

The Highland Council
Comhairle na Gàidhealtachd

Nigg Masterplan SEA Environmental Report
Aithisg Àrainneachdail Measadh Àrainneachd
Ro-innleachdail (MAR) Prìomh Phlana Neig

December 2009
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ABBREVIATIONS

Giorrachaidhean

AA:	Appropriate Assessment
BAP:	Biodiversity Action Plan
EIA:	Environmental Impact Assessment
FRA:	Flood Risk Assessment
GIS:	Geographical Information Systems
HAP:	Habitat Action Plan
HIE:	Highlands and Islands Enterprise
HS:	Historic Scotland
HSE:	Health and Safety Executive
KBR:	Kellogg Brown and Root
NPF2:	National Planning Framework 2
PED:	Planning Environment and Development Committee
PPS:	Plans, Programmes and Strategies
SAM:	Scheduled Ancient Monument
SAP:	Species Action Plan
SEA:	Strategic Environmental Assessment
SEPA:	Scottish Environment Protection Agency
SUDS:	Sustainable Urban Drainage Systems
SNH:	Scottish Natural Heritage
THC:	The Highland Council

Non Technical Summary

Geàrr-chunntas Neo-theicnigeach

Introduction

Ro-ràdh

The purpose of the Nigg Development Masterplan Environmental Report is to identify, assess, mitigate and monitor the likely significant effects the Masterplan may have on the environment and to allow the public and other stakeholders to comment or provide representations on the content and results.

Section 14(3) of the Act requires the Environmental Report to include the information specified in Schedule 3 of the Act and to take account of the following:

- a) current knowledge and methods of assessment of environmental matters;
- b) the contents of, and level of detail in, the Masterplan;
- c) the stage of the Master Plan in the decision-making process; and
- d) the extent to which any matters to which the report relates would be more appropriately assessed at different levels in that process in order to avoid duplication of the assessment.

As the Nigg Development Masterplan is a spatial land use plan, it falls within the scope of the SEA Act. Halcrow on behalf of The Highland Council (THC) has conducted a SEA, considering the proposed development options to help identify the most sustainable option and provide effective mitigation strategies to minimise and obviate significant potential environmental impacts identified through the SEA process.

Background to Nigg Development Masterplan

The purpose of the Development Masterplan for the oil terminal, former oil fabrication yard and surrounding land at Nigg is to outline a 'vision' and feasible options for the development of the site as a multi user industrial facility.

In shaping the site development, strategic options have been derived from both:

- Baseline information – site appraisal, policy and regulatory context; and
- Technical and Market Assessments

Consideration has been given to options to bring the site into use, ranging from a single user to a multi-user industrial facility. The site is considered in three parts: the oil terminal; the fabrication yard; and the proximal land to the east of the fabrication yard. The options are based on the market assessment for the next 15-20 years prepared by MacKay Consultants, as well as engineering information available at the time of writing

Two principle options have been proposed, which consider each of the three components of the Nigg site (oil terminal; fabrication yard; and proximal land to the east of the fabrication yard), both individually and collectively as a single unit:

- Option 1 – multi functional uses comprising oil and gas activities and renewables. This option diversifies the activities at Nigg whilst building on its oil and gas heritage and industry reputation and introduces a renewable energy mix.

- Option 2 – multi functional uses focusing upon the renewables sector (manufacture components, assembly and distribution). This option has a renewable energy sector focus with the majority of the site allocated for this activity.

The Nigg Development Masterplan is intended to inform and provide the rationale that underpins the requirement to pursue the Compulsory Purchase Order (CPO) procedure under consideration by The Highland Council to facilitate and enable the site to be brought back into economic use.

Approach to SEA

In accordance with SEA protocol a Scoping Report was submitted to the Consultation Authorities, Scottish Natural Heritage (SNH), Scottish Environment Protection Agency (SEPA) and Historic Scotland via the SEA Gateway on 19 December 2008. The Scoping Report informed the Consultation Authorities of the scope and level of detail in the Environmental Report. In accordance with Schedule 3 of the Act the following approach was taken

- Review of relevant plans, programmes and strategies
- Comprehensive review of the baseline environment data
- Identify environmental problems and issues

A SEA Scoping Workshop was hosted by The Highland Council on the 28th November 2008. The Scoping Workshop was convened to identify the most appropriate issues for consideration and to help focus the scope of the SEA. SEPA, SNH and Historic Scotland were in attendance. The range of baseline data available was examined with a view to scoping out those issues of least strategic significance.

During the scoping workshop it was agreed that soil and air should be scoped out of the detailed assessment. Following the response from the Consultation Authorities on the 28th January 2009 it was also agreed that Climatic Factors should be scoped out.

From this information a series of environmental objectives and criteria were determined for each of the relevant SEA topics. The objectives and criteria are presented in the table below:

SEA Topic	NPF2 High Level SEA Objectives	Masterplan SEA Objectives	Assessment Criteria (Does the Masterplan option...?)
Biodiversity, Flora and Fauna	Protects or enhances biodiversity, flora or fauna	Protect and enhance designated sites and species Prevent emissions that could impact upon local biodiversity (marine & terrestrial)	<ul style="list-style-type: none"> • Maintain and enhance biodiversity links/ connectivity through the site • Minimise impacts on management objectives for designated sites and species • Provide enhancement opportunities for local biodiversity
Water	Reduces water pollution or enhances water quality	Avoid flood risk by effectively identifying functional flood plain and providing appropriate mitigation.	<ul style="list-style-type: none"> • Ensure that no areas are at risk from flooding • Ensure effective mitigation measures are identified for any activities associated

SEA Topic	NPF2 High Level SEA Objectives	Masterplan SEA Objectives	Assessment Criteria (Does the Masterplan option...?)
		Reduce risks to water quality Minimise risks to high quality local aquatic environment	<ul style="list-style-type: none"> with dredging or site remediation • Ensure dry dock drainage is managed in consultation with SEPA and other concerned stakeholders • Reduce impacts on local surface and groundwater • Reduce impacts on coastal waters • Maximise efficient use of local waste water treatment
Material Assets	Promotes the development of a sustainable settlement pattern and physical infrastructure	Maximise use of brownfield sites Minimise wider impacts by recommending sustainable material sourcing/ procurement Promote effective re-use of on-site facilities	<ul style="list-style-type: none"> • Promote avoidance of technological lock-in to carbon intensive production and manufacture • Maximise opportunity for on-site renewable energy generation • Maximise consideration of site waste management potential • Maximise opportunity for specifying use of recycle • Maximise efficient use of material/ energy/ resources
	Encourages efficient use of land and resources		
Population & Human Health	Promotes human health	Maintain local populations through local employment opportunity	<ul style="list-style-type: none"> • Minimise potential long-term impacts on tranquillity • Minimise nuisance (dust/ noise) that could be detrimental to local human health • Minimise impacts on site neighbours • Maintain or enhance local ferry service • Maximise use of cycling routes • Minimise impacts of potential 24 hour operations
	Safeguards or enhances the living environments of people or communities	Maximise opportunities for training and life-long learning Maintain attractiveness of area for in-migration	
Landscape/ Cultural Heritage/ Historic Environment	Safeguards or enhances where appropriate the built environment	Avoid and prevent impacts on local historic features and their settings Maintain and where possible enhance local cultural identity	<ul style="list-style-type: none"> • Minimise impacts on local listed building features • Minimise impacts on local conservation areas
	Respects and protects the character, diversity and special qualities of Scotland's landscapes	Minimise impacts on local landscape quality/ capacity	

The Scoping Report proposal at the Environmental Report stage to assess the vision, aims, development principles and options was welcomed by the Consultation Authorities. However, as the Masterplan is intended to inform the CPO process, the vision and aims are not considered relevant for SEA assessment and revision. The SEA therefore focuses on the assessment of the compatibility of the Masterplan principles and objectives with the SEA objectives. The assessment has also taken into consideration cumulative, secondary/indirect and synergistic impacts.

Alternatives

The SEA process requires that the Environmental Report considers the reasonable alternatives to the Masterplan. Due to the site specific nature of the SEA the only alternative option to development of the Masterplan was to 'do nothing' and to rely on planning policies contained within the Development Plan and the existing permissions applicable to the site to guide development.

After considering the likely future of the site without the Masterplan and the environmental risks of this (see section 3.7) it was considered that developing the Nigg Masterplan as Supplementary Planning Guidance would ensure that the environmental risks would be effectively mitigated through development and would enable much needed strategic economic growth in the Nigg area.

Findings of Environmental Assessment

The summary below focuses on the key significant issues that have been highlighted in the assessment of both the development principles and options.

Development Principles

The majority of the development principles will have a neutral residual effect on the environmental objectives. This is primarily due to the general nature of the development principles which does not allow for a detailed assessment.

Positive effects have been highlighted where the framework proposes the reuse of existing infrastructure and buildings. This limits the impact on the local landscape character and biodiversity and the local water quality. Any capping of the site as a result of decommission works will also have a positive impact on biodiversity and water quality as this will seal in any contamination. In addition the development will encourage economic investment to the area. It is assumed that this will result in both short and long term employment opportunities in the local and wider regional levels.

Where negative effects have been highlighted, for example impacts on the biodiversity and water topics, they tend to be short term construction impacts which should be addressed by the proposed mitigation measures and result in overall residual positive and neutral effects.

The remaining negative effects are focused on development principles which promote additional berthing and increased deep water access and the development of the proximal land to the east. The negative impacts are considered to be reduced through mitigation measures but will still have a minor negative effect. The proposed mitigation measures focus on the requirement for EIA at the detailed design stage and construction/operational environmental management plans at the development stage.

Development Objectives

The two development options, oil and gas focus and renewable energy focus, were assessed by looking at the three separate areas of the development site;

- Oil terminal
- Nigg Yard
- Proximal land to the east

Oil Terminal

Masterplan options 1 and 2 have a similar impact on the SEA environmental objectives and criteria. It is considered that the residual effect on the Oil Terminal will be neutral. This is primarily due to the fact that there are still permitted activities at the Oil Terminal and there is currently no intention to change the use or increase the capacity. There will be a minor negative impact on Biodiversity and Water Quality as renewed use of the site and increased marine traffic will likely have an impact on these SEA objectives. However, providing current mitigation procedures continue to be followed the residual effect will be neutral. If there is future expansion beyond what is currently permitted then an EIA may be required, subject to the scale of development. Re-intensification of the site will have a positive effect on the local and regional economy providing potential employment opportunities.

Nigg Yard

Again the Masterplan options 1 and 2 have a similar impact on the SEA environmental objectives and criteria. The key issues are short term construction impacts and increased marine access to the site. This resulted in a minor negative impact on biodiversity, flora and fauna and water. This can be mitigated through EIA and construction environmental management plans/ operation environmental management plans. The key positive impact is the re-use of the existing infrastructure and buildings and increased employment opportunities in both the oil and gas industry and renewables industry. It is considered that subject to mitigation measures being followed the residual effect will be neutral.

Proximal Land to the East

It is considered the development of the land to the east will have a residual minor negative effect. The key issue is the fact that site is currently greenfield. It should be noted that, however the land is designated for industrial use in the Development Plan. Despite this there will still be a negative impact on the biodiversity water objectives. This is primarily due to short term construction impacts. There is also proposed marine access to the site which may have a negative impact upon local marine habitats. The negative impact on biodiversity and water can be mitigated through an EIA and construction/operation environmental management plans. There will be a positive effect on population as development will encourage inward investment and the increased capacity for development at Nigg is likely to have benefits to the local and wider economy and society.

Mitigation Measures

Throughout the assessment of each of the Masterplan options mitigation measures have been suggested in the matrices to offset likely significant adverse impacts. This can be found in the detailed assessment matrices and summaries in sections 5.5 and 5.6.

