

PLANNING

NPF for Scotland 2 SEA

Environmental Report Annex 3

*Consolidated Non
Technical Summary*

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1. INTRODUCTION

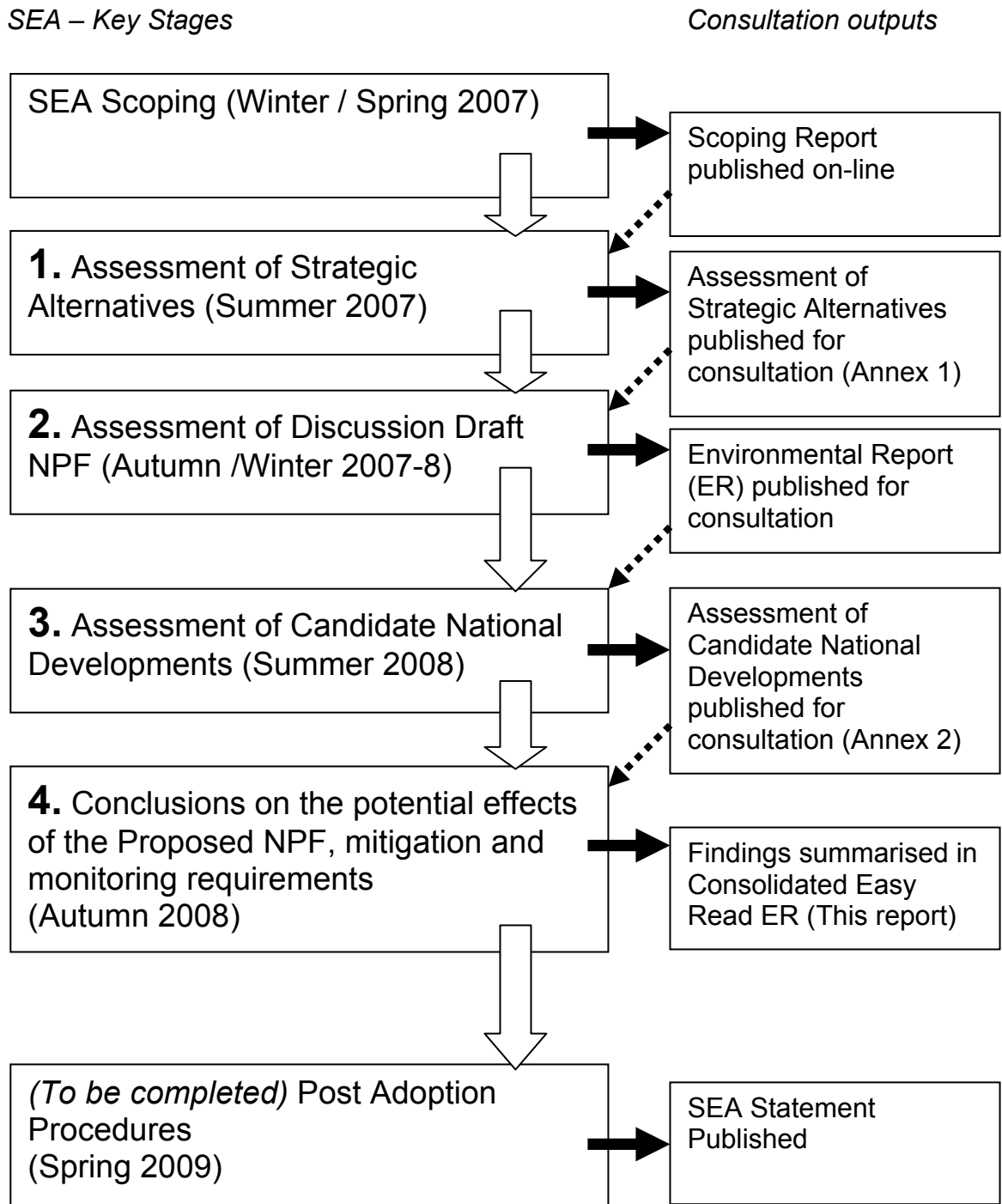
- 1.1 As part of the preparation of the second National Planning Framework (NPF), the Scottish Government has carried out a Strategic Environmental Assessment (SEA). This is required by the Environmental Assessment (Scotland) Act 2005.
- 1.2 SEA is a way of examining plans and policies as they develop, to identify any significant effects that they may have on the environment. It ensures that environmental considerations form an integral part of policy making, and that decisions which could affect the environment are made in a transparent way. It also aims to build in environmental mitigation as far as possible, to avoid or minimise any potentially adverse effects.
- 1.3 It is important to note at the outset that the planning system, and therefore the NPF, plays a key role in protecting and enhancing the environment. The NPF's central aim is to progress sustainable economic growth. The SEA has formed just one part of a policy making process which takes into account and positively manages the environmental implications of plans and proposals. Overall, many long-term environmental benefits are expected from the NPF's spatial strategy.
- 1.4 The purpose of this Consolidated Non Technical Summary (NTS) is to set out the findings from the SEA process. More specifically, it:
 - explains how the SEA of the NPF was undertaken;
 - describes the key outputs from each stage in the SEA process;
 - summarises the opinions that were expressed by consultees in relation to the SEA findings at each stage;
 - explains how this information has been taken into account in the Proposed National Planning Framework; and
 - reflects on the overall role and effectiveness of the SEA process.
- 1.5 The previously published Environmental Report and its two Annexes provide more detailed information from the SEA process. These reports can still be viewed online at:

