPS. The revision of the *Project Appraisal Framework for Ports* to include a broad overview of national impacts was recommended.

The final NPS continues to reference the *Project Appraisal Framework for Ports.* Resources have not enabled its revision to occur in parallel, but the Department does intend to issue a revision (or equivalent) in due course. This AoS is referenced in the final version.

AoS17: To contribute to local/ regional employment, regeneration and development

The first economic assessment on the 8/iv draft of the NPS found that the NPS recognised the benefits that ports bring to the regional (and national) economy. It was considered that the requirement in the NPS for the applicant to complete the *Project Assessment Framework for Ports* would provide a basic description of these impacts.

The assessment results showed that the first draft NPS provided a positive discussion on local/regional impacts (e.g. through regeneration or the development of support services), although it was noted that it would rarely be necessary for either the applicant or the decision-maker to attempt quantification of such benefits. The key issue that emerged from the assessment was that there was an underlying policy assumption that regional economic benefits should not be used to counter environmental or social externalities and therefore these impacts did not generally need to be quantified by the applicant or decision-maker. It was recommended that:

- The NPS should clarify this policy assumption more explicitly and indicate that it might be necessary to take account of any *significant* regional economic impacts and how these might be assessed by decision makers – for example, by underlining the role of the WebTAG Economic Impact Report in evaluating any major economic, employment and regeneration impacts.

There was also a policy assumption that transfer of cargo resulting from fair competition between ports is expected to produce net national economic benefits, and therefore the impact on other regions did not normally need to be considered by the decision-maker. It was recommended that:

- This policy assumption should be stated more explicitly and the NPS should make it clear that significant transfers of traffic from other ports should be identified.

As there was no mention of regional economic imbalance, the scope for increasing port-related employment or apprenticeships or how employment impacts should be quantified in the draft NPS, it was also recommended that:

- The policy on regional economic imbalance should be clarified, possibly through reference to the need for the Project Appraisal Framework for Ports submission.
- Some mention should be made of the government's policy on the evolution of the port sector as a whole, in terms of employment and skills.
- An indication should be given that if employment/regeneration impacts (particularly where it might help to redress regional balances) are expected to be significant a quantification of employment impacts should be prepared by the scheme promoter.

The assessment of the 22/iv draft of the NPS indicated that the recommendations highlighted for the first draft NPS had yet to be fully incorporated. The 22/iv draft clarified the policy on regional economic benefits to an extent, but could have been more explicit. Transfer of traffic from other ports was not discussed and no further detail was given on the consideration of regional economic imbalance. It was recommended that the NPS should state explicitly if correcting regional economic imbalance is not a policy objective that DfT believes is appropriate to pursue through ports planning decisions. In addition, the scope for increasing port-related employment or apprenticeships was still not discussed and a recommendation was made seeking clarification that responsibility for this development should be left to the private sector.

The 22/iv draft did clarify how the decision-maker should handle economic impacts including employment impacts. The 22/iv draft recognised the benefits that ports can bring to the regional economy through regeneration, employment and agglomeration, including during the construction phase of the project. The reference to *Project Appraisal Framework for Ports* in the 22/iv draft will require applicants to set out the benefits for the local and regional economy.

The assessment of the third draft NPS (draft 19/vi) found that, although the NPS notes that the port planning process is not meant to be a suitable instrument for addressing regional economic imbalance, the NPS still does not state explicitly that impacts on other regions (e.g. through transfers of employment or economic activity) should or should not be considered. However, the 19/vi draft does clarify the role of the private sector (and not the public sector) in developing skills and technologies for the port industry. It also highlights WebTAG methodology for appraisal of wider economic impacts where tourism benefits or adverse impacts appear potentially significant.

The assessment of the fourth draft NPS (Draft 13/x) noted that, although the issues related to this objective were now generally well treated, the text still did not deal adequately with the potential employment and other impacts on other regions. For example, the development of a new port facility may draw traffic from other ports and therefore result in a drop in overall economic activity elsewhere, off-setting any economic gain as a result of the project. However, it is likely that there would be net improvement, due to the new development being more efficient, in a better location for evolving traffic patterns and various other reasons. It was recommended that the NPS should articulate the policy on impacts on other regions more clearly in the context of regional impacts More recent data on port employment were identified (research from the British Ports Association *et al*.) that provided a higher total for port-related employment than previous estimates.

The final NPS (4.4) takes account of institutional change in relation to the regional planning framework. In light of s.104(7) Planning Act 2008 it notes that the decision-maker may need to make judgements as to adverse impacts on other commercial operators, while continuing to stress the primacy of the applicant's commercial judgement.

AoS18: To support local/regional/national tourism

The first economic assessment against objective **AoS18** of the 8/iv draft of the NPS indicated that the impacts on leisure and tourism were considered in the first draft NPS. This included consideration of

the impact of port development on leisure users enjoying privileged access to port facilities free or at reduced rates. However, the methodology for assessing impacts of port development on leisure and tourism was not given in detail. It was recommended that:

- The WebTAG appraisal of Wider Economic Impacts could be referenced as assessment guidance.

The assessment of the second draft NPS indicated that the *Project Appraisal Framework for Ports* could be the basis for assessing tourism impacts (although it does not currently refer to tourism explicitly). Where tourism and leisure use is a significant issue, a reference could be made to the WebTAG appraisal of Wider Economic Impacts as recommended in the previous iteration of assessment.

The assessment of the third draft NPS (draft 19/vi) found that this recommendation for reference to WebTAG was incorporated into the text, although the recommendation to amend the *Project Appraisal Framework for Ports* was not taken up (however, we understand that it is the Department's intention to review it).

The assessment of the fourth draft NPS (Draft 13/x) was that there was little change in the relevant text, which deals appropriately with this objective. The recommendation remains to revise the *Project Appraisal Framework for Ports*, in parallel with the production of the NPS, to include specific mention of tourism impacts.

The final NPS continues to reference the *Project Appraisal Framework for Ports.* Resources have not enabled its revision to occur in parallel, but the Department intends to issue a revision in due course.

AoS19: To ensure competition and security of supply

Regarding objective **AoS19** the first economic assessment of the 8/iv draft NPS found that the NPS did emphasise the competition-led approach of current policy hence a significant positive scoring. The draft NPS also referred to the desirability of encouraging greater resilience to cope with peaks in demand and the impacts of poor weather and other operational difficulties. It was recommended that the NPS should explain how any improvement in resilience should be measured or assessed and that reference should be made to the fact that transhipment capacity gives greater resilience.

Also, the issue of defence national security was not dealt with adequately. It was recommended that the NPS should mention the contribution to defence and national security through the availability of a range of strategic facilities for the support of maritime forces and the defence seaborne supply chain.

The assessment of the 22/v draft of the NPS produced a larger number of significant positive effects with regards to this objective. Among others, the NPS recognised that it is essential to the future of the national economy that ports should be competitive with the best in Europe and should provide sufficient capacity to support continuing growth; that competition is well established in the ports sector and continuing growth in port infrastructure is needed to ensure effective competition between ports. The *Project Appraisal Framework for Ports 2005* is required by the NPS to be utilised by port promoters and requires that the effect of competition between ports should be considered. Resilience was clarified as being about providing capacity at a variety of locations and covering a wide range of cargo and handling facilities at a wide variety of port facilities.

The 22/v draft of the NPS clearly stated that that development at ports should not prejudice the interests of defence and national security addressing the recommendation from the previous assessment iteration. However, it was not clear how the impacts on these interests will be evaluated in the assessment. A further recommendation was made indicating that:

- The NPS should include guidance to assist decision makers in identifying and assessing these impacts and assess potential defence and national security impacts or suggest consultation with the Ministry of Defence.

The assessment of the third draft NPS (draft 19/vi) found that the NPS stated clearly that development at ports should not prejudice the interests of defence and national security and recommended that the MoD be consulted in case of doubt, thus satisfying this recommendation. The third draft also stressed the role of competition in the ports sector in providing efficiency gains and the need for ports to be competitive with European ports.

The assessment of the fourth draft NPS (Draft 13/x) found that there was no significant change in the relevant text and that all the identified issues related to competition and resilience had been taken into account, as discussed in the previous assessments summarised above.

The final version of the NPS continues to state that MoD should be consulted in cases of doubt about national defence implications. It also includes more specific references to the role of ports in contributing to the nation's energy supply resilience.

AoS20: To ensure adequate funding arrangements are in place for new or upgraded port and supporting transport infrastructure

The first economic assessment of the 8/iv draft of the NPS against objective **AoS20** indicated that the mechanism for identifying a split of funding between public and private sector was identified through reference to new guidance for developer contributions. However, no commitment was made to 'fast track' any required public sector investment, which is at odds with the overall objective of the NPS/IPS to reduce the planning (and presumably construction) delays. The first economic assessment recommended that:

- The NPS should make a greater commitment to provide accelerated public financing required for any projects approved by the IPC.
- As the potential impact on other NPS (e.g. National Networks) was not specifically mentioned it was recommended that the mechanism for integration between Ports and National Networks NPSs (and potentially other NPSs) should be identified.

The assessment of the 22/v draft of the NPS indicated that the recommendations highlighted for the first draft NPS did not receive consideration in the second draft, and therefore remain.

The assessment of the third draft NPS (draft 19/vi) found that new text was added relating to bringing forward related inland transport schemes which help meet the 'background' growth on 'third-party' traffic. This went someway towards meeting the recommendation to 'fast track' any required public sector investment. In addition, the 19/vi draft includes reference to other National Policy Statements.

The assessment of the fourth draft NPS (Draft 13/x) found that there were no significant changes to relevant text and that the text dealt adequately with the issues identified for this objective, although the need to revise the *Project Appraisal Framework for Ports*, in parallel with the production of the NPS remained a recommendation.

A fundamental premiss of policy stated in the final NPS continues to be that it is in general for ports to finance their own development on a commercial basis.

As noted above it has not proven possible to revise the PAFP in parallel with the final NPS, but the intention remains to do so (or produce equivalent guidance) in the near future. The Government's policy remains that applicants, whose development will impose substantial detriment on existing network users, may be required to contribute, through infrastructure works or otherwise, to removing that detriment. It is beyond the scope of the NPS to determine public expenditure on inland transport infrastructure to support the operations of ports under existing planning rights and powers.

AoS21: To promote Foreign Direct Investment and Trade

It was found that issues associated with objective AoS21 were recognised during the first economic assessment of the 8/iv draft of the NPS hence a positive scoring. The *Project Appraisal Framework for Ports* submission expected from applicants will provide an initial statement of significant FDI or related development. However, the approach to be used in the assessment of a potential linkage between port development and nearby industrial development was not dealt with. The first assessment recommended:

- A reference to the possibility of benefits from related industrial or commercial development and an approach to deal with these in the assessment should be included.

The 20/v NPS draft recognised that port schemes any be part of a wider development and states that the NPS applies wherever relevant to associated development for which consent is sought along with that for the principal development, thus goes some way towards addressing the first iteration

recommendation. However, the NPS should clarify how the NPS might be applied to a related non-port development.

The assessment of the third draft NPS (draft 19/vi) found that modifications introduced to the text resulted in a clarification that the NPS applies, wherever relevant, to associated development such as road and rail links for which consent is sought alongside that for the principal development. Although it did not describe how decision makers should assess possible related parallel non-transport development (e.g. industrial development). It was recommended that the NPS stated that other types of related developments should be considered on a case-by-case basis by the decision maker, using appropriate existing appraisal methods that are consistent with the Ports NPS.

The assessment of the fourth draft NPS (Draft 13/x) found that the issue of parallel non-transport development was still outstanding, although other identified issues related to this objective had been dealt with.