It should be noted that at this Strategic level only general mitigation measures can be proposed as the individual components of the Masterplan are still under development.

Project level specific mitigation will need to be developed and implemented when development design progresses. Section 6 provides guidance on strategic level mitigation and further studies/assessment that could be required at project level

Monitoring

The Development Masterplan, once adopted as Supplementary Guidance, will inform the future development of the site and provide parameters for subsequent planning applications. Monitoring will primarily be carried out through the development management process whereby the Council will be responsible for ensuring that the environmental risks and mitigations measures highlighted in the Environmental Report are communicated to the developers.

It will then be the responsibility of the developers to take cognisance of these risks and mitigation measures in the detailed applications. Section 6 of the Environmental Report provides a draft list of potential indicators that could be used by the developer to ensure the appropriate monitoring is put in place during the construction and operation phases

Next Steps

The assessment results within this report will be used to make a decision on the approach for the Masterplan which along with the Environmental Report, will be subject to public consultation for a period of six weeks. All comments and representations will be considered before finalising the Masterplan and Environmental Report. Currently the intention is to develop and promote both options to maintain flexibility in developing the site as a multi-user facility.

The table below lists future milestones in the development of the Nigg Development Masterplan and its SEA, and the dates when these are expected to be completed.

Expected date	Milestone
Summer 2009	Publication of the Draft Nigg Development Masterplan and Environmental Report. This will be subject to public consultation for a period of six weeks
Autumn 2009	Preparation of the Final Nigg Development Masterplan, the Environmental Report and the Post Adoption/SEA Statement. Develop comprehensive monitoring framework
Autumn 2009	Nigg Development Masterplan, Environmental Report and the Post Adoption and SEA Statement to be presented to THC Committee for approval
Winter 2009	Adoption of Nigg Development Masterplan as Supplementary Planning Guidance along with Environmental Report and publication of the Post Adoption Statement/SEA statement.

Comments on the Environmental Report may be addressed to:

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1 Introduction

Ro-ràdh

1.1 Background

Cùl-fhiosrachadh

The requirement to undertake Strategic Environmental Assessment (SEA) is established by European Directive 2001/42/EC, 'the Assessment of the Effects of Certain Plans and Programmes on the Environment' (the SEA Directive). SEA provides plan-making authorities with the ability to incorporate environmental considerations into decision-making at an early stage and in an integrated, transparent and documented manner.

The overall objective of SEA is to:

'Provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development' (Article 1 of the SEA Directive).

In Scotland, the 'Environmental Assessment (Scotland) Act 2005' (the SEA Act) provides the legislative mechanism for transposing the Directive into Scottish legislation. Scottish Government Ministers envisage Scotland as a world leader in SEA provision and, as such, Section 1 of the Act sets out the primary requirement, which is to secure the completion of an environmental assessment during the preparation of a qualifying plan or programme. The explanatory notes to the Act state,

*"Through the Act the aim is to improve protection of the environment, to improve public decision making and ...to legislate to introduce Strategic Environmental Assessment across the range of **all** new strategies, plans and programmes developed by the public sector in Scotland".*

As the Nigg Development Masterplan is a spatial land use plan, it falls within the scope of the SEA Act. Halcrow on behalf of the Highland Council has conducted a SEA, considering the proposed development options to help identify the most sustainable option with effective mitigation strategies to minimise and obviate significant potential environmental impacts identified through the SEA process.

A scoping report was prepared and submitted to the statutory consultation authorities on the 23 December 2008. This informed the Consultation Authorities on the scope and level of detail to be contained in the Environmental Report.

The Statutory Consultation authorities are:

- The Scottish Government who have delegated their responsibilities to Historic Scotland;
- Scottish Natural Heritage; and
- The Scottish Environment Protection Agency

The Consultation Authorities responded with their views on the 28 January 2008. These responses have been summarised along with the Highland Council's response and are provided for reference in Appendix C.

1.2 Purpose of this Environmental Report and key facts about the Master Plan **Adhbhar na h-Aithisg Àrainneachdail seo is prìomh fhiosrachadh mun Phrìomh Phlana**

As part of the preparation of the Nigg Development Masterplan, the Highland Council is carrying out a Strategic Environmental Assessment (SEA). SEA is a systematic method for considering the likely environmental effects of plans, programmes and strategies. SEA aims to:

- Integrate environmental factors into the plan preparation and decision-making;
- Improve the plan and further environmental protection;
- Increase public participation in decision making; and
- Facilitate openness and transparency on decision-making.

The key SEA stages include:

Stage	Summary	Timescale
Screening	Determining whether the Masterplan is likely to have significant environmental effects and whether an SEA is required	Carried out by The Highland Council on 19 May 2009 The Consultation Authorities recommended a SEA will be required
Scoping	Deciding on the scope and level of detail of the Environmental Report, and the consultation period for the report – this is done in consultation with Scottish Natural Heritage, Historic Scotland and the Scottish Environment Protection Agency	A scoping workshop was held on the 28 November 2008 The Scoping report was submitted 19 th December 2008 Responses received from Consultation Authorities 28 January 2009
Environmental Report	Publishing an Environmental Report which outlines the environmental analysis undertaken for the Masterplan and its environmental effects, and consulting on that report	Draft Report to be submitted to committee 20 th May 2009
Adoption and SEA Statement	Providing information on: the adopted Masterplan; how consultation comments have been taken into account; and methods for monitoring the significant environmental effects of the implementation of the Masterplan	Will follow consultation and adoption stage
Monitoring	Monitoring significant environmental effects in such a manner so as to also enable the Responsible Authority to identify any unforeseen adverse effects at an early stage and undertake appropriate remedial action	To be undertaken by The Highland Council

The purpose of this Environmental Report is to:

- provide information on the Nigg Development Masterplan
- identify, describe and evaluate the likely significant effects of the Masterplan and its reasonable alternatives;
- provide an early and effective opportunity for the Consultation Authorities and the public to offer views on any aspect of this Environmental Report.

The key facts relating to the Nigg Masterplan are set out in Table 1 below. This is based on the draft Masterplan which has been publicly available by THC via its website. (www.highland.gov.uk)

Table 1: Key Facts
Clàr 1: Prìomh Fhiosrachadh

Responsible Authority	The Highland Council (THC)
Plan Title	Nigg Development Masterplan
Plan Subject	A development Masterplan for a brownfield industrial site.
Period covered by PPS	15-20 Years
Frequency of updates	The Masterplan is expected to be adopted as Supplementary Planning Guidance and it is not anticipated that the Masterplan will be updated unless THC determines that any future planning/ design guidance warrants an amendment.
Area covered by the Plan	The Development Masterplan applies to the former oil fabrication yard, oil terminal and surrounding land to the east at Nigg Point
Summary of content/ Nature of the Plan	The Development Masterplan sets the criteria for any future detailed planning applications which are likely to be submitted to THC. The Development Masterplan is being developed to outline a 'vision' and feasible options for the development of the former oil fabrication yard site as a multi-user industrial facility. It will include a market appraisal, technical appraisal and optioneering exercises. The Highland Council intend to consult on the Masterplan options to identify a preferred option for development, before adoption as Supplementary Planning Guidance.
Contact points	Geoff Robson The Highland Council Head of Environment and Development Tel: 01463 762 252 geoff.robson@highland.gov.uk Stefano Smith, Halcrow, SEA Project Manager Tel: 0131 272 3300 smithsb@halcrow.com

1.3 Public and Stakeholder Consultation

Co-chomhairle Phoblach is Luchd-ùidh

A public consultation event was held at Victoria Park, Ross County Football Ground (Ross Suite), Dingwall on Tuesday 27 May 2008. This facilitated workshop event was aligned with the project team's completion of the baseline

study which examined the development context and current situation of the study area. Key findings were presented to an invited audience and critical issues were discussed in facilitated workshops to ensure all baseline aspects had been examined.

Workshops were on four key themes:

- market sectors;
- buildings, infrastructure & accessibility;
- environment; and
- socio-economic factors

The consultation event also provided the opportunity for the expectations and aspirations of the community to be discussed openly in order to ensure the final Masterplan responded to them appropriately.

Following the consultation comments informed the initial draft Masterplan which was issued for public and stakeholder consultation on 1 December 2008 for a 12 week consultation period. The Masterplan was available at Service Points at Alness, Dingwall, Dornoch, Fortrose, Invergordon, Muir of Ord, and Tain, libraries at Alness, Cromarty, Dingwall, Fortrose, Invergordon and Tain and post offices at Avoch, Balintore, Culbokie, Dingwall, Evanton, Fortrose, Munloch and Poyntzfield as well as Council planning offices at Glenurquhart Road, Inverness; Dingwall, and Drummuie, Golspie.

All community council's in the affected wards received copies of the plan with covering letters advising that officers would be pleased to attend their meetings to explain the Masterplan. The document was also available on-line to read or download to print from the Council's website.

It should be noted that SEA screening and scoping was underway during this period.

Following the consultation period a total of 23 responses were received. These were summarised and analysed individually and the council provided responses outlining any proposed changes to the Masterplan. This was presented at the Council's Planning Environment and Development (PED) Committee on the 18 March 2009.

An appropriate period for further public consultation on the Development Masterplan, and the Environmental Report is proposed prior to the adoption of the plan. Further details of the next stage for the development framework following publication of this Environmental Report can be found in section 7.

1.4 Structure of the Environmental Report **Structar na h-Aithisg Àrainneachdail**

Section 14(3) of the Act requires the Environmental Report to include the information specified in Schedule 3 of the Act and to take account of the following:

- a) current knowledge and methods of assessment of environmental matters;
- b) the contents of, and level of detail in, the Masterplan;
- c) the stage of the Masterplan in the decision-making process; and
- d) the extent to which any matters to which the report relates would be more appropriately assessed at different levels in that process in order to avoid duplication of the assessment.

This SEA was undertaken in line with Scottish Government SEA toolkit. The Environmental Report is structured as follows:

- Section 2 Context of the Nigg Development Masterplan - sets out the context for the Masterplan including a review of the strategic context of the Development framework, an outline of the environmental baseline and analysis of relevant problems and opportunities in the Nigg site and surrounding area which have informed the appraisal framework and objectives of this SEA
- Section 3 Scoping - provides a summary of the scoping report
- Section 4 Assessment of Environmental Effects - presents the results of the environmental assessment, reviews alternatives to the Development Masterplan
- Section 5 Mitigation - presents proposal for mitigation of any significant environmental effects reported
- Section 6 Monitoring - presents approach to monitoring the environmental effects of the Development Masterplan
- Section 7 Next Steps - proposes the next steps following the issue of the Environmental Report

The detailed appraisals are contained within the following appendices:

Appendix A: Lists of Strategies, Plans and Programmes Reviewed

Appendix B: Environmental Baseline

Appendix C: Detailed Assessment Matrices for Development Principles

Appendix D: Detailed Assessment Matrices for Options

Appendix E: Council Response to Consultee Comments

2 Context of the Nigg Development Masterplan **Co-theacsa Prìomh Phlana Leasachadh Neig**

2.1 Introduction **Ro-ràdh**

Schedule 3 of the Environmental Assessment (Scotland) Act 2005 requires that the Environmental Report includes “*an outline of the contents and main objectives of the plan or programme*”. The purpose of this section is to explain the nature, contents, objectives and timescale of the Nigg Development Masterplan.

2.2 Outline and objectives of Masterplan **Geàrr-chunntas is mion-amasan a' Phrìomh Phlana**

The aim of the Nigg Development Masterplan is to maximise the site’s strategic development potential and employment opportunities over the next 15 to 20 years. The Nigg yard has been substantially vacant for the past five years and Masterplan looks at unlocking the development potential of the oil fabrication yard, oil terminal and surrounding land at Nigg.