<http://www.scotland.gov.uk/Topics/Built-Environment/planning/National-Planning-Policy/themes/npf>
- 1.6 When the NPF is adopted, a post-adoption SEA Statement will be produced. This will reflect the overall findings from the SEA process and provide more detailed information on how they have influenced the final content of the NPF.

2. OVERVIEW OF THE SEA PROCESS

- 2.1 The SEA has formed an integral part of the process of preparing the NPF.
- 2.2 In early 2007 the SEA was 'scoped', to define the assessment methods and reach agreement on the consultation periods. This was followed by the development and assessment of strategic alternatives, with this work helping to shape early thoughts on the content of NPF. A report on this part of the process (Stage 1) was published in June 2007, and subsequently updated and re-published as an Annex to the Environmental Report in January 2008.
- 2.3 The Discussion Draft NPF was then subjected to an ongoing environmental assessment which raised a number of issues and challenges. As they emerged, these issues were tackled as far as possible, with opportunities for policy amendment, environmental mitigation and enhancement having been built into the Discussion Draft NPF. The findings from this process (Stage 2) were set out in the SEA Environmental Report, which was published for consultation alongside the Discussion Draft NPF in January 2008. Many stakeholders provided written responses to the NPF consultation, in addition to those specifically focusing on the SEA ER (discussed in Section 6 below). These were reviewed and taken into account in the redrafting process.
- 2.4 At the end of the consultation period on the Discussion Draft NPF, the responses were reviewed and taken into account. At that stage, it emerged that a large number of additional developments had been proposed by stakeholders as candidate National Developments. Many of these ideas were thought to merit further consideration and were reviewed for possible incorporation into the Proposed National Framework being prepared for submission to Parliament. To assist with this process, and to ensure that the environmental effects of these projects were understood, a further environmental assessment was undertaken. In the interests of transparency and in order to meet the requirements of the Environmental Assessment (Scotland) Act 2005, it was considered appropriate to publish the findings of this assessment. This aimed to elicit further public views on the environmental effects of the proposed developments. To encourage the public to participate at this stage, a second Annex to the Environmental Report was compiled and issued for an additional period of public consultation, during Autumn 2008.
- 2.5 Figure 1 below provides an overview of the SEA process.
- 2.6 The subsequent sections summarise the findings from three key stages of the SEA, review the views expressed by consultees at each stage, and draw conclusions on the influence of the SEA on the content of the proposed NPF.

Figure 1. Overview of the SEA Process



Public consultation within the SEA process

- 2.7 Public consultation is an important part of the SEA process. The Environmental Assessment (Scotland) Act 2005 requires that the public are given an 'early and effective' opportunity to participate in the SEA process. In particular, policy makers are required to involve the statutory Consultation Authorities at key stages, and to publish the Environmental Report alongside a draft of the plan, programme or strategy, to allow the public to comment on both.
- 2.8 The NPF SEA generated informal discussion with a range of stakeholders and numerous more formal consultation responses. The requirements of the legislation were exceeded by publishing additional information, including the SEA Scoping Report, and running a series of seminars focusing on the SEA findings in the second round of the NPF consultation process.
- 2.9 In addition to reflecting on the key findings from the assessment itself, the following sections also summarise the views that were expressed by consultees at each stage of the SEA. Further detail on the consultation findings will be provided in the SEA Statement at the end of the SEA process, following the publication of the NPF in 2009.

3. STAGE 1 – INITIAL REVIEW OF STRATEGIC ALTERNATIVES

- 3.1 This section summarises the key findings that emerged from Stage 1 of the SEA.
- 3.2 Stage 1 of the SEA involved a high level review of strategic policy alternatives. At the beginning of the process of developing the NPF, a series of themes were identified and used to structure early consultation on the potential content of the plan: ‘economy, sustainability, communities and connectivity’. These themes were explored in a series of NPF workshops, held across Scotland in early 2007.
- 3.3 For the purposes of the SEA, the four themes were developed so that each formed an outline NPF, comprising a series of specific policies and proposals. The alternatives were later reviewed and expanded to reflect comments made by stakeholders during the early consultation seminars. Policies and proposals were assessed against a set of SEA objectives and sub-criteria. This allowed reasonable high level policy scenarios, and their environmental effects, to be explored early in the policy-making process.