The final NPS notes (para 1.2.1) that non-ports associated development should be considered on a case-by-case basis, using appropriate assessment methods consistent with this NPS and with applicable official guidance.

7.3 Overview of results – Social Assessment

The appraisal was undertaken against the five objectives and associated sub-objectives highlighted in Table 3 (Chapter 4). Generally it was found that the draft NPS contributes positively to the achievement of most objectives but that its contribution was only minor and therefore not significant in most cases. A number of recommendations were made to improve the social sustainability performance of the draft NPS.

The results of the first phase of the social assessment found that the draft NPS (Draft 8/iv) contributed positively to the achievement of some objectives and that its contribution was minor in most cases. A number of recommendations were made to improve the social sustainability performance of the draft NPS.

The second phase social assessment found that some of the recommendations made during the first social assessment had been incorporated in the 22/v NPS draft and that the draft NPS had minor and, in a small number of cases, moderate positive contributions towards the achievement of social objectives. Recommendations outstanding from the first phase assessment and additional recommendations were made to improve the social sustainability performance of the draft NPS.

The third phase social assessment found that a number of recommendations made during the second social assessment had been incorporated in the 19/vi NPS draft and that the draft NPS had minor to moderate positive contributions towards the achievement of social objectives and sustainability. However, a number of positive contributions towards the achievement of social objectives in the 22/v NPS draft had been removed. As a result, a number of slightly negative social impacts were identified. Recommendations have been made to reinstate the relevant text within the NPS. In addition, recommendations of how to further improve the social sustainability performance of the draft NPS were made.

The fourth phase social assessment found that a number of the recommendations outstanding from the third social assessment had not been incorporated into the 13/x NPS draft. As a result, a small number of minor negative impacts identified in the third assessment remain present. However, the NPS did provide more detailed guidance for the decision-maker in relation to the assessment of health and wellbeing impacts resulting from port development which resulted in an increase from a minor to moderate positive impact. As with the third phase social assessment, recommendations of how to further improve the social sustainability performance of the draft NPS were made.

The text below offers some further detail on the assessment against each objective.

AoS22: To consider the impact of net population change in regions when this is associated with ports

The first phase social assessment, which was of the 8/iv draft, found that the NPS recognised that ports and port developments can affect **population** concentrations and the character of the surrounding area. It also recognised that port developments could improve the accessibility of areas, particularly in outlying regions, to tourists.

The first assessment identified the following areas for improvement:

- The NPS should set out the circumstances which require population effects resulting from port employment to be considered and mitigated against and should require the assessment of the impact on local key services.
- Text should recognise the potential impact that tourism could have on population numbers both as a result of tourist numbers and growth in the service sector to cater for tourists, and the resultant adverse impact that this might have on demand for local services.

The second phase social assessment found that the 22/v NPS draft recognised that increases in population associated with new employment opportunities that can be created by port developments can give rise to challenges for community infrastructure, although the decision-maker is not normally required to take this into account or require mitigation. However, there was no consideration of the impact of tourism on population numbers and therefore on key local services, so the second recommendation remained for the next draft.

The third phase social assessment found that where a port development is likely to lead to a substantial net increase in employment (of 5,000 or more) which would require inward migration to the area, the 19/vi NPS required the assessment of the effect of this population increase on local public services. The NPS also recognised that port developments may have an impact on population demographics which may affect the provision of health and social care facilities. The impact of tourism on demand for local services was also to be assessed.

A further recommendation was made that the NPS should require mitigation measures where population growth, resulting from employment or tourism, would have a negative impact on the provision of local public services.

The fourth phase social assessment found that the recommendations outstanding from the third social assessment had not been incorporated into the 13/x NPS draft, so recommendations remained that the NPS should consider mitigation measures where population growth would have a negative impact on the provision of local public services. However, the 13/x NPS draft now required an applicant to set out measures to mitigate, manage and control any adverse individual or cumulative health impacts resulting from port development that might otherwise have an adverse impact on the population. It also suggested the use of WebTAG methodology for the appraisal of wider economic benefits in relation to tourism where adverse impacts appear potentially significant.

As a result of this evolution, it is considered that these recommendations are sufficiently addressed in the final NPS.

AoS23: To ensure the needs of different social groups are taken into account in port planning and service delivery

The first phase social assessment found that the 8/iv draft of the NPS recognised that high quality and inclusive design should be considered early on in the development process. Poor design could justify consent being rejected, especially if it fails to mitigate negative environmental, social or economic impacts. The promotion of inclusive design in the NPS may help ensure **equality** of opportunity for all social groups.

The first assessment identified the following areas for improvement:

- The NPS should make clear the need of port development to take account of the needs of different social groups and to reduce any disproportionate negative effects that port development could have on particular regions, users or vulnerable social groups.

- The NPS should also recognise the need to meet the duties under Disability Discrimination Act (1995, 2005), Sex Discrimination Act (1975), Race Relations Act (1976, 2000), Equality Act (2006) and Human Rights Act (1998).

The second phase social assessment found that these recommendations had been partially addressed in the 22/v NPS draft. The second phase social assessment of the 22/v draft found that the NPS recognised the Government's guiding principles for sustainable development including the creation of **equal opportunities** for all and that the NPS expected the decision maker to take account of the need for new port infrastructure to enhance access to ports and jobs, services and social networks, including for the most disadvantaged.

The third phase social assessment found that the 19/vi NPS required the assessment of proposals for new port developments to be conducted in a manner consistent with UK and EU legislation. This was to help ensure the assessment of proposals for port developments recognised that the needs of different social groups were to be taken into account in port planning and service delivery to meet the duties under the relevant legislation. However, the NPS no longer expressly recognised, as a key guiding principle for making decisions on proposals for new port developments, the requirement to ensure the creation of equal opportunities for all or that high quality inclusive design should be considered early on in the development process which may help ensure equality of opportunity for all social groups. A recommendation was made to reinstate these requirements in the NPS.

The fourth phase social assessment found that the 13/x NPS suggested that the applicant set out the likely significant social and economic effects of the development and show how any negative effects, such as issues of equality, could be mitigated. The NPS also recognised that port infrastructure should enhance access to jobs, services and social networks created by ports, including for the most disadvantages. To have a further positive impact, the recommendation remained that the NPS should expressly recognise the need for port developments to ensure the creation of equal opportunities for all. Further recommendations were made to further enhance the positive impact of the NPS, including providing more guidance to help the decision maker assess whether and how a port development is supporting social cohesion. The NPS does not recognise that high quality inclusive design should be considered early on in the development process, but it does mention the use of good design as a mitigation measure on a number of occasions in the document. There remains a recommendation for the NPS to specifically recognise the use of inclusive design to ensure equality of opportunity for all.

In the final NPS, it is noted that

> "the decision-maker will find it helpful if the applicant also sets out information on the likely significant social and economic effects of the development, and shows how any likely significant negative effects would be avoided or mitigated. This information could include matters such as employment, equality, community cohesion and well-being."

while section 4.10 discusses the criteria for good design or port infrastructure. In combination this is considered sufficiently to meet this objective, especially given the wider role of ports in serving the demands of the whole community in a commercially impartial way.

AoS24a: To enhance access to ports and the jobs, services and social networks they create, including for the most disadvantaged
AoS24b: To contribute to reduced severance of transport routes and recreational areas as a result of port development and operations

The first phase social assessment found that accessibility and severance impact were considered, although further detail could be added. The first phase social assessment of the 8/iv draft NPS found that it provided the opportunity to show how leisure users will benefit from a port development through **access** to ports and port facilities provided free or at reduced rates. The assessment found that the NPS recognised that high quality and inclusive design should be considered early on in the development process. Poor design could justify consent being rejected, especially if it fails to mitigate negative environmental, social or economic impacts. The promotion of inclusive design in the NPS may help ensure **equality** of opportunity for all social groups and help improve **accessibility** of ports to all users. The assessment found that the NPS required the consideration of the use of demand management techniques. These techniques, if viewed in the broadest sense, could have a positive effect on access to ports for all users, including pedestrians and cyclists.

The assessment also found that the NPS recognised that port developments should be designed to keep **severance** of local communities at a minimum. The assessment found, however, that the NPS did not specify mitigation where port development leads to the **severance** of recreational areas which could impact on both accessibility and health and well-being. The assessment recommended that the NPS should clarify how severance should be assessed and set out the circumstances which require severance impacts to be considered and mitigated against.

The first assessment identified the following areas for improvement:

- In terms of accessibility, the NPS text should recognise the need to enhance access to ports and the opportunities they create (including jobs, services and social networks) and mitigation against impacts that negatively affect accessibility to these opportunities should be required.
- The NPS should also explain how the decision maker should consider impacts on leisure users of ports, and associated mitigation.
- The NPS could include consideration of wider demand management techniques such as travel planning to encourage walking and cycling access.
- In relation to severance, the text should set out how severance should be assessed and set out the circumstances which require severance impacts to be considered and mitigated against.
- The NPS should also identify how the severance of recreational areas should be assessed.

The second phase social assessment of the 22/v draft NPS found that some of these recommendations had been incorporated. The NPS required the decision maker to take account of the need for new port infrastructure to enhance access to ports and jobs, services and social networks, including for the most disadvantaged. The NPS also recognised that the impact of port development on open space, green infrastructure, sport and recreation and identified the assessment and mitigation required. It was recognised within the 22/v draft that poor design can lead to severance and requires that new port development should keep severance to a minimum. The text in this draft was improved to set out the methods of assessment and mitigation for the severance of open space and green infrastructure. However, nothing further had been added in relationship to wider demand management techniques such as travel planning.

The second phase social assessment also found that the NPS required applicants to complete a standard assessment framework following The Project Appraisal Framework for Ports, 2005. This framework includes a key accessibility objective to maintain or improve access to the transport system and also refers to severance effects. The second assessment identified the following areas for improvement:

- The NPS should make the assessment of impacts on open space, green infrastructure, sport and recreation when land is shown as surplus to requirements clearer.
- It should also provide guidance on how the decision maker should consider the impact on leisure users of the port itself and what mitigation is required if these impacts are negative.
- The NPS should detail how severance should be assessed and set out the circumstances which require severance impacts to be considered and mitigated against.
- The NPS should refer to wider demand management techniques such as travel planning.

The third phase social assessment found that the first two of these recommendations were not addressed in the 19/vi NPS. These therefore remain recommendations. The 19/vi NPS also required employee travel planning be undertaken for all major port development but could include further detail on demand management techniques such as smarter travel and travel planning for ferry passengers.

In addition, the third phase social assessment found that the 19/vi NPS no longer recognised that high quality inclusive design should be considered early on in the development process. The promotion of inclusive design may help improve accessibility of ports to all users. The NPS should recognise that good quality inclusive design needs to be considered to help improve accessibility of ports to all users.

The fourth phase social assessment found that while the 13/x NPS draft did not expressly recognise the need to ensure creation of equal opportunities for all, it did now suggest that the applicant set out the likely significant social and economic effects of the development and show how any negative effects, such as issues of equality, could be mitigated leading to a minor positive impact. The assessment found that the NPS did mention the use of good design as a mitigation measure on a number of occasions in the document; however, it was recommended that the NPS should recognise

the role of good quality inclusive design in ensuring equality of opportunity for all, following the principles set out by CABE, the Government's advisory body on built environment, in its manual "The Principles of Inclusive Design (They Include You.)" (2006). In 2011 it was announced that CABE was to merge with the Design Council.

The 13/x NPS had not taken action on the recommendation presented for open space, green infrastructure, sport and recreation. The draft NPS now required the decision-maker to take into account any comments made with regards to impacts on existing land use, including areas of open space, sport and recreation facilities, from the statutory bodies. It also included new text recognising that rights of way are important recreational facilities and that the decision-maker should expect applicants to take appropriate mitigation measures to adverse affects on them. There remained the recommendation that NPS provide clearer guidance for the assessment to identify land as surplus to requirements (for example, is this assessment based on current and/or surplus requirements).