The Nigg Development Masterplan is intended to inform and provide the rationale that underpins the requirement to pursue Compulsory Purchase Order (CPO) procedures under consideration by The Highland Council to facilitate and enable the site to be brought back into economic use. Section 189 of the Town and Country Planning (Scotland) Act 1997 (the Act) authorises a local authority to acquire compulsorily any land (including buildings) which:

- Is suitable for and required in order to secure the carrying out of development, redevelopment or improvement;
- Is required for a purpose which is necessary to achieve in the interests of proper planning of an area.

The four procedural phases of CPO are:

Phase 1	Consideration
Phase 2	Publication of Intention
Phase 3	Evaluation
Phase 4	Promotion of CPO and Back to Back Agreement

The current CPO stage is Phase 1 (Consideration). Before progressing to Phase 2 (Publication) the Nigg Development Masterplan is to be available, as this would outline to prospective developers what the planning authority would expect from them.

In determining whether CPO powers may be necessary (Phase 1- Consideration) regard will be had to:

- The condition of the land
- The current use of the land
- The current ownership of the land
- The development plan and other relevant Council policies
- Any other material considerations

The Nigg Development Masterplan considers each of the above matters to inform and provide the rationale for The Highland Council in determining whether CPO powers may be necessary.

The focus of the Nigg Development Masterplan will be on the Nigg complex and the proximal sites identified as industrial allocations within the adopted Ross & Cromarty East Local Plan. This Plan builds upon the “*Review of Ports and Sites in the Inner Moray Firth*” previously prepared by Halcrow in 2004, and approved as supplementary planning guidance to the development plan by The Highland Council in June 2006.

The current consultation version of the Nigg Development Masterplan outlines two possible options to bring the site back into productive industrial use. The content of the preliminary consultation draft of Masterplan options includes:

- **Policy and Regulatory Context** –national, strategic and local policy and regulatory framework relevant to the Nigg site.
- **Market Review** - a synopsis of the market assessment undertaken by Mackay Consultants.
- **Technical Assessment** –detailed technical and feasibility issues relating to infrastructure and service provision on the site, as well as the planning history and an outline of CPO procedures.
- **Strategic Framework & Options** – this section contains the development principles upon which the Development Masterplan is based following a consultation workshop. Consideration is given to the options to bring the site into potential use as a multi-user industrial facility. There are two options currently proposed:
 - Option 1 – multi functional uses comprising oil and gas activities and renewables. This option diversifies the activities at Nigg whilst building on its oil and gas heritage and industry reputation and introduces a renewable energy mix.
 - Option 2 – multi functional uses focusing upon the renewables sector (manufacture components, assembly and distribution). This option has a renewable energy sector focus with the majority of the site allocated for this activity.
- **Way Forward** – provides the key findings and next steps in the Masterplan process.

2.3 Relationship with other Plans, Programmes and Strategies and environmental objectives

Dàimh le Planaichean, Prògraman is Ro-innleachdan eile le mion-amasan àrainneachdail

Schedule 3 of the Environmental Assessment (Scotland) Act 2005 requires that the Environmental Report (ER) includes consideration of the Masterplan relationships with other relevant PPS, and how environmental protection objectives have been taken into account in the Masterplan preparation. This section covers these issues and describes the policy context within which the Masterplan operates.

Hierarchy of plans, programmes and strategies

The Nigg Development Masterplan sits within a hierarchy of Plans, Programmes and strategies (PPS). Please see Figure 1 for the relationship between the Nigg Development Masterplan and other PPS.

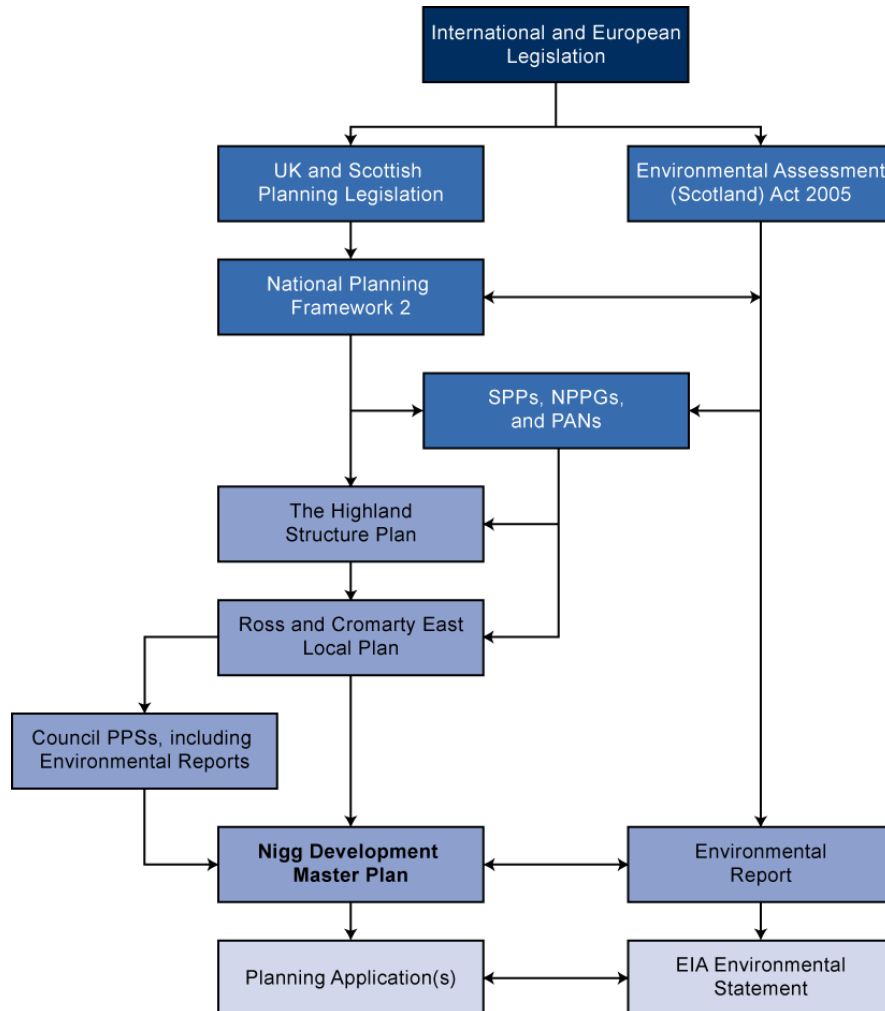


Figure 1: Relationship between the Nigg Development Masterplan and other Plans, Programmes and Strategies

Figear 1: Dàimh eadar Prìomh Phlana Leasachadh Neig agus Planaichean, Prògraman is Ro-innleachdan eile

Analysis of plans, programmes and strategies

A range of plans, programmes and strategies (PPS) have been reviewed to provide a context for the SEA at an international, regional and local level. A detailed review can be found within Appendix A

Key points arising from the analysis:

1. The Nigg site is recognised as an industrial brownfield site of national importance in the second National Planning Framework (NPF2) proposed framework.
2. Protect and enhance areas of special conservation.
3. Take account of targets for reducing CO2 emissions.

4. Protect mechanisms to minimise the risk of pollution and damage to surface and ground waters through careful decommissioning and construction of new development.
5. Reduce the amount of waste produced.
6. Recognise the statutory importance of protected sites and strive to ensure they are adequately protected.
7. Ensure that valuable habitats are protected and enhanced where possible.
8. Recommend appropriate measures to avoid deterioration of these habitats and avoid disturbance of scheduled, scarce or rare species.
9. Consider incorporation of micro-regeneration and energy efficiency measures into the principles.
10. Consider impact on air quality.
11. Facilitate economic growth which will benefit the surrounding communities.
12. Consider the production of renewable energy as a use on site.
13. Protection and enhancement of Scottish historic environment including archaeological features within and surrounding the site.
14. Consider impact of developing on contaminated land.
15. Promote Sustainable Urban Drainage Systems (SUDS).
16. Avoid any negative impact on the surrounding historical sites including a Scheduled Ancient Monument and Listed Buildings.
17. Sustainable transport options as a means of accessing the site.

From the review of the plans programmes and strategies a series of objectives were identified and carried forward in the process of establishing a complete set of objectives of the SEA.

2.4 Supporting Assessments

A' Toirt Taic do Mheasaidhean

Due to the sensitive nature of the surrounding area of the site and on advice from the Consultation Authorities at the Scoping Workshop an Appropriate Assessment Screening and Flood Risk Assessment were undertaken to inform the Masterplan. These assessments were carried out by Halcrow and have been submitted to The Highland Council.

Appropriate Assessment (AA)

An Appropriate Assessment is required where any plan, alone or 'in combination' with other plans, could have an adverse affect on the integrity of the Natura 2000 sites and is considered under the Habitat Regulations Act. The international sites considered in the screening were

- Cromarty Firth Special Protection Area (SPA)
- Cromarty Firth Ramsar
- Moray Firth Special Area of Conservation (SAC)

The key findings of the screening report were that both options for development of the Nigg Site, oil and gas focus with renewables secondary and renewable energy focus could potentially impact on all three international nature conservation designations. Identified impacts would include construction noise and vibration disturbance and vessel disturbance to Cromarty Firth's qualifying bird species and the Moray Firth SAC bottlenose dolphins. Direct or indirect chemical and hydrocarbon pollution is also identified as impact of site re-intensification.

Due to the location of both the Cromarty Firth sites and the Moray Firth SAC directly adjacent to the Nigg Site and the sensitive nature of designated habitats and species to the threats identified in this report, the AA considered it important to rule out potential harmful impacts at an early stage of the Masterplan development.

The AA highlighted that if the identified risks associated with potentially harmful activities such as dredging and increased ship-to-ship oil transfer could be avoided or minimised at the next stage of Masterplan development, then this will aid the prevention of adverse impacts on the international sites at a later stage. Regarding Ship to Ship transfers it is important to note the activity currently takes place under a consented framework and the Masterplan will not impact upon this activity.

The AA screening suggests that dredging activity could have a 'Likely Significant Effect' it could be necessary to undertake further work to comply with the Conservation (Natural Habitats & C. Amendment (Scotland) Regulations 2007). The Screening report has been submitted to SNH for further consultation which will advise future development of the Masterplan.

Flood Risk Assessment (FRA)

As a result of consultation with SEPA for the SEA, a site-specific FRA was requested so that the impacts of the proposed development maybe properly evaluated.

The FRA specified the site is not at significant risk during the 25 year life of the development. The recommended minimum formation level is +3.58OD, based on a 1:50-year water level design even in 2035. The site generally lies at 3.75 OD and above and thus it was concluded the site will not be under significant flood risk before 2035, to the end of its expected life. Even for events greater than the design event at higher sea levels in the future where the site could flood, the site does not contribute any significant storage and thus attenuating capacity, and so it is concluded that any raising of the site level would not increase flood risk elsewhere. No flood mitigation works were therefore recommended.

2.5 Baseline Issues

Cùisean Bunaiteach

Background and Approach

Part 2 of Schedule 3 (in relation to Section 14) of the Environmental Assessment (Scotland) Act 2005 establishes that Environmental Reports should record "*the relevant aspects of the current state of the environment and the likely evolution thereof without the implementation of the plan or programme.*" This section summarises the key environmental issues which have been identified from a review of the baseline data, plans, programmes and strategies and the responses from the consultation authorities.

Available Baseline data was collated and identified during the scoping stage and a detailed report can be found in Appendix B. The Baseline data has been updated from that presented in the Scoping Report to include additions suggested during the scoping consultation.

Appropriate baseline information is important to allow consideration of a Base Case and "Business as Usual Option" which considers the existing site uses and currently permitted activities and planning permissions.