Key findings from the assessment at Stage 1

- 3.4 Early in the process, Stage 1 of the SEA showed that there was scope for the NPF to generate a range of environmental effects, depending on its content. The scenarios demonstrated the environmental benefits and disbenefits of different policies and proposals that could feasibly have been incorporated into the Discussion Draft NPF.
- 3.5 Unsurprisingly, the Stage 1 scenario which focused on ‘sustainability’ performed positively against the SEA objectives. The SEA emphasised the benefits of this scenario for a range of environmentally driven objectives, particularly biodiversity, water, soil, air, cultural heritage and landscape. However, it also demonstrated the need for careful management to ensure that solutions that would benefit one part of the environment would not be delivered at the cost of others. This included potential tensions between the globally driven climate change agenda, and more local environmental characteristics and sensitivities, as demonstrated by aims such as decentralised renewable energy generation and sustainable waste management. The ‘sustainability’ scenario also illustrated the way in which a conservative approach may inadvertently lead to displacement of development pressure and unplanned outcomes for the environment.
- 3.6 An alternative scenario explored the form and effects arising from a community driven NPF. Under this scenario, the NPF focused on improved quality of life, health driven priorities, housing, regeneration and environmental justice. It also considered the implications of improved transport accessibility, and energy solutions were based on community and householder renewables, domestic energy efficiency and the elimination of fuel poverty. This community-centred approach to the NPF was not expected to lead to significant adverse environmental effects, but would have positive effects for biodiversity, population and health. Considerable environmental benefits were expected from an emphasis on improved accessibility and community driven renewable energy.
- 3.7 However, some community aspirations were more difficult to reconcile with environmental aims. Settlement expansion strategies would not necessarily coincide with longer term conservation and climate change objectives. Effects on

landscape were predicted to be mixed, as they would depend on the compatibility of community aspirations with landscape protection and enhancement. Perhaps surprisingly, this approach risked reinforcing environmental problems in areas close to communities which were at highest risk of deprivation. Overall, the community driven scenario raised questions about how far a bottom up, disaggregated approach to the NPF could help to deliver equitable and sustainable economic growth.

- 3.8 Two other scenarios considered the implications of an NPF which prioritised 'economic growth' and improved internal and external 'connectivity.' The economic scenario considered the implications of the NPF taking a facilitative approach to development, anticipating and responding positively to market demand. Significant new land allocations for economic investment and housing would be made under such a scenario, including on the edge of settlements and from green belts. The implications of large scale road and public transport infrastructure improvements, as well as improved external connections by air, sea and high speed rail, were also explored. Overall, although the economy driven scenario raised questions for some aspects of the environment, it did not prove as negative as expected, partly owing to the accepted principles of place-making and linkages between environmental quality, regeneration and investment.
- 3.9 The economic and connectivity scenarios highlighted a range of more negative effects that could have arisen from the NPF. Whilst an infrastructure-led approach was expected to assist with planned settlement growth, it could also generate more negative direct and indirect effects, including on biodiversity, soil, water, cultural heritage and landscapes. However, scope for mitigating these effects was also identified, and this would be deliverable through a plan-led approach. An entirely industry led approach to climate change adaptation and mitigation, focusing on water, waste and energy developments was expected to fall short of meeting environmental objectives, as compared to a more interventionist approach.

Consultee views in response to Stage 1

- 3.10 A number of consultees responded to the Assessment of Strategic Alternatives, at the time when it was originally published and when it was re-published as an Appendix to the Environmental Report in early 2008. The Consultation Authorities welcomed this part of the assessment and in particular commended the opportunity it provided to ensure that the environment was integrated into the NPF's development from the outset.
- 3.11 There was general agreement amongst consultees that the sustainability driven scenario would represent the most environmentally beneficial option overall. However, they also noted that each NPF scenario had merits, and there was support for a number of components of the other scenarios.
- 3.12 In response to the Stage 1 report, SNH advised that urban and rural biodiversity and the strategic spatial characteristics of species and habitats should be taken into account in the NPF and that it should reiterate the role of development planning and management in contributing to biodiversity. Links between biodiversity, landscape and regeneration were also emphasised. It also recommended that the Glasgow and Clyde Valley Green Network should be

identified in the NPF as an example of good practice in green network development.