This recommendation is followed consistently with current established Government policy, in section 5.13 of the final NPS.

AoS25: To encourage the consideration of opportunities to improve health and wellbeing and minimise negative changes in living environments and health of the public that may result from port development and operations or port economic effects

The first phase social assessment of the 8/iv draft NPS found that it highlighted the positive impact that increasing employment and prosperity resulting from port development can have on local health and well-being. It recognised the negative **environmental impacts** development (and the connected transport impacts) can have on health and proposes mitigation contained in the environmental sections of the NPS to address this (Local Air Quality, Light, Noise) and required that the applicant carefully considers the modal share of traffic entering and leaving the port. The first phase social assessment also found that the NPS provided the opportunity to show how leisure users will benefit from a port development through **access** to ports and port facilities provided free or at reduced rates which could also promote **health and well-being.** The draft also recognised the impact of severance and specified that mitigation may be required if there are negative **health impacts**. The NPS particularly emphasised the need to prevent severance in terms of walking and cycling accessibility in communities.

The first assessment identified the following areas for improvement:

- The NPS should identify the potential impacts port development could have on the risk to human health from the transportation of hazardous substances, food, animals and imported diseases together with setting out the requirements to ensure any negative impacts are mitigated against.
- The NPS should set out the circumstances which require the impacts related to severance from leisure and recreation areas to be considered and mitigated against.
- The NPS should make reference to the possibility that leisure users may lose existing access to amenity space and leisure activities, and should set out how this severance should be assessed and mitigated against.
- The NPS could more specifically highlight the health impacts of inland connections.
- The NPS could include consideration of wider demand management techniques such as travel planning to encourage walking and cycling access.

The first four recommendations were found to have been taken on board in the 22/v draft. The second phase social assessment of the 22/v draft NPS found that it had incorporated the recommendation to identify the potential impacts port development could have on the risk to human health from the transportation of hazardous substances, food, animals or imported diseases and sets out the requirements to ensure any negative impacts are mitigated against. The assessment also found that it recognised that poor design may lead to the creation of barriers to access open space or leisure facilities. It required that the principles of good design be followed to keep severance to a minimum and set out the methods of assessment and mitigation for severance of open space and green infrastructure.

The assessment found that the 22/v draft of the NPS made it clear that existing open space, green infrastructure, sport and recreation facilities should not be built on unless an assessment shows them

clearly to be surplus to requirements. The NPS also acknowledges the needs of local residents to access existing leisure and recreation areas which could facilitate **healthier lifestyles**.

The second phase assessment recommended the following areas for improvement:

- The NPS should recognise the relationship between increasing employment and prosperity and local health and well-being of the local populations near ports.
- The NPS could more specifically highlight the health impacts of inland connections
- The NPS could include consideration of wider demand management techniques such as travel planning to encourage walking and cycling access

The third assessment found that these recommendations had all been considered in the 19/vi draft of the NPS. The 19/vi NPS recognised that new port developments can have a significant impact on the determinants of health such as work, exercise, social interaction and exposure to environmental pollution. It also recognised that developments may provide opportunities for improving health by increasing local employment. The 19/vi NPS also recognised that port developments may provide opportunities for health improvement through access to travel and transport opportunities and required employee travel planning to be undertaken for all major port development.

The fourth phase social assessment found that the 13/x NPS draft had included more text on the potential health impacts resulting from port development. It recognised that indirect effects on the population's health may result from impacts on accessibility and disadvantaged social groups. The NPS now included a requirement for the decision-maker to refuse consent unless emissions could be mitigated to the extent that relevant statutory air quality limits could be met. Similar measures had been taken in relation to mitigation of the effects of dust, odour, artificial light, smoke steam and insects resulting from port development, all of which can have a potential negative impact on the health and well-being of port users and the local community. The draft NPS also required the impact on areas of open space, sport and recreation facilities to be taken into account which have recognised benefits for the health and well-being of the local community and other leisure users. A recommendation remains for the NPS to recognise the impact on leisure users of the port itself and the mitigation required. This could help ensure that port development does not remove existing opportunities for the physical activity of the local community.

The significance of leisure use of ports is recognised in the final NPS at sections 3.1 and 4.6.

AoS26a: To contribute to the reduction of crime and fear of crime among vulnerable groups and port users

The first phase social assessment of the 8/iv draft NPS found that it did not identify the need to consider contributing to the reduction of crime and fear of crime among vulnerable groups and port users.

The first assessment therefore identified the following areas for improvement:

- The NPS identify the potential impacts port development could have on crime and fear of crime among vulnerable groups and port users, including the use of good design, together with setting out the requirements to ensure any negative impacts are mitigated against.

This recommendation was not addressed in the 22/v draft of the NPS. The second phase social assessment of the 22/v draft NPS found that the NPS required applicants to complete a standard assessment framework following The Project Appraisal Framework for Ports, 2005. This framework includes a key safety sub-objective to improve physical security. The 22/v draft also required that the assessment take in to account the Government's objective to strengthen the safety and security of transport.

The third phase social assessment found that the recommendation made in the first assessment had not been addressed in the 19/vi NPS and therefore remains a recommendation.

As with the third phase social assessment, the fourth phase social assessment found that the recommendation made in the first assessment had not been addressed in the 13/x NPS and therefore remains a recommendation.

In the final NPS the assessment has been made that the generic guidance on good design sufficiently addresses this issue for the NPS's purposes, given the scope for operational security measures to manage risk and fear of crime directly.

AoS26b: To increase security and resilience to all accidents and incidents at ports and reduce risk to the users of the road and rail links used to access ports

The first phase social assessment of the 8/iv draft NPS found that it recognised the potential impact of increased traffic on the road and rail infrastructure providing links to the port development and requires the applicant and decision-maker to carefully consider the modal share of traffic entering and leaving the port. Rail and coastal or inland shipping was generally encouraged over road transport which was likely to reduce the requirement for heavy vehicle road traffic to move through communities, and therefore should result in **safety** benefits. The NPS required that the **safety** implications of minimising night-time light sources from a port development be carefully considered.

The assessment also found that while the NPS required that the decision-maker took into account of the need for resilience diversity in port locations and handling facilities it is not clear how any improvement in this area should be measured or assessed. The NPS also did not fully identify the potential impacts port development could have on the security and resilience to marine and port-related accidents and terrorist attacks at ports.

The first assessment identified the following areas for improvement:

- The NPS should identify the potential impacts port development could have on security and resilience to marine and port-related accidents and terrorist attacks. The NPS should also set out the requirements to ensure any negative impacts are mitigated against.
- The NPS should make it clear how any improvement in resilience should be measured or assessed.

Although defence, national security and accidents were addressed in the 22/v draft of the NPS in response to these recommendations, mitigation was not mentioned. However, the text was clarified on resilience to explain that resilience is about providing capacity at a variety of locations and covering a range of cargo and handling facilities.

The second assessment found that the NPS required the applicant to demonstrate that they have taken into account the latest set of **climate and weather** projections, which should have a positive impact on resilience. The assessment also found that the NPS required applicants to complete a standard assessment framework following The Project Appraisal Framework for Ports, 2005. This framework includes key safety sub-objectives related to the improvement of safety and minimisation of risks and accidents.

The third assessment found that the 19/vi draft of the NPS covered most of the issues relating to this objective, with further text added on the need for resilience of capacity provision. It was recommended that the NPS should explicitly recognise the safety risk posed to host communities by increased levels of traffic, and set out some of the measures required to mitigate this risk.

The fourth phase social assessment found that the 13/x draft of the NPS covered most of the issues relating to this objective, with further text added on defence and national security and the historic environment. It stated that port development should not prejudice the interests of national defence. While the NPS requires that a port development take account of any protected wreck sites, it was recommended that to have a positive on safety and security, the NPS should specify the type of assessment and mitigation measure required to ensure the reduction of risks to port users and continued security of operation of the port where a port development will impact on the prohibited area surrounding a dangerous wreck, as classified under the Protection of Wrecks Act 1973.

The assessment found that while the NPS recognised the potential impact of increased traffic on the road network which could lead to increased risk to other port users, it did not expressly recognise the safety risk to host communities nor specify mitigation needed to reduce this risk. The draft NPS did require all port applications likely to have a significant effect on inland transport to be subject to an objective transport assessment, but there was no express requirement within WebTAG for this assessment to consider specific safety issues for the host community. A recommendation was therefore made for the consideration of this within the NPS. The NPS requires port developments to

be planned in such a way as to allow enforcement agencies to operate checks as and when appropriate. To supplement this, a recommendation was made also to include reference within the NPS to providing facilities at ports to enable drivers to rest and comply with regulations on driving hours etc.

The final NPS makes clear that the applicant's assessment should take account of the Government's objective to strengthen the safety and security of transport, and that:

> "in considering applications the decision-maker should take into account the ultimate purpose of the infrastructure and bear in mind the operational, safety and security requirements which the design has to satisfy." (4.10.4)

This is intended to encompass road transport safety and security. It would not, however, have been appropriate for the NPS to alter existing policy on the protocols for vehicle checks.

7.4 Predicted secondary/indirect, synergistic and cumulative effects

An assessment of cumulative effects, which includes secondary, indirect and synergistic effects, is important in addition to the assessment of individual effects described in the sections above because various policies which may have insignificant effects in isolation could have a significant combined effect.

Secondary or indirect effects are effects that are not a direct result of the NPS, but occur away from the original effect or as a result of the complex pathway e.g. a development that changes a water table and thus affects the ecology of a nearby wetland. These effects are not cumulative and are identified and assessed primarily through the examination of the relationship between various objectives during the assessment of environmental effects. Therefore, these effects are not taken into account in the cumulative effects table below.

Cumulative effects arise where several proposals individually may or may not have a significant effect, but in-combination have a significant effect due to spatial crowding or temporal overlap between plans, proposals and actions and repeated removal or addition of resources due to proposals and actions. Cumulative effects can be:

- Additive- the simple sum of all the effects;
- Neutralising- where effects counteract each other to reduce the overall effect; and
- Synergistic- is the effect of two or more effects acting together which is greater than the simple sum of the effects when acting alone. For instance, a wildlife habitat can become progressively fragmented with limited effects on a particular species until the last fragmentation makes the areas too small to support the species at all.

Many environmental problems result from cumulative effects. These effects are very hard to deal with on a project by project basis through Environmental Impact Assessment. It is at the SA level that they are most effectively identified and addressed. Cumulative effects assessment is a systematic procedure for identifying and evaluating the significance of effects from multiple activities. Table 4 provides an overview of these cumulative effects as identified related to the Ports NPS.

The NPS does not form a detailed plan or programme for future port development, but sets out the likely need for port expansion, as reflected in published demand forecasts produced for the Department, if lack of port capacity is not to act as a constraint on future economic growth. As the Ports NPS does not contain any specific proposals, the balance between positive and negative effects of any specific proposal cannot be known at this stage. However, we have identified where there may be potential cumulative effects so that account can be taken of this when proposals are brought forward to the IPC.