Information regarding the site was obtained from a range of sources including:

- The Royal Society for the Protection of Birds (RSPB)
- The Multi-Agency Geographic Information for the Countryside (MAGIC)
- UK Biodiversity Partnership UK Biodiversity Action Plan
- Scottish Natural Heritage Site Link and SNH website
- SEPA Water Quality Classification Interactive Map
- SEPA Indicative Flood Maps
- SNH designations management plan
- Ordnance Survey, Dornoch and Tain, Alness and Invergordon, Explorer Map, Sheet 438, 1:25,000 scale
- The Joint Nature Conservation Committee website (<http://www.jncc.gov.uk/> page-2)
- The Royal Commission on the Ancient and Historical Monuments of Scotland (Pastmap website)
- The National Biodiversity Network (NBN) Gateway
- Ross and Cromarty East Local Biodiversity Action Plan
- The Highland Council, Ross and Cromarty East Local Plan – Adopted February 2007
- <http://www.niggyard.com>
- SNIFFER Handbook of Climate Trends across Scotland
- Cromarty Firth Data Set

In addition to the above, local knowledge from Halcrow's Inverness-based staff was utilised, as were a series of publicly available GIS datasets from various government departments, and an information pack provided by HIE, which provided background information on the current and past usage of the site.

Location of the Site

The Nigg site is located in the north of Scotland at Nigg Point on the south-west coast of the Fearn Peninsula, approximately 61 kilometres (km) from Inverness. It is accessed by the B9175, which bisects the Nigg site, and joins the A9 approximately 6 km to the north. The nearest serving railway station is at Fearn which is approximately 9.5 km from the site (see

Figure 2 below).

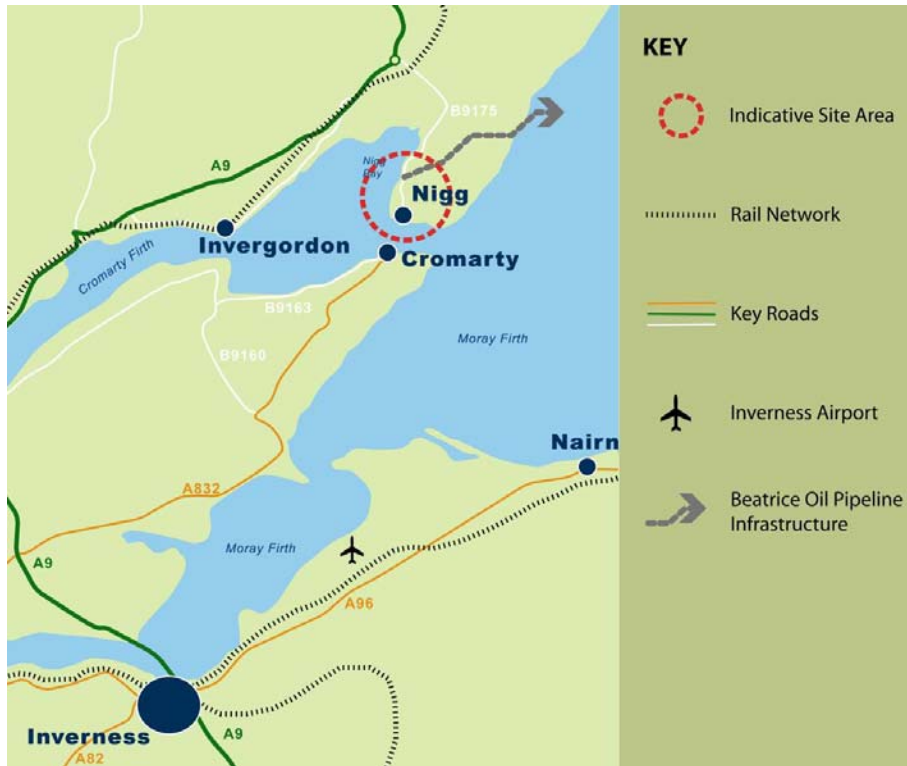


Figure 2: Location of Nigg within Inner Moray Firth
Figear 2: Suidheachadh Neig ann an Linne Mhoireibh A-staigh

Land Ownership

Occupied land is primarily under Kellogg Brown and Root (KBR) ownership with the exception of the southernmost parcel of reclaimed land owned by the Wakelyn Trust. The majority of the land to the east of B9175 is owned by Dow Chemical/Cromarty Petroleum. The remaining land is under mixed ownership.

Summary of Key Issues

With regard to Biodiversity, Flora and Fauna:

- The study area boundary, extending to the Mean High Water Springs (MHWS), is situated partly within the Cromarty Firth which is a European Protected Special Protection Area (SPA), an internationally recognised Ramsar Site and a Site of Special Scientific Interest (SSSI) under UK legislation. This boundary is also adjacent to the Moray Firth Special Area of Conservation (SAC).
- The extent of proposed development is situated adjacent to SEPA-designated Shoreline Water at Cromarty Firth as well as a Semi-Natural and Ancient Woodland designation.
- There are other non-statutory designations nearby, namely an Important Area for Birds and National Nature Reserve.
- There are known potential pollutant linkages to these ecologically sensitive areas as a result of historic industrial activity and known pollution events on site.

With regard to Climate Factors:

- Climate induced sea level rise will increase the existing risk of flooding on site. This further increases the risk of contamination through pollutant linkages identified as a result of historic industrial activity and known pollution events on site.
- This topic was scoped out following consultation with SHN, SEPA and Historic Scotland.

With regard to Water:

- The extent of proposed development adjacent to the Cromarty Firth estuary, which SEPA has classified as Grade A – Excellent – in their estuarine classification system.
- There are at least two small unnamed watercourses running within 1km of the extent of proposed development.
- Coastline adjacent to extent of proposed development to the south east is designated by SEPA as a “Shoreline Water” as its foreshores are commonly used by the public.
- Coastal water around Cromarty (850 m south of the extent of proposed development) is designated by SEPA as “Recreational Water” due to the frequency of human contact with the water for recreational and leisure purposes.
- Groundwater in and around the site generally flows to the south west / west and experiences tidal influence extending 50 – 80 metres into the site from the sea and dock. Saline waters are present in around $\frac{3}{4}$ of the site.
- Inorganic contaminants and organic compounds, including petroleum hydrocarbons, are present in groundwater within the industrial areas. In general, these contaminants are fairly evenly distributed across the site, with elevated concentrations near the paint/blast shop to the north of the dock and to the west of the yard area. This contamination has been linked to historic industrial activity and known pollution events on site.
- Present site operators hold various licenses with SEPA to discharge trade and sewerage effluent into Nigg Bay.
- SEPA’s indicative flood maps show that the Nigg site is at significant risk of coastal flooding . Apart from existing boulder foundations there are currently no specific flood defences in place.

With regard to Soil:

- Inorganic contaminants and organic compounds, including petroleum hydrocarbons, are present in soils within the industrial areas. In general, these contaminants are fairly evenly distributed across the site, with elevated concentrations near the paint/blast shop to the north of the dock and to the west of the yard area. This contamination has been linked to historic industrial activity and known pollution events on site.

- This topic was scoped out following consultation with SHN, SEPA and Historic Scotland.

With regard to Material Assets:

- Foul water drainage is currently serviced primarily by on-site pumping stations flowing to on-site treatment plant comprising three units capable of serving a population of between 1200 and 1500 people. This is currently under private ownership.
- The industrial land is well accessed from the B9175, however there may be challenges to ensuring the proximal land to the east can be safely accessed by potentially very large vehicles transporting very heavy large loads and obstructing the road.
- The Cromarty Firth is a busy waterway, providing passage for vessels from the North Sea to active ports in the area. Access to the sea from the industrial areas is currently available via the dry dock (KBR operated) and jetty (Ithaca operated). There is scope to increase the level of sea access via KBR and Dow Chemical owned land.

With regard to Air Quality and Noise:

- There are no key issues in relation to Air Quality.
- The site is known to be a source of noise related to industrial operations and activities as well as road and marine traffic. Key receptors include residential dwellings and settlements and ecologically sensitive areas.
- This topic was scoped out following consultation with SHN, SEPA and Historic Scotland.

With regard to Population and Human Health:

- An existing oil- and gas-related skills base remains in the local area, linked to previous operations at Nigg. Current employment at the Nigg Oil Terminal and Nigg Yard comprises approximately 150 FTE. There are currently limited local employment opportunities in Easter Ross relative to the wider local authority area as evidenced by benefits claimant count.
- There is an existing pollutant linkage to human health as a result of historic industrial activities and contamination events on site. This risk is primarily limited to site workers or visitors.
- The Health and Safety Executive (HSE) state that the Oil Terminal is a major hazard site which has an overall consultation distance (CD) of 1000 metres. At the present time there is no 3-zone map for this site. HSE would need to review the CD in time, which may be reduced in overall size. Proposed redevelopment should not conflict with the Oil Terminal according to HSE.

With regard to Landscape/Cultural Heritage:

- The Nigg Hills to the east of the site are designated as an Area of Great Landscape Value by the Ross and Cromarty East Local Plan.

- The extent of proposed development contains 19 sites of archaeological interest. It is also adjacent to two Listed Buildings and is in close proximity to a Scheduled Ancient Monument.

Data Gaps

The following data gaps were identified:

- No known information held regarding semi-natural and ancient woodland designated area.
- Limited information held regarding National Nature Reserve; SNH are currently reviewing this designation.
- No known information held regarding watercourses within or in proximity to site; these are not classified by SEPA.
- No known information held regarding soils composition or potential contamination for proximal land to east therefore agricultural nature assumes Greenfield. No site-specific data for climatic factors.
- No site-specific noise data.
- No site-specific emissions data.
- No site-specific light pollution data.

The implications of the identified data gaps are not considered detrimental to the SEA process. Wherever possible, information regarding designated areas has been inferred from general management information or national databases. Routes to acquiring site-specific information are considered in the Environmental Report.

2.6 Existing environmental problems and issues

Duilgheadasan is cùisean àrainneachdail a tha ann mar-thà

Schedule 3 paragraph 4 of the Environmental Assessment (Scotland) Act 2005 requires that the Environmental Report includes a description of existing environmental problems, in particular those relating to any areas of particular environmental importance. The purpose of this section is to explain how existing environmental problems will affect or be affected by the Nigg Development Masterplan and whether the Masterplan is likely to aggravate, reduce or otherwise affect existing environmental problems.

Environmental problems were identified through discussions with Historic Scotland (HS), Scottish Natural Heritage (SNH), Scottish Environmental Protection Agency (SEPA) and an analysis of the baseline data. Relevant environmental problems are summarised in Table 2.

Table 2: Environmental problems relevant to Nigg Development Masterplan
Clàr 2: Duilgheadasan Àrainneachdail a' buntainn ri Prìomh Phlana
Leasachadh Neig

Problem	Supporting Data	Implication
Designated sites of ecological value in proximity to proposed development.	SNH	Impacts upon internationally designated sites assessed through Appropriate Assessment. Impacts to other designated sites to be assessed at EIA level.
Protected species in immediate area.	Environmental designations / management plans HAPs, SAPs, BAPs	
Flood Risk (coastal and active flood plain).	SEPA Flood Maps; Climate Change indicators	According to SEPA flood maps a large portion of the site is subject to 1:200 flood risk and therefore precluded from new development under SPP7. A Flood Risk Assessment has been undertaken and has determined that the site will not be under significant flood risk within the 25 year design life of the Master Plan.
Existing groundwater contamination on site.	Groundwater investigations undertaken on behalf of KBR 2005.	Presence of inorganic materials and organic compounds including petroleum hydrocarbons poses pollutant risk to human health and ecologically sensitive areas. Mitigation strategy required prior to redevelopment.
Existing soils contamination on site.	Ground investigations undertaken on behalf of KBR 2005.	Presence of inorganic materials and organic compounds including petroleum hydrocarbons poses pollutant risk to human health and ecologically sensitive areas. Mitigation strategy required prior to redevelopment.