- 3.13 SNH also emphasised the importance of walking and cycling for improving health, and also made broader comments, along with SEPA, on the important role of the NPF in promoting sustainable transport options. In broader terms, SNH and SEPA also advised that the NPF should play a key role in promoting sustainable settlement patterns. It was suggested that this should include locating development alongside sustainable transport routes, and taking flood risk into account.
- 3.14 The assessment prompted further comments on the role of the NPF in protecting and enhancing landscape and cultural heritage. SNH emphasised the importance of understanding and reflecting landscape capacity and distinctiveness, as well as the links between landscape enhancement and biodiversity networks. They also stated that landscape protection and enhancement are important for both new and existing development areas. Historic Scotland similarly explained priorities for cultural heritage protection, and explained that enhancement would not necessarily be appropriate for all archaeological sites.
- 3.15 The responses also raised some methodological issues. Historic Scotland had concerns about the consistency of the assessment of cultural heritage effects when compared with findings for other environmental criteria. For example, impacts envisaged for biodiversity or landscape may also be relevant to the historic environment, but had not been highlighted in the report. Further consideration of effects on designated cultural heritage sites and buildings was recommended, to balance the assessment with the findings for non-designated resources. Whilst the latter may be vulnerable as a result of their lack of formal protection, Historic Scotland emphasised that protected sites can be similarly vulnerable given their intrinsic value and sensitivity.
- 3.16 SEPA provided advice on the role of the assessment of strategic alternatives within the broader SEA of the NPF. It was recommended that the subsequent Environmental Report (ER) should explain the reasons behind the ultimate choice of each policy component included in the Discussion Draft. SEPA also recommended that full consideration be given to environmental mitigation measures.
- 3.17 Further more detailed issues and suggestions were also raised in response to the assessment of strategic alternatives. Historic Scotland noted that the historic environment may experience secondary effects from the expansion of tree cover. SEPA recommended the use of evidence gathered in the River Basin Management Planning (RBMP) process to inform the assessment, and proposed that the NPF explain links between RBMPs and the planning system. Support was also given to defining requirements for new waste management facilities in the NPF.

4. STAGE 2 – ASSESSMENT OF THE DISCUSSION DRAFT NPF

- 4.1 Stage 2 of the SEA involved a more detailed review of the contents of the Discussion Draft NPF. Key policy components were identified and assessed. The assessment focused on the policies and proposals for which the NPF was considered to be the main delivery mechanism. Other parts of the NPF were assessed more generally, as they reflected policy commitments that are primarily defined in other plans and strategies, which are subjected to their own SEAs. However, where appropriate, these broader aims were also taken into account in the assessment of the secondary and cumulative implications of the NPF as a whole.

Key findings from the assessment at Stage 2

- 4.2 The Discussion Draft NPF was predicted to generate both positive and negative effects on biodiversity at Stage 2, as it reiterated a commitment to safeguarding biodiversity through planning, and recognised the role of the natural environment in contributing to quality of life. The Discussion Draft also included proposals for strategic green networks and environmental enhancement for the long term, which could improve links between important ecological sites. More negative effects on biodiversity were expected from some of the specific development proposals. This included adverse effects on some protected sites and habitat networks from strategic transport infrastructure improvements. Taking into account the proposed National Developments and strategic development proposals to the west of Edinburgh, potential effects on the protected sites on of the Firth of Forth were identified as an area of potential concern. The assessment noted that the wider coast, estuaries and marine environment may also be vulnerable as a result of proposals for shipping and renewable energy generation and transmission infrastructure.
- 4.3 The Discussion Draft NPF was expected help to reduce some population and health problems, by supporting community regeneration, and playing a role in securing an appropriate supply of land to meet a range of housing needs. Benefits were predicted from the ongoing commitment to reducing the amount of derelict land. Secondary benefits were expected from the aims of promoting economic development, reducing social deprivation and achieving broader environmental protection for soil, water and air quality. The assessment showed that potential temporary adverse effects on communities during construction of major developments would require appropriate mitigation.
- 4.4 The Discussion Draft was found to contribute to climate change mitigation by promoting carbon capture projects, supporting delivery of renewable energy and encouraging a shift towards the use of more sustainable modes of transport in order to reduce harmful emissions. However, the SEA also showed that these positive measures were undermined to an extent by other aspects of the policy, including established transport infrastructure commitments and a general emphasis on improving connectivity within Scotland, and with the rest of the world. Some of the proposed National Developments raised challenges for climate change mitigation agenda, as they supported road, air and sea transport, which can generate harmful emissions. The SEA showed that some climate change adaptation measures had been built into the Discussion Draft, but these were limited by ongoing uncertainty about the nature and scale of impacts of climate change and the form which adaptation should take. However,

opportunities for improved national habitat networks, sustainable water and flood management and long-term consideration of settlement patterns were expected set a positive context for development plans.