Table 4: Summary of predicted cumulative effects

Relevant section of the NPS	Effects	Causes	Significance
5.4.1 4.7 5.7.1 5.7.7	Cumulative effects on improving air quality	Air pollutant emissions can be a direct impact of port development, particularly in relation to the construction, general operation of buildings, and day-to-day operational activities. Secondary/indirect air pollution effects are also likely to arise associated with ships accessing ports and land transport accessing port developments. Negative cumulative impacts may therefore arise where a number of proposals are consented within close proximity of one another, where net air pollutant emissions are increased (additive cumulative impact). However, the NPS sets out a rang of mitigation measures and controls relating to the minimization of air pollutant emissions, including the refusing of consent in or within close proximity of existing areas of poor air quality (AQMAs), efforts to minimise construction dust and operational air pollution, and encouraging mode shift.	Positive or negative cumulative effects on emissions of air pollutants depending on the nature of port development/s consented.
5.4.1 4.8 4.7	Cumulative effects on minimising emissions of greenhouse gases and contributing to climate change and vulnerability of climatic events	GHG can be a direct impact of port development, particularly concerning construction, general operation of buildings (heating and lighting systems) and day-to-day operational activities, but also secondary/indirect impacts associated with ships accessing ports and land transport associated with port activities. Negative cumulative effects of port development may therefore arise where a number of proposals are consented within close proximity of one another, where net GHG emissions are increased (additive cumulative impact). However, the NPS does set out measures that aim to minimise or even reduce emissions of GHGs, including efforts to achieve modal shift (e.g. taking traffic away from the air freight), addressing emissions during the construction and operation stages of port development and encouraging the use of renewable energy.	Positive or negative cumulative effects on emissions of GHGs depending on the nature of port development/s consented.
5.1.3 4.8.2 5.2.1, 5.2.3 5.3.1 5.4.1 5.11.2 5.12.1	Cumulative effects on risk of flooding and coastal change	The NPS makes efforts to identify areas of flood risk when considering proposals, affecting the port development, associated development and the hinterland, and the potential impacts this may have, including coastal change. Where possible, the advice is to avoid or mitigate potential flooding. Climate change adaptation mitigation will also contribute to ensuring the risk of flooding and coastal erosion is minimised.	Significant positive cumulative effects developing over the medium and longer term.
5.7.1 5.1.20 to 5.1.23	Cumulative effects on protecting water quality and resources	Air pollutant emissions, port operations including dredging, and increases in land transport can all affect the quality and quantity of water resources. The NPS includes mitigation measures that aim to reduce such pollutants or address climate change impacts	Significant positive effects developing over the medium and longer term.

Table 4: Summary of predicted cumulative effects

Relevant section of the NPS	Effects	Causes	Significance
		such that it is likely that positive impacts will be had.	
5.1 5.2 5.3 5.4 5.5 5.13	Cumulative effects on the protecting and enhancing marine environment and biodiversity (terrestrial and marine)	The NPS sets out a range of mechanisms that are in place for protecting marine and terrestrial biodiversity, including biodiversity and landscape designations that should protect habitats and subsequently species from damage/harm from port development. The NPS also sets out a number of ways in which air quality, noise, light, waste, contaminated soil and traffic impacts could be reduced or mitigated, which is likely to have positive cumulative effects on protecting and enhancing biodiversity. However, where a number of port developments are consented, habitats may become fragmented, having a negative cumulative effect on biodiversity (additive or synergistic effects).	Significant positive effects developing over the medium and longer term as impacts on biodiversity are reduced or mitigation measures are a requirement as part of the project application. However, there may be negative impacts, particularly those synergistic in nature, where subsequent port proposals are consented (e.g. fragmentation of habitats/species).
5.1 5.2 5.3 5.4 5.6 5.7 5.11.6 to 5.11.18 5.13	Cumulative impacts on the protection of soil and land resources, including previously undeveloped land	The NPS includes a number of measures that are likely to have positive impacts on protecting soil and land resource, including previously developed land, These include restrictions under the habitats directive in terms of protected sites, protected or valued landscape designations, and the requirements at retaining green and open space where possible, which will impact on the location of development. Measures to reduce air pollution may also have indirect impacts on protecting soil quality. However, where port developments are consented, they are likely to have some negative impacts in terms of soil and land resource except on previously development land.	Positive cumulative (additive) effects developing over the short to longer term.
5.4.1 5.10 5.11.6 to 5.11.18 5.12.10 5.13	Cumulative impacts on protecting and enhancing the landscape and seascape	The NPS includes a number of measures and proposes mitigation that is likely to have positive impacts on protecting the landscape and seascape. This includes restrictions under the habitats directive in terms of protected sites, protected or valued landscape designations, and the requirements at retaining green and open space where possible. Measures and mitigation to minimise the air and noise pollution may also have indirect impacts on protecting landscape/seascape. Together, these measures are likely to have a positive cumulative (additive) effect on protecting and enhancing the landscape and seascape.	Significant positive effects developing over the medium and longer term as impacts on landscape and seascape are reduced or mitigation measures are a requirement as part of the project application.
5.4.1 5.1	Cumulative impacts on	The NPS includes provisions for minimizing the impacts of port development on light	Negative effects developing over the

Table 4: Summary of predicted cumulative effects

Relevant section of the NPS	Effects	Causes	Significance
5.8 5.11	reducing the impact of light pollution.	pollution, and therefore the landscape/seascape and biodiversity, through nuisance assessment and EIA processes, therefore likely to minimise as much as possible light emissions arising from port development itself and associated development/transport. However, any new development will be accompanied by light sources that are likely to affect wildlife and tranquillity of the landscape (additive cumulative effect).	short to longer term as more development occurs.
4.11.2 4.7.1 5.1.3 5.4.1 5.4.2, 5.4.14 to 5.4.20 5.10.1 to 5.10.3 5.10.5 5.10.9 5.10.10 to 5.10.13	Cumulative negative effects on people, wildlife and marine life due to noise from rail, road or water-based transport and port activities	Increased noise levels are likely to arise from increased rail, road or water-based transport and port activities promoted by the NPS. However, the NPS provides advice and guidance on construction and operation practices to minimise high levels of noise that might arise from construction, commissioning and operation phases of port activities and noise mitigation measures are a requirement as part of the project application. Also, rail, road and water-based transport schemes will be required to apply noise mitigation measures. This should minimise the effects on people, wildlife and marine life due to this type of activities.	Non-significant negative effects developing over the medium and longer term
4.11.2 5.4.1 5.4.2 5.4.14 to 5.4.20 5.12.1, 5.12.2 5.12.3 5.12.8	Cumulative negative effects on the historic environment due to rail, road or water-based transport and port activities	Port activities and associated rail, road or water-based transport promoted by the NPS are likely to affect the historic environment. As new or improved infrastructure is put into place it is likely that an increased number of heritage assets will be affected. This can happen on unknown buried archaeological assets as effect of required capital dredging activities or from underwater disposal of the dredged material. New or improved infrastructure can also have a negative effect on the wider historic environment of the area, affecting negatively existing buildings, monuments, canals, sites or even landscapes.	Potentially significant negative effects developing over the medium to long term as more development occurs.
3.1.7	Cluster effect (local growth of activity in a number of related activities) – a positive synergetic effect	The 'cluster effect' results in economies of scale in providing specialised skills and expertise. A port development can result in the emergence of new skills in the local economy that may be relevant to other industries/economic sectors.	The significance of the effect will depend on the scale of the new demand for specialised services, which in turn will depend on the size of the port development/new traffic levels.
4.2.2	Income multiplier – positive effect	Expenditure in the local economy, as a result of the port development (for example, through direct employment or purchase of materials	The income multiplier is a well-established phenomenon and can

Table 4: Summary of predicted cumulative effects

Relevant section of the NPS	Effects	Causes	Significance
		and services) results in income for other economic actors, which is in turn spent locally – a cycle that can repeat many times. This effect is also obviously linked to the creation of new employment. Note: although the NPS does not mention this effect specifically, although it is included under the Wider Economic Benefit area of DfT's WebTAG guidance.	be significant; the effect will depend on the level of local expenditure resulting from the port development. .
3.4.12 4.2.1	Transfer of economic activity – may be a positive or negative effect on different regions	Shipping lines can often be tempted to transfer their port of call. The propensity to change ports depends on the type of shipping activity; for example ro-ro shipping at Dover is fairly stable, whilst the import ports of imported coal have changed significantly in recent years. Note: although the NPS does not mention this effect specifically, it can be seen as a logical (and inescapable) result of fostering competition.	Whilst the impact can be significant locally, at a national level it is a transfer of activity rather than a net loss/gain. This transfer is an indication of a competitive market at work.
3.4.1 4.15 5.4.4to 5.4.8 5.4.9 5.4.10 5.4.20	Rerouting of inland transport (can be a negative or positive effect, depending on the quality of the infrastructure available)	Port developments may result in new traffic (e.g. the recent development of LNG imports, or transhipment cargo). More usually port developments will result in the transfer of cargo from one port to another. Whilst the local connections to the national transport networks may form part of the project appraisal (often involving a contribution from the developer to the improvement of local transport links), there can be wider consequences for inland transport. In the case of coal, whilst the overall tonnages carried by rail have remained broadly constant, the distances moved have increased, as more peripheral ports have been used. These changes in routeings may put particular elements of the network under greater stress. Alternatively, a change in re-routing may use infrastructure with spare capacity.	Can be significant negative if infrastructure is overloaded that is not local to the port development, as the need for investment may not be initially identified. Requiring a very large contribution for supporting inland transport infrastructure could render a port development proposal non-viable.
3.3.3 3.4.1 3.4.12 3.4.15 4.1.1 4.1.5	Competition and productivity – usually considered a positive effect, although it can lead to excess capacity being provided	Competition means that transfers of shipping traffic from one port to another usually result in lower costs for the national economy as a whole. By encouraging private development and competition, the Government is hoping to maximise the increase in national productivity through the cumulative effects resulting from the actions of the individual economic actors.	By and large, the ports sector is currently competitive, so the potential risk is losing this degree of competitiveness through constraints in the planning system. The significance of the effect will depend on the proportion of national port traffic that is affected
4.13.4	Cumulative	Net inward migration as a result of increased	For the cumulative

Table 4: Summary of predicted cumulative effects

Relevant section of the NPS	Effects	Causes	Significance
4.16.1 4.16.5	effects on population	employment due to port developments and increased levels of tourisms where port developments include passenger or cruise terminals could affect the provision of local public services such as affordable housing, education and healthcare.	effect of net inward migration on population to be significant, the level of net inward migration in the area around the port development needs to be high.
4.11.1 to 4.11.5 4.13.4 4.16.1 4.16.5 5.13.12 to 5.13.24	Cumulative effects on health and well-being	Ports may contribute negatively to health and well-being outcomes where environmental effects (including noise, chemical and light pollution, contamination of water quality, reduction of water resources, and release of a range of emissions such as odour, dust, steam, smoke, artificial light, insects and vibration) reduce the quality of living environments of local communities. In addition, changes to the landscape and seascape may impact on local communities and leisure users in terms of their ability to access open and green spaces and recreational facilities. Net inward migration to an area affected by a port development could give rise to an increase in the local population would have a potentially cumulative impact on the provision of local public services, including health and social care facilities. Port developments that include a passenger or cruise terminal may have a positive impact on tourism which may also lead to a change in levels of demand for local services. The NPS requires the applicant and the IPC to consider any cumulative impacts on health and well-being.	The cumulative effects of air quality, emissions of greenhouse gases, water quality and resources, noise, light pollution which may result from port development, together with the additional demand for local services, including provision of health and social care services, as a result of increased employment and tourism may all have a contributory cumulative significant negative effect on the local population and port users developing over the medium to longer term as more development occurs.
3.3.3 4.1.1 4.16.4 5.1.14 4.8.7 5.10.8 5.10.12 5.13.19	Cumulative effects on equality and accessibility	To help ensure equality for all, including equal access to ports and the jobs, services and social networks they create, port developments must be based on the principles of high quality inclusive design. By requiring port development to enhance access to ports and jobs, services and social networks, including for the most disadvantaged and ensuring they comply with UK and EU legislation, there will be a positive effect on equality and accessibility.	The cumulative effects of not requiring port developments to be based on high quality inclusive design will have a significant negative affect on equality and accessibility over the medium to longer term a more development occurs. This negative effect may be partially negated with the requirement for port developments to enhance access to ports and jobs, services and social

Table 4: Summary of predicted cumulative effects

Relevant section of the NPS	Effects	Causes	Significance
			networks and to equality for all.
5.4.24 5.4.25 5.13.12 5.13.24	Cumulative effects on accessibility and severance	While port developments are required to mitigate as far as possible the negative impacts on accessibility created by increased volumes of traffic to a port, by necessity the access routes to ports are likely experience increased flows of traffic. This is likely to have a cumulative effect on severance of transport route and recreational areas, particularly for pedestrians and cyclists.	The cumulative effect of increased levels of traffic on key routes to and from port developments are likely to have a negative impact on severance over the medium to long term. The effect may be more pronounced in the shorter term during the period of construction.