Problem	Supporting Data	Implication
Limited socio-economic opportunities present in sub region	Benefits claimant count for Easter Ross as cited in Congentsi (2008) Inverness and East Highland Social and Economic Audit and Atlas	Limited inward investment from private sector; increasing dependency on state to support local residents and community facilities.
Sites of cultural significance in proximity to proposed development (2 Listed Buildings and 1 Scheduled Ancient Monument).	Pastmap	Impacts to setting of Listed Buildings and Scheduled Ancient Monument to be assessed at EIA level.
Sites of archaeological importance within extent of proposed development (National Monuments and Scottish Sites and Monuments).	Pastmap	
No information regarding existing water courses on or near site.		Potential impact to quality and flow rate of existing water courses to be assessed at EIA level.
No information regarding soils composition or potential contamination for proximal land to the east.		Ground investigations and potential mitigation strategy required at EIA level.
No site-specific noise data.		The site is known to be a source of noise related to industrial operations and activities as well as road and marine traffic. Key receptors include residential dwellings and settlements and ecologically sensitive areas. Potential impact of increased site activity to be assessed at EIA level.
No site-specific emissions data.		Potential impact of increased site activity to be assessed at EIA level.
No site-specific light pollution data.		Potential impact of increased site activity to be assessed at EIA level.
No site-specific climatic emissions data.		Potential impact of increased site activity to be assessed at EIA level

2.7 Likely future of the area without the Nigg Development Masterplan **Na tha buailteach tachairt san sgìre san àm ri teachd às aonais Prìomh Phlana Leasachadh Neig**

The SEA process requires consideration of the future implications of the site if left as 'business as usual'. If the Nigg Development Masterplan was not introduced/implemented all decisions would be taken in accordance with the policies included in The Highland Structure Plan 2001 - 2011 and Ross and Cromarty East Local Plan (2007). The current permitted activities and planning permissions would remain active.

The Masterplan is being used to assist in potentially unlocking the site for development. The intention is the Masterplan will inform and provide the rationale for the Compulsory Purchase Order (CPO) procedure.

It is considered that in the absence of the Masterplan, the following could occur:

1. The yard will remain substantially vacant
2. Lost potential to the area
3. Limited socio-economic benefits to the region/sub region
4. Continued deterioration of the existing infrastructure
5. Continued loss/dispersal of surrounding communities
6. Deterioration of local community facilities
7. Continued industrial use presents pollution risks to local designated sites
8. Stagnant dry dock presents pollution risk to marine environment
9. Continued presence of contaminants on site presents risk, especially during flooding
10. Minimal risk to local heritage features
11. Minimal noise/emissions to local community

In the absence of the Development Masterplan it is likely that environmental risks will not be addressed effectively and that the introduction of a Development Masterplan should ensure that these risks are mitigated through development.

3 Scoping Sgrùdadh Raoin

3.1 Introduction Ro-ràdh

The purpose of the Scoping Report is to provide sufficient information on the Nigg Development Masterplan, and the proposed SEA assessment methodology, to enable the Consultation Authorities (CA) to form a view on the scope for assessment and the level of detail to be included in the SEA Environmental Report (ER).

A SEA Scoping Workshop was hosted by The Highland Council on the 28th November 2008. The Scoping Workshop was convened to identify the most appropriate issues for consideration and to help focus the scope of the SEA. SEPA, SNH and Historic Scotland were in attendance. The range of baseline data available was examined with a view to scoping out those issues of least strategic significance.

During the scoping workshop it was agreed that soil and air should be scoped out of the detailed assessment. Following the response from the Consultation Authorities on the 28th January 2009 it was also agreed that Climatic Factors should be scoped out.

The Scoping Report was prepared in accordance with:

- the European SEA Directive (2001/42/EC);
- national SEA Regulations (the 2005 Act) as noted above;
- Office of the Deputy Prime Minister (ODPM, now DCLG) Guidelines (2005);
- Scottish Executive SEA Gateway SEA Templates (2005), and
- current best practice.

3.2 Justification for items scoped in and out for the Assessment Process Ùghdarras math airson nithean a thathar a' toirt a-mach is a-steach airson a' Phròiseis Mheasaidh

Table 3 below summarises the results of the initial appraisal and consultation with SNH, SEPA and Historic Scotland and the scope for the more detailed assessment for the SEA.

Table 3: Results of Scoping Consultation
Clàr 3: Toraidhean na Co-chomhairle Sgrùdadh Raoin

SEA Topics	Scoped in/ out	Justification
Biodiversity, Flora, Fauna	IN	There are a number of designated sites in and around the site. Development has the potential to reduce the quality of the internationally designated habitats. Flood Risk and changes in water quality may impact upon designated sites This is considered to be the most strategically significant issue for SEA consideration.

SEA Topics	Scoped in/ out	Justification
Water	IN	Flood maps show significant risk of flooding over a large proportion of the site. There are also risks associated with increased dredging activity to allow for increased access to the sea from the site This is considered to be a strategically significant issue for SEA consideration.
Climatic Factors	OUT	This has been scoped out on the recommendation of the Consultation Authorities. SEPA did not consider that the proposals are likely to have strategically significant effects upon climate change. HS and SNH agreed with this response.
Material Assets	IN	New development on site will require strategic drainage infrastructure to tie into Water Treatment Works. Potential to consider other energy/ waste infrastructure in developing options. This is considered a strategically important issue as designs made on design infrastructure recommendations will effectively be tied into the lifetime of the Masterplan – technological lock-in is a key strategic issue where enhancement can be considered.
Population and Human Health	IN	An increase in activity and usage of the site may lead to potential light pollution and increased traffic generation. This is not considered strategically significant; however, the wider benefits of redevelopment should be highlighted as well as potential risks to the local population.
Historic Environment/ Cultural Heritage (including Archaeological Heritage)/ Landscape	IN	Development could potentially impact upon the Scheduled Ancient Monument located within the study area boundary (Dunskeath Castle) and affect the historic setting of the listed buildings located within close proximity to the site. The Nigg site itself is recognised as a site of national significance, so the SEA will recognise these as more minor strategic issues.
Soil	OUT	The impact on Soil is considered to be negligible. This is due to the current contamination issues present and the expected decommissioning works that will be required in order to develop on the site The SEA will propose any mitigation measures be dealt with through the construction management plan
Air	OUT	The site is not within an Air Quality Management Area. There may be an increase in emissions during construction however the SEA will propose mitigation measures be dealt with through EIA and recommendations for effective construction management plans.

3.3 Changes between the Scoping Report and Environmental Report **Atharrachaidhean eadar an Aithisg Sgrùdadh Raoin agus an Aithisg Àrainneachdail**

The Scoping Report proposed at the Environmental Report stage to assess the vision, aims, development principles and options was welcomed by the Consultation Authorities. However, as the Masterplan is intended to inform CPO process the vision and aims are not considered relevant for SEA assessment and revision. The SEA therefore focuses on the assessment of the development principles and options.

4 Assessment of Environmental Effects **Measadh a thaobh Buaidhean Àrainneachdail**

4.1 Introduction **Ro-ràdh**

The SEA Act requires that the Environmental Report presents the assessment and evaluation of the likely significant impacts that the Nigg Development Masterplan will have on the environment.

It is important to recognise that the SEA focuses on Strategic level issues and does not consider detailed mitigation measures for site development and construction. Such impacts will be the focus of project level Environmental Impact Assessment (EIA).

The Masterplan provides a strategic framework for a 15-20 year time period and whilst the Masterplan contains no specific for phasing, the SEA considers long term, medium term and short term impacts.

The assessment of the Masterplan principles and objectives has been undertaken to ensure that they are compatible with the SEA objectives. The assessment has also taken into consideration cumulative, secondary/indirect and synergistic impacts.

4.2 Assumptions and Limitations **Barailean is Criochan**

To enable effective assessment the SEA has had to take in to account data gaps, identified in section 2.6 and make assumptions on current areas of uncertainty.

The SEA therefore assumes that;

- The CPO procedure will be required if the current owners fail to bring forward plans to redevelop the site.
- Development will happen in the next 15-20 years.
- Further environmental assessment will be carried out at detailed design.

4.3 SEA Objectives and Criteria **Mion-amasan is Slatan-tomhais MAR**

In order to demonstrate consistency with higher level SEA carried out at the National Planning Framework (NPF2) level, which specifically considered the Nigg site, SEA objectives were developed that take the high level national objectives as a starting point and refine the objectives to account for more local criteria.

The SEA objectives and criteria are used assess whether the Nigg Development Master Plan options will have positive and negative impacts on the current baseline conditions.

SEA objectives are outlined in Table 4 below.

Table 4: Objectives and Criteria
Clàr 4: Mion-amasan agus Slatan-tomhais

SEA Topic	NPF2 High Level SEA Objectives	Masterplan SEA Objectives	Assessment Criteria (Does the Master Plan option...?)
Biodiversity, Flora and Fauna	Protects or enhances biodiversity, flora or fauna	Protect and enhance designated sites and species Prevent emissions that could impact upon local biodiversity (marine & terrestrial)	<ul style="list-style-type: none"> • Maintain and enhance biodiversity links/ connectivity through the site • Minimise impacts on management objectives for designated sites and species • Provide enhancement opportunities for local biodiversity
Water	Reduces water pollution or enhances water quality	Avoid flood risk by effectively identifying functional flood plain and providing appropriate mitigation Reduce risks to water quality Minimise risks to high quality local aquatic environment	<ul style="list-style-type: none"> • Ensure that no areas are at risk from flooding • Ensure effective mitigation measures are identified for any activities associated with dredging or site remediation • Ensure dry dock drainage is managed in consultation with SEPA and other concerned stakeholders • Reduce impacts on local surface and groundwater • Reduce impacts on coastal waters • Maximise efficient use of local waste water treatment
Material Assets	Promotes the development of a sustainable settlement pattern and physical infrastructure Encourages efficient use of land and resources	Maximise use of brownfield sites Minimise wider impacts by recommending sustainable material sourcing/ procurement Promote effective re-use of on-site facilities	<ul style="list-style-type: none"> • Promote avoidance of technological lock-in to carbon intensive production and manufacture • Maximise opportunity for on-site renewable energy generation • Maximise consideration of site waste management potential • Maximise opportunity for specifying use of recycle

SEA Topic	NPF2 High Level SEA Objectives	Masterplan SEA Objectives	Assessment Criteria (Does the Master Plan option...?)
			<ul style="list-style-type: none"> • Maximise efficient use of material/ energy/ resources
Population & Human Health	Promotes human health	Maintain local populations through local employment opportunity	<ul style="list-style-type: none"> • Minimise potential long-term impacts on tranquillity • Minimise nuisance (dust/ noise) that could be detrimental to local human health • Minimise impacts on site neighbours • Maintain or enhance local ferry service • Maximise use of cycling routes • Minimise impacts of potential 24 hour operations
	Safeguards or enhances the living environments of people or communities	Maximise opportunities for training and life-long learning Maintain attractiveness of area for in-migration	
Landscape / Cultural Heritage / Historic Environment	Safeguards or enhances where appropriate the built environment	Avoid and prevent impacts on local historic features and their settings Maintain and where possible enhance local cultural identity Minimise impacts on local landscape quality/ capacity	<ul style="list-style-type: none"> • Minimise impacts on local listed building features • Minimise impacts on local conservation areas
	Respects and protects the character, diversity and special qualities of Scotland's landscapes		

4.4 Approach to Alternatives Dòigh-obrach a thaobh Roghainnean

The SEA process requires that the Environmental Report considers the reasonable alternatives to the Masterplan. Due to the site specific nature of the SEA the only alternative option to development of the Masterplan was to 'do nothing' and to rely on planning polices contained within the Development Plan and the existing permissions applicable to the site to guide development.