- 4.5 Loss of, or damage to, some of Scotland's soil resources were predicted at Stage 2, particularly as some of its proposals would require development on greenfield land, including some of the proposed National Developments. The SEA also showed that some benefits for soil may be achieved from wider environmental enhancement measures and commitments to reducing pollution. This included long-term benefits from a continuing emphasis on derelict and vacant land reclamation.
- 4.6 Similarly mixed effects on the water environment were expected. This included potential cumulative effects of developments on current and future flood risk and diffuse pollution, and a need for a sustainable approach to securing water supplies. The Discussion Draft NPF went some way towards responding to this challenge by noting the need for strategic infrastructure investment in some areas, and the Metropolitan Glasgow Strategic Drainage Scheme was found to represent good practice in water and drainage management. The assessment identified particular challenges for coastal and marine environments, particularly if they are to accommodate renewable energy developments and an increase in shipping activity.
- 4.7 In terms of material assets, the Discussion Draft NPF was found to support the principles of sustainable waste management, in line with wider sectoral policy. However, the SEA suggested that this could have been taken further through the identification of specific infrastructure requirements.
- 4.8 The Discussion Draft NPF aimed to realise wider transport policy aims, including those set by the National Transport Strategy. It also supported the development of the new Forth Crossing by identifying it as a National Development. Whilst this and other transport projects were designed to take forward the connectivity agenda, the SEA showed that they would have secondary effects on some aspects of the environment, including soil, water, cultural heritage, landscape and biodiversity.
- 4.9 Both positive and negative effects on cultural heritage, specifically the historic built environment, were expected from the Discussion Draft NPF. The overall strategy recognised the general value and contribution which heritage resources make to the quality of life and tourism. However, the Discussion Draft NPF's emphasis on securing sustainable economic growth and infrastructure expansion and enhancement could also have more negative implications for some aspects of the historic environment. Some of the National Developments were predicted to have local effects on cultural heritage. Coastal and marine archaeology were expected to be particularly vulnerable to plans for improving the electricity transmission grid and offshore renewables.
- 4.10 At Stage 2, the Discussion Draft was expected to have mixed effects on Scotland's landscapes. Whilst it aimed to reflect the special characteristics and capacity of landscapes in different parts of the country, the commitment to sustainable economic growth and emphasis on development in accessible locations (often on the edge of settlements) would have implications for some vulnerable landscapes. The SEA showed that most of the proposed National

Developments would have particular implications for landscapes and seascapes, in particular, reinforcement of the electricity transmission grid. The assessment also highlighted that landscape change may be particularly significant in the area to the west of Edinburgh.

Consultee views in response to Stage 2

- 4.11 Twenty three consultees referred to the NPF ER (Stage 2 findings) in their consultation responses. Detailed responses were received from SNH and SEPA, covering strategic, methodological and detailed technical issues. Overall, there appeared to be general agreement that the assessment of the Discussion Draft NPF had been comprehensive and informative. However, it was also suggested that a number of findings needed further consideration.
- 4.12 Firstly, there was some concern about the coverage of climate change issues in the Discussion Draft NPF and the ER. SEPA felt that it would be useful to clarify the overall performance of the Discussion Draft NPF in relation to climate change. As part of this, it was suggested that greater attention should be paid to settlement expansion patterns and strategic flood risk issues, including in areas where there are National Developments. Climate change proofing of the NPF's proposals for transport, energy and other infrastructure, was recommended. Overall, there was concern that the emphasis of the NPF on economic growth was incompatible with climate change mitigation commitments.
- 4.13 The Discussion Draft NPF's coverage of transport, and the environmental consequences of a continuing commitment to improved connectivity, were also raised in responses to the ER. Some consultees were not convinced that improved public transport access to Glasgow and Edinburgh airports would significantly reduce the negative effects of aviation on greenhouse gas emissions, as they felt had been implied in the Environmental Report. However, there was support for other policies in the Discussion Draft NPF, including the emphasis on better shipping and rail freight connectivity and improved access to centres of employment. On the whole, consultees were concerned that, although the Discussion Draft NPF strategy supported measures to achieve a shift to more sustainable forms of transport and reduce the need to travel, these principles had not been reflected in the choice of National Developments at that stage.
- 4.14 SEPA provided further advice on the assessment of the Discussion Draft NPF in relation to the water environment. In addition to the assessment's focus on pollution issues, effects on water arising from morphological and physical impacts and changes to water quantity were also identified. Whilst conclusions on the effects of the Discussion Draft on the coastal and water environment and associated mitigation measures were generally supported, SEPA felt that the effects of the proposed grid reinforcements may be more significant than had been suggested in the ER, as the scale of the development could lead to catchment level effects. SNH suggested that further consideration should be given to the impacts of the Discussion Draft NPF on the marine environment.
- 4.15 Responding to the ER findings, SEPA and SNH both expressed strong support for the identification of a national network of waste management infrastructure sites, that could be presented in a similar way to the proposed programme of electricity grid reinforcements.