7.5 Appropriate Assessment

As mentioned in the introduction to this AoS report, Appropriate Assessment (AA) has also been undertaken for the Ports NPS in a separate exercise by DfT. The AA compliments the assessment undertaken within the AoS on biodiversity matters. The NPS does not form a detailed plan or programme for future port development, but sets out the likely need for port expansion, as reflected in published demand forecasts produced for the Department, if lack of port capacity is not to act as a constraint on future economic growth. DfT has therefore considered what effect the policies set out in the NPS may have on habitats in the context of the relevant European Directives and corresponding national Regulations.

The assessment considered in general terms the prospective adverse impacts that port development might have, how those impacts might be avoided, minimized or mitigated and, where necessary, compensated. In particular it noted that applications for development, where adverse impacts on *Natura 2000* sites cannot be ruled out, will each require a specific AA under the Directive(s). In line with the Government's policy on port development, the nature and specific location of future port development proposals will be shaped by the market responding to demand for port capacity and is not yet known. **The specific impact on protected sites or species of any specific development proposal will therefore need to be assessed through project-level AA on a case-by-case basis at the time applications come forward.**

7.5.1 AA Screening

The AA recognised that port developments clearly need to be on estuaries or coasts many of which include Special Protection Areas (SPAs) or Special Areas of Conservation (SACs). Ports may also require improvements to inland access, by road or rail, which could also affect elements of the *Natura 2000* network. most of the major estuaries in England and Wales contain major ports and most of these in turn contain protected sites. In several cases, the protected sites cover a high proportion of the commercial estuary. Even where this is not the case, and a terminal might be built within the estuary but outside the protected areas, the proximity of protected sites nearby may mean that significant impacts elsewhere in the estuary cannot be screened out *ex ante*, or at least not on a conjectural basis without detailed knowledge of the application in question. Moreover, associated dredging and harbour works can affect nearby designated sites, directly or indirectly, through physical damage/disturbance to the seabed, effects on water quality, current and sedimentation etc.

It was therefore concluded that **the possibility of significant effect upon one or more *Natura 2000* sites from future port development cannot be excluded in advance of considering individual**

applications as they come forward. In reaching this conclusion the Government notes that it is consistent with the current position under existing planning arrangements where port development is only consented subject to satisfaction of the habitats tests and of wider planning and policy. In the Government's view, the publication of the NPS in itself does not increase the likelihood of significant effects on protected sites. The aim of the Planning Act reforms in relation to the ports NPS is to expedite the planning process and where appropriate to settle more quickly and effectively any necessary mitigation conditions and obligations, *not* to consent port developments which would previously have been refused.

7.5.2 Habitats Assessment

Habitats and species most likely to be affected by port development have been identified within the AA. The Habitats identified include (but are not restricted to) mud flats and sand flats; salt-marshes; sand dunes; seagrass beds; and reefs (e.g. *Sabellaria* reefs, rocky reefs, rich bivalve beds). Others that might also be affected include coastal lagoons and Sandbanks (slightly covered by seawater all the time). Within these habitats, species that are most likely to be affected include, but are not restricted to: invertebrates (*e.g*. molluscs, arthropods); fish; seagrasses (*i.e*. *Zostera*); halophytic plants; waterfowl and sea birds; and all other communities/species assemblages associated with the affected habitats. Port developments are, however, unlikely to affect any currently designated European priority habitats or species. A range of potential mitigation measures that have been used in previous ports developments that may be relevant to reduce damage to affected sites are also identified and described. It is anticipated that these mitigation steps might avoid or reduce damage to protected sites in some cases, but in advance of considering specific proposals at individual sites, one cannot exclude the possibility that the integrity of one or more European sites will be adversely affected by a port development at some point.

The AA also includes an overview of the alternatives and Imperative Reasons of Overriding Public Interest (IROPI), which may apply where impacts on protected sites cannot be avoided or mitigated, and the use of compensatory measures.

8 Monitoring

8.1 Introduction

This AoS has assessed the environmental, social and economic sustainability of the policies set out in the NPS. This assessment has been based on an evaluation of the real-world impacts of the policies, in the round.

The NPS, in large measure, re-states existing ports and planning policy in a form appropriate to steer the IPC and other decision-makers in future. Where appropriate, monitoring arrangements will already have been established for these extant policies. It would not be appropriate to duplicate these, nor should NPS/AoS monitoring be viewed as in any sense a substitute for the normal course of operational environmental regulation.

Rather, we set out here how the sustainability of the implementation of the NPS should be monitored. This is a matter of monitoring the sustainability impact of the existence of the NPS compared to a scenario in which the NPS is not produced and the IPC makes recommendations on port applications to the Secretary of State for Transport. Such monitoring may be useful for the following reasons:

- it would help to inform future consideration by the Secretary of State as to whether s/he needed to review the NPS;
- it would allow any adverse sustainability impacts of the NPS to be identified and taken into account when the NPS is being reviewed.

This section sets out some proposals for how monitoring of the NPS might take place. If appropriate, a formalised monitoring framework will be set once this AoS has been consulted on alongside the NPS.

Any monitoring framework developed should be appropriate to the nature and detail of the NPS and the sustainability effects identified in this AoS, and should recognise that monitoring can take a number of different quantitative and qualitative forms. The burden of undertaking such monitoring should also be proportionate to its potential practical use.

8.2 Methods of Monitoring

The NPS will have real-world sustainability impacts only once it has been used by the IPC to make decisions on port applications. There may be some cases where policies within the NPS result in consent not being granted for an application. It will not be possible to measure the beneficial or adverse sustainability impact of such cases, since it will not in general be possible to tell whether consent would have been refused in the absence of the NPS or, if it had been given, what conditions would have been attached.

However, where the IPC (or other decision-maker) gives consent for a port development, the sustainability impact of the implementation of the NPS could be monitored in two ways:

- analysis of the IPC decision process. This may include the length and nature of the process itself, and any obligations or requirements associated with the Development Consent Order (DCO) relating to specific sustainability impacts;
- analysis of the implementation of a consented development once it has been operational for a sufficient period of time to allow any impacts to be identified, focusing particularly on the efficacy or otherwise of mitigation measures and the adequacy of the NPS in ensuring that these are clear and practicable.

Ideally, these two methods would both be used so as to understand the impact of the NPS on consent documents and operations on the ground.

8.3 Timing of Monitoring

The Planning Act stipulates that the Secretary of State must review the NPS whenever he/she thinks appropriate. Evidence from monitoring could be relevant to the Secretary of State's decision as to whether and when a review is necessary.

We suggest that the first monitoring review of decisions might take place around five years after the designation of the NPS, with a further monitoring review of developments five years thereafter. This timescale is considered appropriate for the following reasons:

- the rate of port NSIP applications is expected to be low, at an average of very roughly one per year. Approximately five consents is a reasonable number for effective monitoring analysis;
- there may be a significant time-lag between consent being given and construction starting, so a further substantial period is likely to be needed for information to be collated;
- monitoring analysis will not be effective unless it takes place after a project has been in operation for a sufficient period of time to allow any impacts to be identified.

It will be important to ensure this five-yearly monitoring analysis is informed by data on the implementation of DCOs from the beginning of construction. Local planning authorities should be able to supply documentation of any enforcement action under Part 8 of the Planning Act 2008.

As noted above, the purpose of this monitoring is not to detect breaches of planning obligations or environmental law, although obviously in the event that such breaches were detected in the course of monitoring, the relevant authorities would need to be informed. Such a purpose would require much shorter timescales for monitoring. Responsibility for detecting and acting upon any such breaches is stipulated elsewhere, for example through the Environment Agency's permitting regimes or through Local Planning Authorities' enforcement functions.

8.4 Monitoring Sources

Monitoring should make use of existing monitoring data where possible. For example, pollution control monitoring is carried out by environmental authorities, and Regional Planning Bodies and Local Planning Authorities monitor the effectiveness of their plans, including indicators such as employment and accessibility. These should be used where appropriate.

However, monitoring should also be open-ended, in the sense that it should be receptive to impacts that may have been unforeseen in nature, extent or intensity at the time of preparation of the NPS/AoS, and of the planning decision.

9 Next Steps

9.1 Designation of the NPS

The NPS, once having been voluntarily laid before Parliament in anticipation of the procedure proposed in the Localism Bill, will lie for 21 sitting days or until a debate is held within that period in the House of Commons. Provided that the House does not vote to reject the NPS, the Secretary of State intends to ratify it.

9.2 Post-adoption statement

It is intended then to issue a post-adoption statement to the extent required to complement other documentation for consistency with the requirements of art.9 of the SEA Directive, 2001/42/EC .

Appendices

Appendix 1 AoS Scoping Report

AoS Scoping Report Appendix A: *Review of Plans, Policies and Programmes*

AoS Scoping Report Appendix B: *Baseline Data*

AoS Scoping Report Appendix C: *Potential Indicators for use in the Assessment of Port-Related Proposals*

AoS Scoping Report Appendix D: *Compatibility Analysis – AoS Objectives*

AoS Scoping Report Appendix E: *Consultation Responses – Scoping Workshop*

AoS Scoping Report Appendix F: *Consultation Responses – Scoping Report round 1*

AoS Scoping Report Appendix G: *Consultation Responses –Scoping Report round 2*

Appendix 2 Phase 1 Assessment

Appendix 3 Phase 2 Assessment

Appendix 4 Phase 3 Assessment

Appendix 5 Phase 4 Assessment

Appendix 6 Addressing SEA Directive requirements in the AoS (contained within this document)

Appendix 7 Consultation Responses – applicability of SEA Directive (contained within this document)

Appendix 6: Meeting the requirements of the SEA Directive

Table A6.1 sets out the key requirements of the SEA Directive (including references) and how each of these requirements has been fulfilled within the AoS process.