After considering the likely future of the site without the Masterplan and the environmental risks of this (see section 2.7) it was considered that developing the Nigg Masterplan as Supplementary Planning Guidance would ensure that the environmental risks would be effectively mitigated through development and would enable much needed strategic economic growth in the Nigg area.

In shaping the site development, strategic options are derived from both:-

- Baseline information – site appraisal, policy and regulatory context; and
- Technical and Market Assessments

Consideration has been given to options to bring the site into use, ranging from a single user to a multi-user industrial facility. The site is considered in three parts: the oil terminal; the fabrication yard; and the proximal land to the east of the fabrication yard. The options are based on the market assessment for the next 15-20 years prepared by MacKay consultants, as well as engineering information available at the time of writing.

Two principle options have been proposed, which consider each of the three components of the Nigg site (oil terminal; fabrication yard; and proximal land to the east of the fabrication yard), both individually and collectively as a single unit:-

- Option 1 – multi functional uses comprising oil and gas activities and renewables. This option diversifies the activities at Nigg whilst building on its oil and gas heritage and industry reputation and introduces a renewable energy mix.
- Option 2 – multi functional uses focusing upon the renewables sector (manufacture components, assembly and distribution. This option has a renewable energy sector focus with the majority of the site allocated for this activity.

The strengths and weaknesses of each option are considered and compared, based on the market and technical capacity studies.

These options have been assessed using the SEA objectives and criteria outlined in section 5.3.

4.5 Summary of Detailed Assessment of Development Principles Geàrr-chunntas de Mheasadh Mionaideach nam Prionnsapalan Leasachaidh

Table 5 provides a summary of the environmental assessment of the development principles. The cumulative, indirect/secondary and synergistic impacts are discussed in the detailed assessment found in Appendix C.

**Table 5: Summary of the Assessment of Development Principles
Clàr 5: Geàrr-chunntas de Mheasadh nam Prionnsapalan Leasachaidh**

Development Principle 1: Site Content and Operations	Summary of Environmental Effects
To create a development site that is capable of accommodating a range of uses and has the flexibility to attract and sustain both large scale inward investment as well as small-scale local business enterprise.	The Development Masterplan objective is quite general and does not produce any significant effect on the SEA objectives. There may be minor positive effects on Population and Human Health dependant on the range of uses proposed, as the objective should benefit the local workforce and economy. It is considered that this objective will have an overall neutral effect.

<p>To ensure the plan acknowledges user interaction and operational linkages through designated 'activity zones'</p>	<p>The Development Masterplan objective is quite general and does not produce any significant effect on the SEA objectives. There may be minor positive effects on Population and Human Health dependant on the range of uses proposed, as the objective should benefit the local workforce and economy. It is considered that this objective will have an overall neutral effect.</p>
<p>To create an integrated and coherent Masterplan based on a simple grid framework to:</p> <ul style="list-style-type: none"> • Maximise development areas • Create development plots which can be sub-divided or amalgamated into smaller or larger plots as necessary. • Accommodate user requirements with expansion areas available where possible. • Ensure adequate road alignments to service all plots and accommodate HGV's and abnormal loads. • Create unconstrained road and marine access to berthing quays and transit areas where possible. 	<p>The objective for the development of the site with improved infrastructure and additional access will have a negative effect on biodiversity and water due to short term construction impacts and long term impacts from new marine access. There will be positive effects in terms of potential opportunities for investment and job creation benefiting the surrounding communities. The site is currently predominantly vacant so there are positive effects in terms of the re-use of onsite facilities and the improvement to local landscape quality. Providing mitigation measures are followed the residual effect will be neutral.</p>
<p>To renovate the graving dock to operate competitively.</p>	<p>The objective for the renovation of the graving dock will have a negative impact upon biodiversity and water. This is due to potential pollution spillages when emptying the stagnant water within the dock and noise/dust pollution from construction work. It will have a positive effect on the remaining topics including landscape, population and material assets. The availability of an enhanced graving dock facility will have a positive effect upon encouraging inward investment. The renovation will effectively use existing brownfield land and may provide jobs for the surrounding workforce. There will be a neutral impact on surrounding landscape and listed buildings as the renovation will be focused on the dock. This is a significant distance from the listed sites and will not involve any construction which will increase impacts on landscape. Providing mitigation measures are followed the residual effect will be neutral.</p>
<p>To retain the oil storage terminal already in operation in its current location, making best use of existing infrastructure.</p>	<p>There will be no change from the current status quo and therefore this objective will result in neutral effect.</p>

	<p>However there will be a minor negative impact on Biodiversity and Water Quality as the risk of oil storage is greater than no storage at all. This can be mitigated through operational environmental management plan. Providing mitigation measures are followed the residual effect will be neutral.</p>
<p>To retain the oil jetty.</p>	<p>There will be no change from the current status quo and therefore this objective will result in a neutral effect. However it must be recognised that there will be an impact in retaining the jetty on biodiversity and water quality. Activity levels are predicted to remain the same; however current activity will impact upon marine biodiversity, and including impacts on the EU protected bottlenose dolphin population. This can be mitigated through operational environmental management plan. Providing mitigation measures are followed the residual effect will be neutral.</p>
<p>To provide adequate access adjacent to the quayside and dock walls to be shared by all users of the site where possible</p>	<p>The impact of this objective on Biodiversity and water is negative. The impacts are predominantly short term, caused by the construction of additional infrastructure on site. This can be mitigated by a comprehensive construction environmental management plan. Increased sea access could also increase the risks of chemical and noise pollution affecting the aquatic environment and protected habitats and species. Mitigation specific to this access provision should be devised and can be mitigated through operational environmental management plan. The reuse of the existing infrastructure and construction of new will provide both short term construction jobs and long term employment. Providing mitigation measures are followed the residual effect will minor negative.</p>
<p>To utilise existing buildings as much as possible through refurbishment</p>	<p>The reuse of existing buildings will have a positive impact upon several SEA objectives. The reuse of existing buildings will limit impact on the local landscape character, human population and biodiversity. It will also limit impact on local water quality. There may be short term impacts on noise, emissions and ground water quality however this can be mitigated</p>

	<p>out through the implementation of a construction management plan. There is potential for short term, local job opportunities during the refurbishment. There is an overall positive effect.</p>
<p>To make provision for the creation of additional berthing faces to the south and east with access to deep water where possible.</p>	<p>Enhanced access to deep water will increase the attractiveness of the Nigg site to potential investors and will result in a positive effect on population. There will be a negative effect on Biodiversity and water The impacts are predominantly short term, caused by the construction of additional infrastructure on site. This can be mitigated by a comprehensive construction environmental management plan. Increased sea access could also increase the risks of chemical and noise pollution affecting the aquatic environment and protected habitats and species. Mitigation specific to this access provision should be devised through the EIA process. The reuse of the existing infrastructure and construction of new will provide both short term construction jobs and long term employment. Providing mitigation measures are followed the residual effect will be minor negative.</p>
<p>Development Principle 2: Cost and Value Engineering</p>	<p>Summary of Environmental Effects</p>
<p>Minimising up-front costs, focussing only on those enabling works required to make an early start to the project, for example by:</p>	<p>The Development Masterplan objective is quite general and does not produce any significant effect on the SEA objectives. It is considered that this objective will have an overall neutral effect.</p>
<p>Maximising use of existing built structures while ensuring that they are suitably refurbished and secure prior to letting, as the basis for a future facilities management plan</p>	<p>The overall effect of the objective is positive. The reuse of existing buildings will limit impact on the local landscape character and biodiversity. It will also limit impact on local water quality. There may be short term impacts on noise, emissions and ground water quality, however this can be mitigated through the implementation of a construction management plan. There is potential for short term, local job opportunities during the refurbishment.</p>
<p>Keeping new permanent road alignments to a minimum to facilitate movement around the site with additional road surfacing and final determination of road and utility alignments until</p>	<p>The Management Plan objective proposes a staged approach to construction of infrastructure. Although this encourages the reuse of existing</p>

a later phase.	roads there will be construction and upgrading. This will have a minor negative impact as there will be new construction on site, however these impacts will be small and staged throughout the development period. The staged construction will be mitigated through a construction environmental management plan to mitigate noise, emissions and impact on groundwater. This can be mitigated through operational environmental management plan. Providing mitigation measures are followed the residual effect will be neutral.
Undertaking phased provision of utilities.	The Development Masterplan objective is quite general and does not produce any significant effect on the SEA objectives. It is considered that this objective will have an overall neutral effect.
Development Principle 3: Project Delivery	Summary of Environmental Effects
To demonstrate economic efficiency by maintaining a high level of flexibility by using existing resources, i.e. infrastructure, services, plant and buildings to create a competitive location.	The overall impact of the objective is positive. The reuse of existing buildings will limit impact on the local landscape character and biodiversity. It will also limit impact on local water quality. There may be short term impacts on noise, emissions and ground water quality however this can be mitigated out through the implementation of a construction management plan. There is potential for short term, local job opportunities during the refurbishment.
To phase implementation (plot demarcation, infrastructure and utility provision) to reflect user requirements as currently stated and / or predicted. It is anticipated that provision of sites and services will be primarily demand-driven.	The Development Masterplan objective is quite general and does not produce any significant effect on the SEA objectives. It is considered that this objective will have an overall neutral effect.
To maximise opportunities for employment and inward investment.	Maximise opportunities for employment' is a very general objective. We assume it will have a positive impact on the local population and may encourage immigration. However the overall impact is neutral.
Development Principle 4: Impact and Implications of the Masterplan	Summary of Environmental Effects
To ensure that material prepared is in a form that can ultimately inform and provide the rationale that underpins the requirement to	The Development Masterplan objective is quite general and does not produce any significant effect on the

<p>pursue the proposed Compulsory Purchase Order procedure under consideration by The Highland Council.</p>	<p>SEA objectives. It is considered that this objective will have an overall neutral effect.</p>
<p>To provide a strategic framework for appropriate uses for the next 15 -20 years.</p>	<p>The Development Masterplan objective is quite general and does not produce any significant effect on the SEA objectives. It is considered that this objective will have an overall neutral effect.</p>
<p>Development Principle 5: Integrating the Spaces</p>	<p>Summary of Environmental Effects</p>
<p>To make new connections into an opportunity to obtain new spaces</p> <ul style="list-style-type: none"> • Review adjacent sites proximal to the east of Nigg Yard to determine how their proximity may be used to advantage by effectively offering the opportunity to extend the core Nigg complex. • The creation of new opportunity sites should also be a means to free spaces for development of the core site. 	<p>Development of the land to the East will have a negative impact on biodiversity, flora and fauna and water. This is due to the fact that the development will be located on current agricultural land. It should be noted that this land has been designated for industrial use in the Development Plan. There is also proposed marine access to the site which will impact on marine habitats. The negative impact on biodiversity and water can be mitigated through an EIA and construction/operation environmental management plans. There will be a positive effect on population as development will encourage inward investment when developed along side the Nigg Yard and Oil Terminal It will provide both short term construction jobs and long term employment opportunities. The re-use of the Nigg site in any form is likely to have direct and indirect benefits to the local and wider economy and society. Following mitigation measures the residual effect will be minor negative.</p>
<p>To consolidate and enhance movement and connections</p> <ul style="list-style-type: none"> • Review and consider extension of the existing network of connections (road and rail) (e.g. link to Far North Rail line and the A9 trunk road from Nigg Complex). 	<p>The objective to extend existing road and rail connections will have a short term negative impact during the construction period on the environment. However, through mitigation the long term impact should be minimised. It would benefit the local population providing increased access to the site and surrounding area. Potential improved rail access will provide a more sustainable mode of transport to the site, which could help to reduce emissions. This can be mitigated through operational environmental management plan. Providing mitigation measures are followed the residual effect will be neutral.</p>