- 4.16 SEPA raised air quality issues, noting that some of the proposed National Developments are located close to existing Air Quality Management Areas, where there are concerns about levels of certain emissions. They felt that cumulative effects on air quality may arise as a result of elements included in the Spatial Perspectives combined with some of the proposed National Developments, particularly increased transport-related emissions to the west of Edinburgh and at Grangemouth where increased shipping could exacerbate established industrial emissions. Further secondary effects on health arising from air quality problems were raised. A commitment to appropriate mitigation measures was recommended.
- 4.17 The responses raised concerns about the NPF's coverage of broader aspirations for an increase in levels of new housing development. It was noted that the ER did not fully define the effects of proposals for new communities, including those proposed under the Scottish Sustainable Communities Initiative (SSCI). Consultees felt that whilst these effects would be explored within development plans and their respective SEAs, it would be useful to begin this process by undertaking further consideration at a national level.
- 4.18 In addition to the impacts of the Electricity Grid Reinforcements on the water environment, SEPA and SNH raised issues relating to energy developments included in the Discussion Draft NPF. SEPA asked for further consideration of the environmental effects of biomass, and noted the need to recognise that carbon capture and storage formed only part of a wider hierarchy of sustainable energy management measures. SNH felt that it would be useful to develop an action plan for the energy components of the Discussion Draft NPF.
- 4.19 SNH and SEPA both commented on the potential effects of the Discussion Draft NPF on soil. They suggested that there may be more negative effects on soil than had been identified in the ER, and explained that this would have implications of varying levels of significance in different parts of the country, with prime agricultural land being disproportionately affected on the East Coast, for example. There was agreement that further data on soil functionality is required to ensure that the implications of development and land use change are better understood.
- 4.20 SNH suggested that the Discussion Draft could have sought to reduce adverse effects on biodiversity in a more proactive way. Whilst the Central Scotland Green Network proposal was welcomed, its benefits were considered limited, especially when compared with the possibility of broader negative effects arising from the development agenda, which is promoted in the document as a whole. SNH highlighted a number of concerns relating to Natura 2000 sites, and agreed that this should be explored further in an Appropriate Assessment.
- 4.21 SNH made several comments about landscape effects, and the suggestion in the SEA that the Discussion Draft NPF supported enhancement. Further information on these proposed landscape improvements was sought. It was recommended that data sources for monitoring impacts on landscape were identified clearly, including Landscape Character Assessments. SNH felt that the NPF should address potential conflicts with landscape character and settlement patterns.
- 4.22 The Consultation Authorities concurred with the assessment with regard to potential cumulative effects on the Firth of Forth arising from the proposed

National Developments combined with the overall spatial strategy in the Discussion Draft NPF. SNH also suggested that the SEA could benefit from similar projections of the cumulative effects of development in different areas, to allow for alternative spatial strategies to be explored. They also noted that the further review of SPP3, and in particular its commitment to ensuring planning helps to deliver the goal of 35,000 new homes annually, would allow for further exploration of the cumulative effects of growth and development.

- 4.23 SNH was disappointed that few of the National Developments could be considered 'sustainable', but welcomed the recognition of this in SEA. They suggested that other National Developments, which had the environment at their core, should be considered further.
- 4.24 More detailed recommendations were made in the responses for possible mitigation measures to be incorporated into the NPF Action Programme. This was considered a useful output from the SEA, and it was recommended that a finalised Mitigation Schedule should identify the organisations which will be responsible for implementing each measure, to assist with their delivery. This has therefore been developed further to incorporate more detailed suggested mitigation measures.
- 4.25 Overall, at Stage 2 in the SEA process (the Assessment of the Discussion Draft NPF), there was some disappointment that some of the components proposed under the 'sustainability' scenario at Stage 1 in the assessment process had not been taken forward into the Discussion Draft, whilst apparently less positive options focusing on connectivity had been included. There was, however, a general consensus that the Discussion Draft NPF could provide environmental benefits, and that the predicted negative environmental effects would be largely manageable through appropriate strategic mitigation and effective strategic and local development planning.

5. STAGE 3 – SUPPLEMENTARY ASSESSMENT OF CANDIDATE NATIONAL DEVELOPMENTS

- 5.1 Consultee views on the Discussion Draft NPF included ideas and suggestions for numerous alternative or additional National Developments. As many of these projects had not been subjected to a full SEA, a further Annex to the Environmental Report was prepared and consulted upon in Autumn 2008. Building on the findings at Stages 1 and 2, the Supplementary Assessment of Candidate National Developments at Stage 3 explained the range of effects that would arise from extending the suite of National Developments to incorporate some or all of these suggested projects.
- 5.2 The assessment of candidate National Developments was undertaken using the same method as had been used to consider the nine National Developments included in the Discussion Draft NPF. Following an initial review to eliminate projects which did not meet the Scottish Government's stated criteria for national developments, the potential environmental impacts of a total of 43 additional candidate national developments were assessed. Whilst it was considered unlikely that all of the proposals would be given National Development status, the assessment explored their possible cumulative environmental effects, and their contribution to the effects of the NPF as a whole.

Key findings from the assessment at Stage 3

- 5.3 The Stage 3 assessment showed that many of the proposed National Developments potentially conflicted with wider Scottish Government commitments to climate change mitigation. This included the airport enhancements, road improvements and baseload capacity improvements at existing power station sites. However, the SEA also emphasised the role which some energy sector projects had the potential to play in contributing to climate change mitigation. Other projects were expected to also assist with climate change, including proposals for rail improvements and active travel.
- 5.4 The Stage 3 assessment found that a large number of the candidate National Developments could have adverse effects on biodiversity. In many cases significant effects could arise from the scale and locations of the projects, or the likelihood that they would involve land-take or disturbance. As in Stage 2, the protected sites on the Firth of Forth were found to be potentially affected by a number of projects, including the new Forth Crossing, Grangemouth and Rosyth ports, new baseload power generation and coastal protection measures. The assessment therefore reiterated that further consideration would be required if they were all taken forward in the NPF. The SEA showed that several other candidate National Developments could have repercussions for wider coastal and marine habitats and species, including: port developments at Grangemouth, Rosyth, Hunterston, Loch Ryan and Dundee, and energy and grid related developments.
- 5.5 It was noted that there may be positive and negative effects from the candidate National Developments for communities. Project level mitigation was recommended, to ensure that short-term construction and long-term operational effects, including changes to air quality, noise and other nuisances, do not have cumulatively unacceptable effects on quality of life adjacent to the proposed airport enhancements, road enhancements and energy related developments at

the project level was recommended. Some of the larger scale projects could also have cumulative effects on communities, including people living in some rural areas where levels of development, noise and disturbance are currently relatively low and effects may therefore be more significant.