Table A6.1: Addressing the requirements of the SEA Directive within the AoS process	
SEA Directive Requirement/Reference	**Addressed in AoS Process**
'The environmental assessment… shall be carried out during the preparation of a plan or programme and before its adoption or submission to the legislative procedure.' [Article 4 (1)]	The AoS assessment (including the assessment of environmental effects) was undertaken in parallel to the drafting of the Ports NPS.
'An environmental report shall be prepared in which the likely significant effects on the environment of implementing the plan or programme... are identified, described and evaluated.' [Article 5 (1)]	This AoS report sets the likely significant effects on the environment of implementing the NPS and reasonable alternatives taking into account the objectives and geographical scope of the NPS are identified, described and evaluated. The required elements of a SEA Environmental Report are therefore incorporated within this AoS Report.
'The information to be provided [in the environmental report]… an outline of the contents, main objectives of the plan or programme and relationship with other relevant plans and programmes' [Annex 1 (a)]	See section 1.1.2 for an overview of the Ports NPS, and section 5.1 for the NPS objectives. See section 3.1 and Appendix 1 (AoS Scoping report Appendix A) for relationship with other relevant plans and programmes.
'The information to be provided [in the environmental report]… the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme' [Annex 1 (b)]	See section 3.2.1 and Appendix 1 (AoS Scoping Report Appendix B) for the environmental baseline.
'The information to be provided [in the environmental report]… the environmental characteristics of areas likely to be significantly affected' [Annex 1 (c)]	See section 3.3.1 for the key environmental issues identified.
'The information to be provided [in the environmental report]…any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance' [Annex 1 (d)]	See section 3.3.1 for the key environmental issues identified.
'The information to be provided [in the environmental report]…the environmental protection objectives… which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation' [Annex 1 (e)]	See Appendix 1 (AoS Scoping report Appendix A) for environmental protection objectives established at international, community or national level (review of relevant plans and programmes) and section 3.3.1 for the key environmental issues identified and considered within the assessment. See section 4 (AoS Framework), Appendices 2 to 5 (AoS assessment tables) and section 7, which contain the AoS objectives and overview of environmental assessment results. These assess the environmental effects of the NPS.
'The information to be provided [in the environmental report]…the likely significant effects on the environment, including on issues such as	See Appendices 2 to 5 (AoS assessment tables) and section 7, overview of environmental assessment results. These

biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.' 'The effects [on the environment] should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects.' [Annex 1 (f)]	assess the environmental effects of the NPS. See Table A6.2 below for an overview of how the environmental topics identified within the SEA Directive are covered within the key sustainability issues identified within the AoS (and subsequently addressed by the AoS objectives). Where appropriate, effects have been broken down into short term, medium term and long-term effects. Permanent and temporary, and positive and negative effects were also considered within the assessment (see Appendices 2 to 5). Secondary, synergistic and cumulative effects have been considered in Section 7 of the AoS report, and are also considered in the assessment tables in appendices 2 to 5 where relevant.
'The information to be provided [in the environmental report]…the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme.' [Annex 1 (g)]	Through the AoS assessment process, recommendations have been made following the assessment of the various drafts of the Ports NPS with regards to appropriate mitigation or improvements that could be made to prevent, reduce and as fully as possible offset any significant adverse effects of the NPS – where these have been addressed in later drafts of the NPS, this has been stated in the assessment (see Appendices 2 to 5).
'The information to be provided [in the environmental report]…an outline of the reasons for selecting the alternatives deal with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information' [Annex 1 (h)] An environmental report shall be prepared in which…reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme… are identified, described and evaluated.' [Article 5 (1)]	See section 6 for the assessment of reasonable alternatives.
'The information to be provided [in the environmental report]…a description of the measures envisaged concerning monitoring…' [Annex 1 (i)]	See section 8 on monitoring of the NPS.
'The information to be provided [in the environmental report]…a non-technical summary of the information provided under the above headings.' [Annex 1 (j)]	See the non-technical summary at the start of this AoS Report.
'The authorities referred to in Article 6 (3) shall be consulted when deciding on the scope and level of detail of the information which must be included in the environmental report.' [Article 5 (4)]	Statutory Environmental Bodies (SEBs) in England and Wales were consulted on the scope and level of detail of the information to be included in the AoS Report (Environmental Report) • 4 weeks in January/February 2009; and • 5 weeks August/September 2009.

'The draft plan or programme and the environmental report… shall be made available to the authorities referred to in paragraph 3 of this Article and the public' [Article 6 (1)]	SEBs will be consulted upon the Ports NPS and AoS/Environmental Report for a period of 14 weeks from November 2009 to February 2010, prior to adoption of the NPS.
'The environmental report… shall be taken into account during the preparation of the plan or programme and before its adoption or submission to the legislative procedure.' [Article 8]	See Appendices 2 to 5 for details of how the recommendations of the AoS process have been taken into consideration within the development of the Ports NPS.
'… when a plan or programme is adopted, the authorities… the public… are informed and the following items are made available… a statement summarising how environmental considerations have been integrated into the plan or programme and how the environmental report prepared…the opinions expressed [in consultation]… have been taken into account… and the reasons for choosing the plan or programme as adopted, in the light of the other reasonable alternatives dealt with…' [Article 9 (1)]	See Appendix 1 (AoS Scoping Report Appendix G) for an overview of how consultation comments from SEBs on the AoS Scoping Report were taken into account in the AoS Report/Assessment and subsequent NPS development. DfT to inform SEBs of when the Ports NPS is adopted. It is intended that following the public consultation period, an AoS statement will be issued.
'Member states shall monitor the significant environmental effects of the implementation of plans and programmes in order, inter alia, to identify at an early stage unforeseen adverse effects, and to be able to undertake appropriate remedial action.' [Article 10 (1)]	See section 8 on intended monitoring of the NPS. Any AoS statement produced is likely to include confirmation of arrangements for monitoring.

Table A6.2 demonstrates how the 10 SEA environmental topics are covered within the key sustainability issues identified within the AoS (and subsequently addressed by the AoS objectives).

Table A6.2: Mapping SEA topics against key sustainability issues considered within the AoS

SEA Topics	Relevant AoS objectives as addressed in this AoS
Air	1. Air quality
Biodiversity, including flora, fauna	7 Marine environment 8. Biodiversity
Climatic factors (including strategic flood risks)	2. Greenhouse gas emissions 3. Climatic factor and adaptation 4. Flood risk and coastal erosion
Cultural heritage	14. Historic environment
Human health	25. Health and well-being 1. Air quality 13. Noise
Landscape	11. Landscape and seascape 12. Light 13. Noise
Material assets	26. Security and safety
Population	22. Population 23. Equality
Soil (including waste and contaminated land issues)	9. Soil and land resources 10. Waste generation and resource use
Water (water quality and water resources)	5. Contamination of water quality 6. Water resources

Appendix 7: Consultation Responses – applicability of SEA Directive

In addition to the four week consultation in January / February 2009, Statutory Environmental Bodies were given a further five weeks to comment on a draft of the AoS Scoping Report in August/September 2009 in order to offer specific comments in relation to the applicability of the SEA Directive. These comments were addressed in the AoS Report (rather than the AoS Scoping Report), and the appendices to the AoS Scoping Report where appropriate ((The review of plans, policies and programmes and the baseline data) A summary of how these comments were addressed in the AoS report, associated assessment and appendices is provided below.

Consultation Responses	How responses have been addressed in the AoS Report and associated assessment
RESPONSES FOLLOWING SEA CONSULTATION – August/September 2009 (on AoS Scoping Report)	
Natural England	
We are pleased that DfT has reissued the scoping report for a 5-week consultation, in line with the SEA Directive. It is not, however, clear from the document whether it is intended to fulfil the requirements of the SEA Directive. The relationship between the SEA directive and the AOS needs to be clarified.	Section 1.2 and Appendix 6 illustrates how the requirements of the SEA Directive have been taken into account and fully addressed in the AoS of the Ports NPS.
As set out in the SEA Best Practice Guide, the scoping stage includes: *"identifying sustainability issues, development of objectives, indicators and targets to form the AoS framework".* There is no discussion of targets in the AoS scoping document nor any discussion on the potential indicators set out in Appendix C.	Indicators and targets are discussed in Section 4 of the AoS report. The NPS is a high-level, non-locationally specific policy document; it does not form a detailed plan or programme for future port development, but sets out the likely need for port expansion. As such, available indicators will not often be relevant/applicable to this appraisal, and targets are not appropriate. The existing policy and criteria presented to the IPC within the Ports NPS has therefore been appraised through determining the extent to which they meet the AoS objectives and sub-objectives. Despite this, indicators were identified during the AoS scoping process that may be used at the scheme/development proposal appraisal level as they are brought forward, and highlight potential considerations in the future assessment of proposals (see Appendix 1, Scoping Report Appendix C), although of course the specific indicators used would depend on the particulars of the proposal under consideration.
It is important that the Appraisal of Sustainability is used to inform the development of the National Policy	Appendices 2 to 5 contain assessment tables for each of the

Statement for ports, rather than being seen as a separate process. The NPS will need to clearly set out how it has been influenced by the AoS report.	phase of NPS assessment, including recommendations for future drafts of the NPS, and whether these recommendations had been addressed.
Summary of Review 2.1 Add geodiversity 2.2 Add protection and enhancement of nationally and internationally designated sites for biodiversity, geodiversity, landscape and recreation	Section 3.1 – links to other strategies, policies, plans and programmes and sustainability objectives, has been updated to include these.
Table 1 Environment- Add reference to the Wildlife and Countryside Act 1981 (as amended) Add reference to the National Parks and Access to the Countryside Act 1949 Add Natural Environment and Rural Communities Act (2006) Add Countryside Character Regional Guides (Countryside Agency)	The following policies have been included in the PPP review: • The Wildlife and Countryside Act 1981 (as amended) • National Parks and Access to the Countryside Act 1949 • Natural Environment and Rural Communities Act 2006
Environmental baseline characteristics 3.1.1. Add The Broads to list of protected landscapes. Landscape Character Areas cover the whole of England and should not be confused with designated landscapes. The condition of SSSIs would be a more useful baseline than the total number.	The Broads have been referred to in the Baseline Appendix under National Parks as they have equivalent status. Additional information on the condition of SSSIs have been included in the baseline data (Appendix 1, Appendix B).
Summary of data collected 3.2- Landscape and Seascape- Add The Broads Health and well-being –add Rights of way, common land and bridleways.	The Broads have been referred to in the Baseline Appendix under National Parks as they have equivalent status. Rights of Way, common land and bridleways have been added to the baseline.
Key Sustainability Issues 4.1.4 Port development can contribute to possible erosion risks in several ways, most notably by changing tidal propagation and by changing flow patterns. 4.17 Impact of dredging misses smothering impacts, especially in more Clearwater estuaries. Dredging can affect sediment budgets and subsequent foreshore and sub-tidal evolution. Channel deepening can change tidal propagation and the degree of foreshore exposure. 4.1.8. It will be helpful to take account of the Marine and Coastal Access Bill and the likelihood that this will trigger the establishment of Marine Conservation Zones. 4.1.11- Green Belt is not a landscape designation and should not be included here. Should add achieving UK's commitments to all landscapes through the European Landscape Convention 4.2.1 Include consideration of the Marine and Coastal Access Bills requirements and Natural England's proposals for continuous coastal access around England.' 4.2.4 Port infrastructure is likely to be a significant factor in determining the route of the proposal to facilitate unimpeded onward passage. This is recognised in the scoping documents. The AoS will need to take account of any development work by Natural England in the interim that may have a bearing upon ways of facilitating access around such impediments. 4.2.6 Add consideration of transport links to non-road based domestic transport-limiting emissions and development of road based infrastructure.	Key sustainability issues and considerations for the AoS have been amended accordingly.