Development Principle 6: Integrating the Port/ Harbour/ Major Site with its Surroundings	Summary of Environmental Effects
<p>To take care in the treatment of separating uses/elements</p> <ul style="list-style-type: none"> • New buildings/structures to provide a balance between its multi-functional industrial activity, its wider rural context and providing an assurance of security. 	<p>The Development Masterplan objective is quite general and does not produce any significant effect on the SEA objectives. It is considered that this objective will have an overall neutral effect. However, the detailed wording of this objective specifies the need to take into account the site's rural context.</p>
<p>To render the port/harbour/major site visible</p> <ul style="list-style-type: none"> • Combine the reduction of the potential nuisance from the site with mitigation measures and visual openings to the water. 	<p>The Development Masterplan objective is quite general and does not provide enough detail to determine any positive or negative impacts. Therefore an uncertain effect has been given for the majority of the SEA objectives.</p>
<p>To exploit all the potentialities of the water</p> <ul style="list-style-type: none"> • To share the use of the water (e. g. oil terminal; ship to ship, etc.) • To favour movements of the inhabitants by water (e. g. Nigg ferry service) 	<p>By exploiting all potentialities of the water there is potential to cause negative impacts on marine species and habitats. For example, ship to ship transfers may increase risk of pollution to the marine environment. However Ship to Ship transfers are currently are permitted activities at the site and therefore are monitored through MARPOL73/78 and the Marine Pollution Merchant Shipping Regulations 2008. A seasonal ferry service is currently in operation; however any increase will require an operational Environmental Management Plan. Providing mitigation measures are followed the residual effect will be neutral.</p>
Development Principle 7: Integrating Functions	Summary of Environmental Effects
<p>To organise and benefit from blending</p> <ul style="list-style-type: none"> • To use all technical solutions and to search for innovations (e.g. numerous technical solutions such as treatment of existing buildings, lighting, port equipment, surfacing, etc to reduce nuisances and to make the context between the port/harbour/major site and its surroundings possible. • To structure maritime/multi-use industrial activities to maximise complementary benefits (e.g. joint efforts in the fields of R&D, communication, training, international prospecting, etc.) 	<p>The Development Masterplan objective is quite general and does not generally produce any significant effects on the SEA objectives. It is considered that this objective will have an overall neutral effect. However, there may be positive benefits from innovative technical solutions to potential nuisances</p>

<p>To make temporary uses a means to manage the site</p> <ul style="list-style-type: none"> • Rather than selling or granting concessions for certain spaces or buildings pending their allocation, their temporary occupation may enable certain functional and temporary needs to be satisfied. <p>Partners/users should therefore give themselves flexibility to anticipate cycles of port/harbour/major site development and not compromise future development by irreversible modifications that 'freeze' the site.</p>	<p>The Development Masterplan objective is quite general and does not produce any significant effect on the SEA objectives. It is considered that this objective will have an overall neutral effect</p>
<p>Development Principle 8: Integrating the Environment</p>	<p>Summary of Environmental Effects</p>
<p>To reduce reciprocal impacts:</p> <ul style="list-style-type: none"> • To engage in a pro-active environmental approach (SEA and EIA) • To work on the 'buffer' and transitional zones (e. g. green buffer zones stemming from the preservation of predominantly rural zones or creation of green spaces). 	<p>The Masterplan objective for environmental consideration will have a positive impact on most of the SEA objectives as it effectively aims to predict and if necessary avoid or mitigate any harmful impacts at an early stage.</p>
<p>To communicate and to get certain nuisances accepted.</p>	<p>The objective is too general to assess and therefore it is assumed that it will have neutral impact on the SEA objectives.</p>
<p>To make all the concerned parties aware of the environmental strategy of the port/harbour/major site so its positive contribution to economic growth and the quality of life of its inhabitants can be understood</p>	<p>The objective is relatively general and therefore it is assumed it will have a predominately neutral impact on the SEA objectives. It will have a positive effect on the population objectives as it will provide training and jobs for the local community and all attract in migration.</p>
<p>Development Principle 9: Integrating Societies</p>	
<p>To prepare for tomorrow's jobs</p> <ul style="list-style-type: none"> • To adapt the professional training sectors (e.g. in active collaboration with the academics in research and training, ports and multi-functional uses on the Nigg site should contribute to put in place specific training curricula. The contents of the course programmes should be regularly adjusted in order to correspond better to the requirements of a port-multi-functional use economy (in constant development). 	<p>The objective will have a positive impact on the population and human health criteria in terms of, employment opportunities and improving the skills of the workforce etc. However the principle is relatively general and therefore it is assumed will have a neutral impact on the remaining SEA objectives.</p>

<p>To integrate the port/harbour/major site within the life of the local communities</p> <ul style="list-style-type: none"> • To make development projects, as far as possible, upstream to attract the support of the inhabitants by for example, landscaping treatment, port heritage, etc. 	<p>The objective is relatively general and therefore it is assumed will have a neutral impact on the SEA objectives. Mitigation measures should be considered when the detailed design is available.</p>
<p>To open the port/harbour/major site to the local populations</p> <ul style="list-style-type: none"> • The creation of cycle/pedestrian routes (e.g. enhance the existing National Cycle Route) 	<p>The objective to open the site to the local population will have an overall positive impact upon the SEA objectives. Short term negative impacts from construction i.e. cycle path can be mitigated through the implementation of a management plan.</p>
<p>To determine the overall tourism offer</p> <ul style="list-style-type: none"> • To consider the tourist potential; for example, Nigg ferry service between Nigg and Cromarty 	<p>The objective to review tourist opportunities on site is relatively general and therefore will have an overall neutral impact however the possibility of an increased ferry service will have minor impacts upon biodiversity and water quality. An operation management plan should be provided if the ferry service is increased. Environmental Impacts of other tourist activities can be assessed when more detail is available through the EIA process.</p>

4.6 Assessment Options Roghainnean Measaidh

The two development options, oil and gas focus and renewable energy focus, were assessed by looking at the three separate areas of the development site:

- Oil terminal
- Nigg Yard
- Proximal Land to the East

Table 6 provides a summary of the environmental assessment of the development principles. The cumulative, indirect/secondary and synergistic impacts are discussed in the detailed assessment found in Appendix D.

Table 6: Summary of Environmental Assessment of Development Options
Clàr 6: Geàrr-chunntas de Mheasadh Àrainneachdail nan Roghainnean Leasachaidh

Option	Site Area	Summary of Environmental Effects
Option 1: Oil and Gas Focus	<u>Oil Terminal</u>	It is considered that the residual effect on the Oil Terminal will be neutral. This is primarily due to the fact that there are still permitted activities at the Oil Terminal and there is currently no intention to change the use or increase the capacity. There will be a minor negative impact on Biodiversity and Water Quality as <u>renewed use</u> of the Nigg Yard site and increased marine traffic will likely have an

Option	Site Area	Summary of Environmental Effects
		<p>impact on these SEA objectives. However, providing current mitigation procedures continue to be followed the residual effect will be neutral. If there is future expansion beyond what is currently permitted then an EIA may be required, subject to the scale of development. Re-intensification of the site will have a positive effect on the local and regional economy providing potential employment opportunities.</p> <p>It is considered that providing mitigation measures are followed the residual effect will be neutral.</p>
	<u>Nigg Yard</u>	<p>Option 1 proposes minimal additional construction on the Nigg Yard site with a focus on the re-use of existing buildings. There are negative impacts on biodiversity, flora and fauna and water. This is due to short term construction impacts and long term operational activities resulting from increased activity. This can be mitigated through an EIA and construction environmental management plans/ operation environmental management plans. It has a positive impact through the re-use of existing infrastructure and buildings. Re-use of the Nigg site in any form is likely to have direct and indirect benefits to the local and wider economy and society. Providing mitigation measures are followed the residual effect will be neutral.</p>
	<u>Land to the East</u>	<p>Development of the land to the East will have a negative impact on biodiversity, flora and fauna and water. This is due to the fact that the development will located on current agricultural land. It should be noted that this land has been designated for industrial use in the Development Plan. There is also proposed marine access to the site which will impact marine habitats. The negative impact on biodiversity and water can be mitigated through an EIA and construction/operation environmental management plans. There will be a positive effect on population as development will encourage inward investment and re-use of the Nigg site in any form is likely to have direct and indirect benefits to the local and wider economy and society. Following mitigation measures the residual effect will be minor negative.</p>

Option	Site Area	Summary of Environmental Effects
Option 2: Renewable Energy Focus	<u>Oil Terminal</u>	<p>It is considered that the residual effect on the Oil Terminal will be neutral. This is primarily due to the fact that there are still permitted activities at the Oil Terminal and there is currently no intention to change the use or increase the capacity. There will be a minor negative impact on Biodiversity and Water Quality as renewed use of the Nigg Yard site and increased marine traffic will likely have an impact on these SEA objectives. However, providing current mitigation procedures continue to be followed the residual effect will be neutral. If there is future expansion beyond what is currently permitted then an EIA may be required, subject to the scale of development. Re-intensification of the site will have a positive effect on the local and regional economy providing potential employment opportunities.</p> <p>It is considered that providing mitigation measures are followed the residual effect will be neutral.</p>
	<u>Nigg Yard</u>	<p>Option 2 proposes an increase in construction on site but will primarily consist of the extension to existing buildings and the construction of laydown areas. In addition it is proposed to increased marine access to the site. This has resulted in a minor negative impact on biodiversity, flora and fauna and water. This is again mainly due to short term construction impacts and long term operational activities This can be mitigated through an EIA and construction environmental management plans/ operation environmental management plans. It has a positive impact through the re-use of the existing infrastructure and buildings and increased employment opportunities in both the oil and gas industry and renewables industry. It is considered that providing mitigation measures are followed the residual effect will be neutral.</p>
	<u>Land to the East</u>	<p>Development of the land to the East will have a negative impact on biodiversity, flora and fauna and water. This is due to the fact that the development will located on current agricultural land. It should be noted that this land has been designated for industrial use in the Development Plan. There is also proposed marine access to the site which will impact marine habitats. The negative impact on biodiversity and water can be mitigated through an EIA and construction/ operation environmental management plans. There will be a positive effect on population as development will encourage inward investment and re-use of the Nigg site in any form is likely to have direct and indirect benefits to the local and wider economy and society. Following mitigation measures the residual effect will be minor negative.</p>

The assessments have shown that both Masterplan Options have a similar impact on the SEA topics. For both Option 1 and 2 the Oil Terminal and Nigg Yard has a residual neutral impact and the Land to the East has a minor negative residual effect. It is therefore concluded that there is not a significant environmental difference between the two options.

4.7 Cumulative Effects **Buaidhean Tionalach**

The cumulative effects of each development principle and option are discussed in the detailed assessment matrices in Appendices C&D. However, we must recognise that cumulative environmental effects may arise from the development framework in combination with other developments in the Nigg area.

Existing industrial and port-related activities exist within wider area, including:

- **Invergordon**, approximately 8km east of Nigg in the Cromarty Firth. Existing port supporting activities including rig IRM, mixed cargoes and cruise ships.

The adopted local plan, supported by the Inner Moray Firth Ports & Sites study (2006), also allocates the following major maritime developments:

- **Highland Deephaven**, approximately 17km east of Nigg in the Cromarty Firth. Over 100ha allocated for mixed business and industry development. This site provides a critical transport road / rail / sea transport interchange.
- **Delny**, approximately 5km east of Nigg in the Cromarty Firth. 100ha allocated for single user enterprise. This is likely to include forestry-related activities with access to the sea.