- 5.6 Significant adverse effects on air quality were predicted from some projects, including those located to the west of Edinburgh. Some of the road improvements could also generate air quality issues and the assessment showed that these have the potential to be cumulatively significant at a national level if the finalised suite of developments were to focus strongly on these proposals. Other projects could, directly or indirectly, lead to improvements in air quality.
- 5.7 The SEA showed that some of the proposed National Developments could generate significant negative effects on the water environment, including the large scale transport projects and many of the energy driven proposals. Most of the transport projects also raised specific concerns about soil, and the SEA suggested that the final suite of developments be reviewed to ensure that they do not generate a disproportionately high negative cumulative effect on prime quality agricultural land. In contrast, several of the candidate developments were found to have potential for geographically cumulative positive effects on concentrations of derelict and vacant land in the West of Scotland.
- 5.8 The new Forth Crossing, several other strategic road and rail improvements and the grid reinforcements were predicted to generate significant negative effects on cultural heritage in the absence of appropriate mitigation. The SEA highlighted potential for significant cumulative effects on the historic centre of Edinburgh and coastal and marine areas, depending on the final selection of National Developments.
- 5.9 Potentially significant landscape effects were raised in relation to the new Forth Crossing, some of the airport enhancements, road and rail improvements. Cumulative effects were expected for some landscapes, notably those which are already heavily altered by linear infrastructure, urban areas, green belts and firths. The SEA emphasised that care would be needed within such areas to avoid cumulative effects resulting in an unacceptable level of change that breaches landscape capacity.

Consultee views in response to Stage 3

- 5.10 Twenty six consultees commented on Annex 2 of the Environmental Report (Supplementary Assessment of Candidate National Developments). Comments ranged from detailed issues relating to specific candidate National Developments, to broader views on the approach to this stage of the SEA process. Many of the views submitted in response to the Environmental Report at Stage 2 were reiterated at this stage.
- 5.11 This additional stage in the SEA process was generally welcomed. Importantly, the three SEA Consultation Authorities: SNH, SEPA and Historic Scotland, all agreed that the approach was generally comprehensive, and were supportive of the findings. However, several consultees felt that it was difficult to comment on the findings, and questioned whether the assessment could be regarded as reliable for some of the developments, as the information about the nature and location of some of the candidate projects was limited. Echoing views from some

other consultees, SNH suggested that there would be a need for further assessment of environmental effects at a more detailed level and this was recognised within the report itself.

- 5.12 Accepting that some further detail on the candidate National Developments will be helpful to inform the NPF Action Programme if they are to proceed as National Developments, the Scottish Government considers the approach and level of detail provided in the SEA ER, including the Annex 2 report, to be appropriate within the context set by the NPF.
- 5.14 In terms of more specific views on the assessment findings, concerns continued to be raised about the environmental effects of some of specific proposals.
- 5.15 This was particularly the case for the suite of electricity grid reinforcements, where concerns primarily related to landscape impacts. As a result, some environmental groups contended that the development should not be included in the Proposed Framework. Energy sector representatives, however, stated that some aspects of the assessment of this candidate National Development had been unduly negative, and emphasised that several of the projects would amount to little more than routine maintenance, generating no or minimal environmental effects. Indeed, despite the polarised nature of consultee views on this development, there was a shared view that this candidate National Development encompassed too wide a range of projects to allow a meaningful collective assessment.
- 5.16 Consultees supported a range of other candidate National Developments, partly because they considered them to be environmentally positive options. There was widespread support for inclusion of the Central Scotland Green Network as a National Development in the Proposed Framework. Several local authorities and regional transport bodies also made the case for transport developments within their areas to be prioritised. The energy and aviation sectors continued to seek support for investment in their sectors through the inclusion of relevant candidate National Developments in the Proposed Framework. They also provided further evidence that suggested that the findings from the SEA might be more negative than was warranted.
- 5.17 Supporting the assessment findings, several consultees expressed concerns about some of the potential cumulative effects of the candidate National Developments. Cumulative adverse effects in relation to the climate change agenda were considered to be significant by the RSPB and SEPA, with the latter recommending that these should be considered further in relation to the 80% national target for reducing emissions. Several consultees noted the varying opportunities to add to or detract from climate change mitigation, depending on the projects which are included in the final suite of National Developments.
- 5.18 Spatially, and again supporting the findings of the assessment, there continued to be concerns amongst environmental stakeholders about the potential cumulative effects of National Developments on the Firth of Forth, including its internationally protected habitats and species. Several consultees noted the need for a Habitat Regulations Assessment of the NPF prior to its adoption. Broader issues relating to the coastal and marine environment were also raised by consultees at this stage.