Table 2 AOS8 should reflect higher levels of protection accorded to internationally and nationally designated sites over locally protected sites.	AoS Objective 8 mentions the preservation, protection and improvement of internationally, nationally and locally designated sites.
In addition to thinking about enhancement of biodiversity within port proposals wherever possible, wider consideration of green infrastructure should be given due consideration to increase connectivity within the landscape as a whole.	An additional sub-objective has been included in AoS8, which reads 'To consider green infrastructure and increase connectivity where appropriate'.
AOS11- should reflect higher levels of protection accorded to nationally designated landscapes over locally designated landscapes	AoS Objective 9 mentions the preservation, protection and improvement of internationally, nationally and locally designated sites.
Environment Agency	
We agree with the overall approach within the AoS scoping report and welcome the adoption of Sustainability Appraisal (SA) and Strategic Environmental Assessment (SEA) principles. We are pleased that the Department for Transport (DfT) intends to meet the requirements of the SEA Directive. We recommend that Appendix E is amended to state that the AoS will cover all the requirements of the SEA Directive and UK Regulations, and not just those that 'are practical for application to an assessment of the Ports NPS'. Ensuring compliance with the SEA Directive requirements will reduce the likelihood of any successful future challenge to the Ports NPS on the grounds of SEA.	Section 1.2 and Appendix 6 illustrates how the requirements of the SEA Directive have been taken into account and fully addressed in the AoS of the Ports NPS.
We are pleased that the AoS process is being undertaken at the same time as the drafting of the NPS. However, we are concerned that the AoS process is not effectively linking up with and influencing the development of the draft Ports NPS. The draft Ports NPS circulated on 28th August contained only a brief reference to the AoS process and no evidence that the AoS had influenced the drafting of the NPS. We recommend that an Annex be included within the AoS report showing exactly how the AoS process has directly influenced the development of the NPS. A effective audit trail must be provided to transparently indicate how the AoS recommendations are being taken on board within the NPS, in order to meet the requirements of the SEA Directive.	Appendices 2 to 5 contain assessment tables for each of the phase of NPS assessment, including recommendations for future drafts of the NPS, and whether these recommendations had been addressed.
We are pleased that the majority of the areas we highlighted for improvement within the scoping reports on water quality, fisheries and Water Framework Directive (WFD) issues, have been strengthened. Particularly the potential risks to biodiversity from dredging activities, including the impact of underwater noise.	No action required.
We are disappointed that our recommendation to see the AoS objectives and sub-objectives set as definite rather than aspirational has not been followed. We are still concerned that the AoS objectives and sub-objectives within table 2 are defined as 'aspirational' when these are the main mechanism by which the Ports NPS will be appraised. The compatibility analysis in Appendix D shows that the vast majority of AoS objectives are compatible with each other or have no relationship. No incompatible objectives have been identified, therefore it should be possible to maximise the vast majority of objectives at the same time.	The term 'aspirational' has been removed when describing the AoS objectives and sub-objectives.
We support the inclusion of the summary on the review of relevant plans, policies and programmes and an overview on the baseline data. We find these summaries of the main themes/conclusions of lists of topics/datasets useful in understanding the main outcomes.	No action required.
We appreciate the clarification on the scoping out of key issues/topics. We agree that the scope of the Ports NPS and the potential range of port-development proposals that may be bought before the Infrastructure Planning Commission (IPC) are quite far reaching and support the approach to not scope out any key sustainability issues at this stage.	No action required.
We welcome the inclusion of questions within the public consultation on the AoS report to direct consultees to	No action required.

the areas that DfT would most like input or advice.	
We agree that options for the NPS should be considered by identifying and assessing alternatives. We consider it good practice to identify the options at the scoping stage and assess them during the appraisal phase.	NPS alternatives have been identified and assessed in Section 6.
We are glad that our suggestion has been taken on board to include all the stages/tasks relating to development of the NPS to illustrate the interrelationships between the NPS and AoS processes more clearly. The improved figure 1 now shows much more effectively how the NPS and AoS processes should link up and align.	No action required.
We welcome the expansion of key issue 4 to include coastal erosion as well as flood risk. We recommend expanding AoS objective AoS4a to include coastal erosion as well as flood risk to reflect this expansion of key issue 4; 'to increase resilience of ports infrastructure against the risk of flooding and coastal erosion'.	AoS objective 4a has been amended as suggested.
We reiterate our previous recommendation to also follow and refer to CLG's recent document on AoS methodology and ODPM's 2005 Practical Guide to the SEA Directive in determining the process to follow for the AoS, as well as ODPM's guidance on Sustainability Appraisal.	These guidance documents have been referred to in the undertaking of the AoS assessment and preparation of the AoS report and associated appendices.
We support the inclusion of more detail on cumulative, indirect and synergistic effects to demonstrate greater consideration of evaluating these effects, which are an important aspect of compliance with the SEA Directive. We note the assessment methods identified for stage B. We agree that all of the techniques listed for assessing effects in table 5 are useful and would like to hear more on how these techniques will be used within the assessment.	No action required.
We support the use of the indicators within Appendix C to assess port-related developments. However, we recommend also including targets alongside the indicators to enable the IPC to effectively assess the sustainability of port-related developments. The targets must be specific, measurable, achievable, realistic and timely.	The NPS is a high-level, non-locationally specific policy document; it does not form a detailed plan or programme for future port development, but sets out the likely need for port expansion. As such, available indicators will not often be relevant/applicable to this appraisal, and targets are not appropriate. The existing policy and criteria presented to the IPC within the Ports NPS has therefore been appraised through determining the extent to which they meet the AoS objectives and sub-objectives. Despite this, indicators were identified during the AoS scoping process that may be used at the scheme/development proposal appraisal level as they are brought forward, and highlight potential considerations in the future assessment of proposals (see Appendix 1, Scoping Report Appendix C), although of course the specific indicators used would depend on the particulars of the proposal under consideration.
We welcome the statement in Appendix F that all assumptions made in predicting and evaluating effects will be recorded within the AoS report.	Where assumptions have been made in the assessment, these are included within the assessment tables.
We are pleased to see the inclusion of Appendices E and F showing responses to the recommendations made during the scoping workshop and to the first version of the scoping report. These are really useful tables to enable us to see how our comments have been taken on board. We recommend a similar table is included in the AoS report to show the actions taken in response to recommendations and comments made over the next few months.	This table demonstrates how consultation comments have been taken into account and addressed in the AoS report and associated assessment.
English Heritage	
Appendix 1 Scoping Report – we are pleased to see it clearly set out that the Historic Environment is considered as a component of "Environmental Plans, Policies and Programmes". However, in the section on	Rather than duplicate the relevant historic environment plans, policies and programmes, in the environment and ports specific

"Ports Specific Plans, Policies and Programmes" there is no specific mention of the historic environment other than to mention 'coastal and marine conservation' which by default only addresses natural environment factors (e.g. biodiversity and geo-diversity).	lists, these are listed only once where they are first relevant (i.e. in the environment section).
Appendix 1 – we are pleased to see included in the table of relevant Plans, Policies and Programmes reference to the Council of Europe European Landscape Convention and Valletta Convention. However, reference to draft PPS 15 is absent and only in the ports section is the 'Integrated maritime policy for the European Union' identified. In the section on "Environmental, Economic, Social and general baseline characteristics" there is reference to the historic environment, but it was noted that there was no specific inclusion of sites designated under the Protection of Military Remains Act 1986 or sites designated under Section 2 of the Protection of Wrecks Act 1973 (prohibition on approaching dangerous wrecks). We must make it clear that shipwrecks designated under Section 2 are not the responsibility of English Heritage and we encourage you to obtain the advice of the Maritime and Coastguard Agency on how such sites should be incorporated into the AoS.	The PPP review, in Appendix 1, includes the Consultation paper on the new PPS15: Planning for the Historic Environment (2009) Reference to sites designated under Protection of Military Remain Act 1986 included in PPP review/AoS report. The Maritime and Coastguard Agency have been contacted regarding shipwrecks designated under section 2.
Appendix 1 – In section 4.1.14 "Key Issues: Historic Environment" there is a footnote statement which requires clarification which seems to imply that there is a total (in 2007) of 45 'designated wreck sites'. Please note that as of March 2009 there were a total of 46 sites designated under Section 1 (protection of sites of historic wrecks) of the Protection of Wrecks Act 1973 within the English area of the UK Territorial Sea. For your information, I have attached a copy of the Advisory Committee on Historic Wreck Sites (ACHWS) annual report for 2008. It should also be made clear that capital dredge programmes might not only expose previously unknown wreck, but might directly damage such sites through impact and recovery. We also noted in section 4.1.11, footnote 20: Historic Landscape Characterisation which should be considered under historic environment, not landscapes, to avoid double counting and in section 4.1.14, footnote 22 needs to replace the PPGs 15 and 16 references with a reference to PPS15 (draft).	Appendix 1 has been amended to show a total of 46 'designated wreck sites.' The Historic environment key issue has been updated to make clear the potential impacts of capital dredging. Footnotes in the AoS report have been updated accordingly.
Appendix 1 – the AoS Framework (Aspirational AoS Objectives/Sub-Objectives) includes Historic Environment and seems to cover relevant matters. However, it is suggested that any reference to 'dangerous wrecks' designated under Section 2 of the Protection of Wrecks Act 1973 (e.g. SS *Richard Montgomery* in the Thames estuary) should be dealt with outside of historic environment factors.	'Dangerous wrecks' are now considered under the safety and security AoS objective, whereas the other elements of the Protection of Wrecks Act 1973 are considered under the historic environment objective.
Appendix 1 – Appendix A (review of relevant Plans, Policies and Programmes) seems to cover all relevant documents apart from the draft PPS 15 and the published UK Government and Devolved Administrations High Level Marine Objectives (*Our seas – a shared resource*).	The consultation paper on the new PPS 15 has been included in the PPP review. 'Our Seas – A Shared Resource' has been included in the PPP review.
Appendix 1 – Appendix C (potential indicators): no comment (we are pleased to see in the section on Historic Environment inclusion of 'heritage at risk' factors).	No action required.
Appendix 1 – Appendix D (compatibility analysis): we suggest that this could receive more attention regarding the historic environment i.e. is it possible to identify more compatibility factors?	The historic environment has been given further consideration in the compatibility analysis and updated accordingly Section 4.1.1 of the AoS Report.
Appendix 1 – Appendix E and F (consultation responses): no comment.	No action required.

CCW	
Background to NPS Clarification is required as to how the IPC will deal with project-level Environmental Impact Assessment and Habitat Regulations Assessment. CCW would also welcome more detail on the approach to be taken with multi-sectoral developments, i.e. how the Ports NPS relates to other NPSs and how Nationally Significant Infrastructure Projects requiring development in more than one sector will be assessed and consented. A particular concern is how the interdependencies between different components of a project will be addressed, and the identification of the different competent authorities involved. CCW understands that the IPC is in the early stages of implementation but as this process becomes clearer we would welcome further clarification and would expect to see this kind of detail included in any AoS/SEA report.	This is not a matter for the AoS, DfT to discuss with CCW separately. Project level EIA and AA will be dealt with within the NPS document rather than the AoS and associated assessment. However, where appropriate, these processes, and how they are intended to be used/IPC should consider them, are identified where appropriate within the assessment tables.
CCW notes the supremacy of the NPS over regional/local planning documents. We would appreciate clarification as to whether the Wales Spatial Plan and other similar policies/plans, as those of a devolved administration, are considered to be 'regional' or whether they will have greater weight in IPC consenting decisions.	This is not something that the AoS will clarify. DfT to discuss with CCW separately.
We are aware of, and have already been consulted on, DfT's intention for the Ports NPS to be subject to the Habitats Regulations Assessment process at the plan level; this should be stated in subsequent AoS/SEA reports.	Section 7.5 of the AoS report take into account the AA that was undertaken for the Ports NPS.
Clarification is also required as to whether the geographical and temporal scope of the assessment has included consideration of ancillary and induced developments; this is implied in some sections of the report but is not consistently demonstrated. As a result, the scope of some sections may need reviewing.	The NPS applies to associated development included in an application for development consent alongside a specific port development. The AoS, in assessing the NPS, therefore also considers the impacts of associated development.
Review of relevant plans, policies and programmes (PPPs) We are pleased to note that our earlier suggestions for relevant plans, policies and programmes have been incorporated into the list of PPPs reviewed. However, we would like to emphasise the need to ensure that climate change policies and initiatives are given full consideration, as both overarching and environmental PPPs relevant to the Ports NPS, and feel that this aspect of the list can be expanded and kept up to date. For example, the EU Second European Climate Change Programme – ECCP II (2005) could be included, and the Welsh Assembly Government is currently consulting on its Climate Change Strategy. We would also like to note that Technical Advice Note 5: Nature Conservation and Planning (1996) is due to be revised and has been consulted on by WAG. As the Marine and Coastal Access Bill passes through Parliament and receives Royal Assent to become an Act the list of PPPs will need to be amended to reflect this. We recommend that care is taken to ensure that the list of relevant PPPs is kept up to date and amended as new/revised policies and plans become available. *2.1. Overarching PPPs* There are no climate change initiatives or policies included in this list. Addressing climate change and its implications should be a key sustainability objective and relevant to both AoS and SEA due to its interaction with and impacts upon other environmental, social and economic factors considered. *2.2. Environmental PPPs* CCW would suggest that another important main objective that could be derived from the environmental PPPs is "to protect, maintain and enhance environmental functions, goods and services and to work within safe environmental limits". AoS/SEA objectives derived from these PPPs should also cover	The ECCP II (2005) has been included in the overarching section of the PPP review The revised Technical Advice Note 5: Nature Conservation and Planning (2009) has been updated and included in the PPP review. No action has been taken on The Wales Climate Change Strategy as the document is going through consultation and not available for review. No action needed on the Marine and Coastal Access Bill at present. Relevant objectives identified from PPPs now include reference to protecting, maintaining and enhancing environmental functions, goods and services and to work within safe environmental limits. References to marine and terrestrial biodiversity have been made within the AoS report.