Given the proximity of the above existing and proposed developments, and their location within the Cromarty Firth, they will likely increase traffic along existing infrastructure, particularly vessel traffic within the Cromarty Firth. This could present a negative cumulative impact on sites designated at international and local levels for their ecological value, areas designated by SEPA for water quality and surrounding residential areas. While the location of Nigg indicates it would have a minimal effect on sites further west, increased vessel traffic will be most prevalent around the study area as it is at the entrance to the Cromarty Firth.

Further redevelopment is proposed at:

- **Ardersier**, approximately 11km south of Nigg in the Moray Firth. Proposals were approved in 2006 to redevelop this former fabrication yard for leisure and residential uses.

The location of this site and type of proposed development are unlikely to contribute any cumulative impacts with development proposed at Nigg.

In addition, landward business/general industrial development has also been proposed at **Hilton of Cadboll**. The delivery of this type of facility would increase employment opportunities within the local area.

Should the Nigg Masterplan be taken forward, this would affect a positive cumulative impact within Easter Ross; addressing the longstanding socio-economic disparity of this sub-region.

In summary, the Nigg Development Masterplan proposals could contribute positively and negatively to cumulative impacts within the sub-region. The potential for contributing to increasing vessel movements within the Cromarty Firth is balanced with the opportunity to affect a positive socio-economic change within Easter Ross. For this reason, the cumulative impacts of development are considered to be neutral.

5 Mitigation Maothachadh

5.1 Introduction Ro-ràdh

Schedule 3 of the Environmental Assessment (Scotland) Act 2005 requires the Environmental Report to provide possible measures to prevent, reduce and possibly offset any significant adverse effects on the environment from the implementation of the Masterplan.

Throughout the assessment of each of the Masterplan options mitigation measures have been suggested in the matrices to offset likely significant adverse impacts. This can be found in the detailed assessment matrices and summaries in sections 5.5 and 5.6.

It should be noted that at this strategic level only general mitigation measures can be proposed as the individual components of the Masterplan are still under development. Project level specific mitigation will need to be developed and implemented when development design progresses. Table 7 provides guidance on further studies/assessment that could be required.

5.2 Strategic Level Mitigation Maothachadh ìre Ro-innleachdail

Schedule 3 highlights the importance of modifying the Masterplan in response to the environmental process. The following are recommendations at this stage of the Master Plan process:

1. Development Principle 5 should be reworded to recognise potential environmental impacts of the use of surrounding Greenfield land.
2. Development Principle 6 should be reworded to remove the term 'nuisances' or clarify.
3. Development Principle 8 should be reworded to read 'effectively communicate on all environmental issues' - remove reference to 'nuisances'.
4. Development Principle 8 should be expanded to include principles for:
 - a) Construction Environmental Management Plans and Operation Environmental Management Plans will be a requirement for all new development on site.
 - b) The Masterplan will adopt measures of mitigating environmental impacts from the proposed development at Nigg.
 - c) The Masterplan should reflect The Highland Council's 'Designing for Sustainability in the Highlands: Development Plan Policy Guidance (2006)'.
 - d) The Masterplan will provide appropriate protection of the designated ancient woodland.
5. The Flood Risk Assessment findings should be referenced in the Masterplan. It concluded that the **site will not be under a significant flood**

risk before 2035, to the end of its expected life and therefore no mitigation work is recommended. This is dependent on the OD level of the site being +3.73m. Should further investigation show the site to be lower, particular if lower than the minimum formation level of +3.58 OD level then some limiting mitigating measures may be necessary to protect key areas. The Masterplan should not hinder any future mitigation requirements in particular the protection of specific buildings on site.

6. Development on the proximal land to the east of the development site should be treated with caution to avoid impacts on biodiversity. An ecological survey should be prepared for this land; this should include survey of the wooded area to ensure there is no significant wildlife value, e.g. bat roosting. If there is found to be wildlife value, avoidance and mitigation measures will be necessary. The EIA and Construction and Environmental Management Plans will also need to incorporate this land and propose suitable mitigation measures.

5.3 Project Level Mitigation Maothachadh Ìre Pròiseict

Project level mitigation and how it relates to each SEA Topic and environmental issue is described below. It should be noted that detailed mitigation measures at project level can only be provided when Masterplan objectives have been fully developed and the Masterplan is at the implementation stage. An Environmental Impact Assessment (EIA) and Construction and Operational Management Plans can provide mitigation measures that are tailored to the finalised Masterplan and its objectives. At this stage, the results of the Habitats Regulations Assessment and the Flood Risk Assessment will also be known and may also be able to influence the development of targeted mitigation measures.

Table 7 provides a summary of the Project Level mitigation measures proposed. At this stage the mitigation measures are the same for both options.

**Table 7: Project Level Mitigation Measures
Clàr 7: Ceumannan Maothachaidh Ìre Pròiseict**

SEA Topic	SEA Issue	Proposed measures for the reduction/prevention and offset of significant adverse effects	Responsible Authority
Biodiversity Flora and Fauna	Designated sites of ecological value in proximity to proposed development.	Impacts on EU designated sites will be addressed through an Appropriate Assessment to identify appropriate mitigation. Designated management plans must be strictly adhered to. EIA should detail the mitigation measures that will be required to ensure the designated sites are not affected by the construction phase and operational activity. Construction Environmental Management Plans and Operation Environmental Management Plans will be a required to prevent or reduce impacts on biodiversity.	The Highland Council/Landowner/ Developer

SEA Topic	SEA Issue	Proposed measures for the reduction/prevention and offset of significant adverse effects	Responsible Authority
	Protected species in immediate area.	Detailed site level survey prior and during work will be carried out to determine existence of protected species, LBAP habitats and biodiversity interests EIA should detail the mitigation measures that will be required to ensure the protected species are not affected by construction phase and operational activity.	The Highland Council/Landowner/ Developer
Water	Flood Risk (coastal and active flood plain).	At the development stage the detailed FRA should consider:- <ul style="list-style-type: none"> • Investigation for new tidal data. The UKHO should be contacted to update and extend the current data set for Invergordon. • The allowance for sea level rise should be re-examined following the publication of new sea level rise guidance by UKCIP, expected sometime in 2009 • If the freeboard for wave attenuation becomes a critical factor, the further work assessing the joint probability of large waves and extreme water levels should be undertaken and an overtopping discharge assessment to more accurately assess the hazard • General site drainage issues and design requirements 	The Highland Council/Landowner/ Developer
	Groundwater contamination on site.	EIA should consider existing contamination and potential construction contamination and provide best practice mitigation measures to prevent surface water runoff and protect all watercourses. Adherence to SEPA Pollution Prevention Guidelines.	The Highland Council/Landowner/ Developer
Material Assets	Environmental Impact of developing land to the East	Liaise with SNH about possible impacts. Incorporate sustainable drainage systems. EIA should detail the mitigation measures that will be required to ensure any sensitive habitats or species are not affected by construction phase and operational activity.	The Highland Council/Landowner/ Developer

SEA Topic	SEA Issue	Proposed measures for the reduction/prevention and offset of significant adverse effects	Responsible Authority
Population and Human Health	Impact of noise and emissions from construction	Sensitive construction practices and constant community liaison to minimise inconvenience to local communities during construction. Construction programme to be as short as possible to reduce impact on surrounding communities. Training should be provided alongside increased activity at Nigg to attract future workforce and update skills of existing workforce.	The Highland Council/Landowner/ Developer
Landscape and Cultural Heritage	Sites of archaeological importance within extent of proposed development (National Monuments and Scottish Sites and Monuments).	An archaeological study of the proximal land to the east should be carried out before any development to highlight areas of archaeological sensitivity. EIA should consider the impact on archaeology and provide appropriate mitigation measures.	The Highland Council/Landowner/ Developer
	Sites of cultural significance in proximity to proposed development (2 Listed Buildings and 1 Scheduled Ancient Monument).	EIA should consider the impact on historic sites and provide appropriate mitigation measures.	The Highland Council/Landowner/ Developer

6 Monitoring Sgrùdadh

6.1 Introduction Ro-ràdh

Section 19 of the Environmental Assessment (Scotland Act) Act 2005 requires the Highland Council, as the Responsible Authority to monitor the likely adverse impacts on the environment.

The Development Masterplan, once adopted as Supplementary Guidance, will inform the future development of the site and provide parameters for subsequent planning applications. Monitoring will primarily be carried out through the development management process whereby the Council will be responsible for ensuring that the environmental risks and mitigation measures highlighted in the Environmental Report are communicated to the developers.

It will then be the responsibility of the developers to take cognisance of these risks and mitigation measures in the detailed applications. Table 8 provides a draft list of potential indicators that could be used by the developer to ensure the appropriate monitoring is put in place during the construction and operation phases.

A final monitoring framework will be developed and presented in the Post Adoption SEA statement.

Table 8: Proposed SEA Monitoring Programme
Clàr 8: Prògram Sgrùdaidh MAR a Thathar a' Moladh

SEA Topic	Indicator	Information Source	Responsible Authority
Biodiversity, Flora and Fauna	BAP species monitoring	SNH Environmental Clerk of works on site during construction	The Highland Council/Landowner/Developer
	Change in areas designated for intrinsic environmental value including EU, national and local designations	Annual Monitoring Report	The Highland Council/Landowner/Developer
	Change in biodiversity management plans	SNH	The Highland Council/Landowner/Developer
Water	Groundwater quality monitoring Marine water quality monitoring	SEPA	The Highland Council/Landowner/Developer
	Changes to SEPA flood maps Invergordon data set	SEPA UKHO	The Highland Council/Landowner/Developer

Material Assets	Vessel movements	Cromarty Port Authority	The Highland Council/Landowner/Developer
	Traffic Flows	The Highland Council	The Highland Council/Landowner/Developer
Population and Human Health	Baseline noise and air quality monitoring assessment prior to construction commencing and then monthly.	The Highland Council	The Highland Council/Landowner/Developer
	No. of local residents unemployed	Government unemployment figures	The Highland Council/Landowner/Developer
Landscape and Cultural Heritage	Programme of site visits to SAMS and Listed Buildings to ensure adequate protection of cultural heritage site and historic features	Historic Scotland	The Highland Council/Landowner/Developer
	Number of Listed Buildings and SAMS at Risk from development at Nigg Yard (periodic review)	Historic Scotland	The Highland Council/Landowner/Developer

7 Next Steps

Na h-Ath Cheumannan

The assessment results within this report will be used to make a decision on the approach for the Masterplan, which along with the Environmental Report will be subject to public consultation for a period of six weeks. All comments and representations will be considered before finalising the Masterplan and Environmental Report. Currently the intention is to develop and promote both options to maintain flexibility in developing the site as a multi-user facility.

Table 9 lists future milestones in the development of the Nigg Development Masterplan and its SEA, and the dates when these are expected to be completed.

Table 9: Anticipated plan-making and SEA milestones
Clàr 9: Clachan-mìle dealbhadh agus MAR ris a bheil dùil

Expected date	Milestone
Summer 2009	Publication of the Draft Nigg Development Masterplan and Environmental Report. This will be subject to public consultation for a period of six weeks.
Autumn 2009	Preparation of the Final Nigg Development Masterplan, the Environmental Report and the Post Adoption/SEA Statement.
Autumn 2009	Nigg Development Masterplan, Environmental Report and the Post Adoption and SEA Statement to be presented to THC Committee for approval.
Winter 2009	Adoption of Nigg Development Masterplan as Supplementary Guidance along with Environmental Report and publication of the Post Adoption Statement/SEA statement.