marine *and terrestrial* biodiversity; understandably impacts on marine and coastal environment and biodiversity are identified as key issues and suitable assessment objectives derived for them, but consideration should also be given to impacts on the terrestrial environment and biodiversity that port developments may entail. *2.5. Port Specific PPPs* Again, no specific climate change PPPs are considered in relation to ports. The AoS objectives derived from the PPPs identified should also consider terrestrial ecology, as well as marine.	Rather than duplicate the relevant climate change plans, policies and programmes, in the environment and ports specific lists, these are listed only once where they are first relevant (i.e. in the environment section).
Baseline data CCW are pleased to note that our comments made on the 3rd February have been acted upon and suitable amendments made to the baseline data. However, there are still aspects of the scope of the data collected that require attention in order to constitute a robust SEA: • The UK climate change projections are missing. These were published earlier this year, and the baseline data should accordingly be updated and amended; climate change trends and projections are of great importance in predicting and mitigating against impacts such as sea-level rise and increased coastal flooding, and developing adaptation strategies. • Pontcysyllte Aqueduct and Canal has now been designated a World Heritage Site in Wales. • CCW are disappointed that there are no maps of designated and protected sites in Wales (i.e. N2k, Ramsar, National Parks etc) contained within the baseline data appendix, despite having been provided for those in England. Such maps do exist, and we would expect any use of maps to illustrate sites in England to be matched with maps of Wales. • The Liverpool Bay pSPA also covers Welsh territorial waters; the text of the baseline data states that there are no pSPAs in Wales and does not take into account cross-border designated sites. • Marine Conservation Zones, to be designated under the Marine and Coastal Access Bill, are now to be called Highly Protected Marine Conservation Zones in Wales. • Seascapes should also be considered alongside landscape character. Although seascape considerations are included in the AoS framework objectives they are not in the baseline data; supporting data should have been collected/made available for all the objectives developed for AoS/SEA purposes otherwise these objectives cannot be meaningful. CCW has recently completed a Seascapes assessment for Wales and can make this available. Some baseline indicators are identified in Appendix B for which the data is described as being “too detailed to obtain across both England and Wales”. However, CCW would argue that some of these datasets are particularly relevant to consideration of the environmental impacts of the Ports NPS, e.g. the Conservation Areas and Marine Bill Marine Conservation Zones, and would expect these datasets to be obtained and expanded upon as the AoS/SEA progresses. Although not related to environmental factors and so not within the scope of this present consultation on the suitability of the AoS report for SEA, we do question the inclusion of certain datasets in the baseline data and their overall relevance to the Ports NPS. For example, we do not see how baseline data on ‘well-being’, ‘faith’, ‘life expectancy’, or ‘the number of people participating in sporting activity’ will help in the assessment of the sustainability or environmental impacts of the Ports NPS; in the introduction to Section 3 it is stated that “some of these data might not be utilised in subsequent stages of the AoS” but we question why these datasets have not already been scoped out of the revised document.	The UK Climate Projections have been included in the baseline data. The baseline data has been updated to include Pontcysyllte Aqueduct and Canal as a designated World Heritage Site Maps on some of the designated and protected sites in Wales have been included in the baseline data appendix. Baseline data has been updated and takes into account of the pSPA in Wales. The baseline data appendix has been updated and takes into account that Marine Conservation Zones, to be designated under the Marine and Coastal Access Bill, are now to be called Highly Protected Marine Conservation Zones in Wales. Reference to seascape character assessments has been included in Appendix 1 Appendix B (baseline). Some of the more detailed datasets as identified in Appendix B should be identified/obtained when future proposals are put forward and are being assessed at the project level.

Key sustainability issues The key environmental issues relevant to the Ports NPS and necessary for SEA have been identified, but we feel that they can be improved upon and more detail added. For example: *4.1.1. Key Issue 1: Air Quality* Clarification is needed as to whether air quality issues of associated development are to be considered; the issue of air quality should also be considered in the context of the impacts of diffuse sources of air pollution on vulnerable and sensitive habitats/species, not just in terms of AQMAs and impacts on human health.	The NPS applies to associated development included in an application for development consent alongside a specific port development. The AoS, in assessing the NPS, therefore also considers the impacts of associated development. Air quality sustainability issue updated as suggested.
4.1.4. Key Issue 4: Flood Risk and Coastal Erosion The AoS should consider whether there are any impacts/implications of tidal flow and sediment transport regimes in adjacent offshore areas and 'down coast' of port developments.	AoS consideration for flood risk and coastal erosion updated as suggested.
4.1.5. Key Issue 5: Contamination of Water Quality The impacts of reduced/altered water quality on biodiversity (including foraging areas and food supplies) and implications with respect to the Habitats Directive should also be a consideration.	Water quality key sustainability issue updated as suggested.
4.1.6. Key Issue 6: Water Resources Areas of water stress are not confined to the southeast of England. Southeast Wales and Pembrokeshire are areas where Water Resource Management Plans and Review of Consents have shown the need for sustainability reductions etc. in respect of water supply. The assessment should include consideration of water supply issues in the context of relevant Environment Agency and water utility companies' plans and the Review of Consents.	Water resources key sustainability issue updated to reflect comments.
4.1.7. Key Issue 7: Marine Environment The AoS should consider the possibility of tidal deflection by ports and associated development and changes to sediment regimes, including potential induced effects on aggregate resources and dune sediment supply.	Marine environment key sustainability issue updated to reflect comments.
4.1.8: Key Issue 8: Biodiversity The discharge of ballast water and risk of introduction of marine alien species should also be a key consideration, and not just confined to the issue of water quality.	Biodiversity key sustainability issue updated to reflect comments.
4.1.10 Key Issue 10: Waste Generation and Resource Use The maintenance Dredging Protocol is not necessarily used widely by ports in England, and has not been implemented in Wales. We would therefore caution against describing this protocol as "assurance that there will not be an adverse effect" of maintenance dredging; the potential impacts of dredging activities are highly location-specific and will have to be assessed on a case-by-case basis.	References to the Marine Dredging Protocol have been updated to reflect these comments.
The key sustainability issues should also aim to identify opportunities for the Ports NPS to enhance the environment rather than concentrate on potential problems and constraints. These opportunities to deliver positive outcomes can then be incorporated into the AoS/SEA objectives to make them more 'proactive', i.e. moving beyond merely preventing decline and maintaining the status quo (see later comment on AoS objectives).	The majority of AoS objectives include sub-objectives relating to enhancing the environment.
Although under each environmental factor subheading references are made to other key issues, it would be helpful if the AoS/SEA report were to demonstrate ore clearly that interrelationships between the issues have been considered, e.g. the obvious implications of declines in water quality (key issue 5) on biodiversity (key issue 8) and ecological functioning, and more 'indirect' relationships such as the discharge of ballast water and the introduction of invasive species. One of the requirements of the SEA Directive is to supply information on the interrelationships between environmental factors; this is implied through the "[see also issue….]" under each subheading but no explanation of the nature of this interaction is given. For an assessment of the impacts of the Ports NPS to be thorough, whether from an AoS or SEA perspective, such interrelationships and	Section 3.3.4 has been added to provide an overview of the interrelationships between key sustainability issues.

interactions should be investigated and considered.	
We would also like to highlight the importance of considering the cumulative and in-combination impacts of port developments. Although this is something that is often addressed at the individual project level, it is nevertheless an important consideration during SEA and setting out the policies that will lead the way for the individual developments. This is especially important given that our marine environment is coming under increasing pressure from numerous users and activities; a strategic view of potential cumulative impacts on the environmental factors assessed, and development of appropriate mitigation measures, will contribute towards achieving sustainable development in the marine sector.	The cumulative table in the assessment table has been updated in the fourth round of the assessment. Section 7.4 also summarises the key secondary/indirect, synergistic and cumulative effects of the Ports NPS.
AoS framework objectives We find the term 'aspirational' when describing the framework objectives developed for the AoS ambiguous and unnecessary; these are definite objectives against which to measure the Ports NPS, and they will either be met by its policies or not. Overall, the list of objectives presented in the report is satisfactory and encompasses a broad range of environmental issues necessary for conducting an SEA. However, as communicated in our previous response to the draft AoS scoping report, many of these objectives are 'neutral' in that they do not seek to improve/enhance the environmental factor in question beyond preventing degradation and maintaining the status quo. Many of them have the objectives "to minimise", "to avoid", and "to preserve". Positive objectives such as to "enhance", "strengthen" and "improve" could also be built into the assessment framework objectives, which would result in the NPS being measured against them leading to more sustainable port developments. For example, sub-objective AoS3 could become "to reduce the vulnerability of ports related infrastructure to the impacts of climate change *and strengthen/enhance its ability to adapt*", while AoS6 could become "to avoid adverse effects on water resources by port-related development *and improve management and maximise opportunities for a sustainable and secure supply*". In order for the port developments under the NPS to be as sustainable as possible efforts should be made at this early stage to make the policies set out in the statement as environmentally beneficial as possible.	The term 'aspirational' has been removed when describing the AoS objectives and sub-objectives. Many of the AoS objectives include sub-objectives relating to positive opportunities for improvement of the environment.
The potential indicators to be used in port-related proposals given in Appendix C appear to be sensible and appropriate in that they are derived from the baseline data collated for the AoS and can be applied to location-specific projects to measure their sustainability and likely impacts. The list presented is not exhaustive and is likely to expand once the Ports NPS is in place and individual port development applications come forward, and we would like to emphasise the need to ensure that indicators used by the IPC in making decisions about individual developments are of use and will actually help inform the decision-making process. Wherever possible, location-specific, meaningful indicators that can be quantified should be used, although consideration should also be taken of potential indicators that are more difficult to quantify such as diffuse sources of air pollution.	Indicators and targets are discussed in Section 4 of the AoS report. The NPS does not form a detailed plan or programme for future port development, but sets out the likely need for port expansion. The details of proposals that may be brought forward, and subsequently their effects, are therefore unknown at this point and cannot be assessed in the AoS. However, the existing policy and criteria presented to the IPC within the Ports NPS has therefore been appraised through determining the extent to which they meet the AoS objectives and sub-objectives. Despite this, draft indicators have been identified in Appendix 1 (Appendix C) are included for potential use at the schemes/proposal appraisal level, the nature of which is currently unknown. Although potential indicators could be anticipated at this stage (these would have to be reviewed/updated in light of proposals being brought forward), it is not possible to identify appropriate targets at this stage.

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