- 5.19 The Landscape Institute expressed concerns about cumulative effects on landscape, whilst Historic Scotland noted the potential for cumulative effects on the historic environment. SEPA also reflected on the various potential effects of the candidate developments in relation to flooding, recommending a strategic flood risk assessment to mitigate their effects.
- 5.20 All of the consultees recognised that these cumulative effects may not necessarily lead to a fundamental change in the NPF strategy. Some therefore suggested mitigation measures, including undertaking more detailed work particularly focusing on the Firth of Forth, to identify more specific areas and environmental features that might be under particular pressure. These measures could be incorporated into the Action Programme for the NPF, and will be informed further by the parallel Habitats Regulations Assessment of the NPF. SNH suggested that it would be helpful to define the environmental limits within which developments on the Firth of Forth should be constrained.

6. INTERIM RESPONSE TO KEY ISSUES RAISED BY CONSULTEES AT STAGES 1 - 3

6.1 Following adoption of the NPF, the SEA Statement will provide full details of the responses to the SEA consultation, and the influence they have on the final version of the NPF.

6.2 In the interim, this section summarises the key issues that were most consistently or repeatedly raised by consultees at all three stages of the SEA process, and explains the response to these views, including their influence on the content of the Proposed NPF:

6.3 **Issue 1: Strategic Alternatives.** The opportunity for early consideration of environmental issues provided by the review of strategic alternatives was welcomed (Stage 1 of the SEA). There was consensus that the sustainability driven scenario would represent the best solution for the environment. There was also support for elements included in other scenarios, on the basis of their environmental benefits. As the policy drafting process progressed, some consultees noted that some of the most sustainable options raised within the discussion of strategic alternatives had not been taken forward.

Response: The review of strategic alternatives proved to be a useful means of ensuring that strategic environmental considerations were incorporated into the NPF from the outset. The ER Annex 1 explained why some of the components from the sustainability scenario were taken forward and others were not. Environmental considerations form part of a wider process of policy development. In some instances the 'best' environmental option has been taken forward, whilst in others this has not been possible. The reasons for this are explained in Annex 1 of the Environmental Report.

6.4 **Issue 2: Climate Change.** Views that the NPF could do more to contribute positively to climate change mitigation and adaptation emerged throughout the SEA process. Consultees suggested climate change proofing the NPF's proposals for transport, energy and other infrastructure. The potential for tensions between the effects of some developments on local environmental resources and global climate change objectives, were thrown into clearest focus by the proposals to upgrade energy transmission infrastructure.

Response: The NPF aims to deliver the Scottish Government's commitment to sustainable economic growth. Whilst such growth may generate challenges for the environment, the NPF aims to provide a balanced approach to development which protects and enhances the environment in a positive way. Requirements for assessing the carbon impacts of major developments proposed in the NPF will be identified in the Action Programme.

6.5 **Issue 3: Airport Enhancements.** Consultees tended to focus on the negative effects of aviation on greenhouse gas emissions, without recognising that the NPF specifically supported land based transport access, as opposed to the expansion of airports generally. Consultees suggested further assessment and monitoring of carbon offsetting associated with the airport enhancements, or called for significant strengthening of the mitigation relating to climate change.

Response: *This conclusion at Stage 2 was based on recognition that the National Development designation specifically focuses on surface transport elements of airport enhancements. However, it has been acknowledged that the broader implications of air transport expansion would be negative, and the assessment findings were updated at Stage 3. The developments were included in the proposed NPF despite their potential for adverse effects, given their role in supporting the wider aspiration for economic growth and improved internal and external connectivity.*

- 6.6 **Issue 4: Grid Reinforcements.** Several consultees expressed concern about the individual and cumulative effects of the proposed grid reinforcements. Some suggested that the SEA could have gone further in exploring reasonable alternatives to the development. More detailed comments included views that the effects of the proposed grid reinforcements on biodiversity, water and landscape may be more significant than had been suggested. Some consultees felt that the SEA should have gone further in influencing the content of the NPF and removing this proposal from the suite of National Developments. Others felt that rural areas could potentially be disproportionately adversely affected by the development, and the secondary effects arising from associated wind farm developments. However, evidence was provided that showed that the effects of some of the constituent developments will not be significant, given that they would only require works in the order of general maintenance.

Response: *The NPF SEA assessed the environmental effects of National Developments in principle, reflecting the strategic nature of the designation. The SEA identified the likely environmental effects of the developments collectively, including the potential for cumulative effects. The environmental effects of the strategic alternative of off-shore cables were also assessed at Stage 3 of the SEA. No other demonstrably viable alternatives were identified during the drafting of the NPF, but the suggestion that significant adverse effects are not applicable to all of the proposed developments included under the heading is accepted. The development has been included in the NPF because of its positive contribution to delivering renewable energy developments and maintaining the security of electricity supply. Building on the findings of the assessment, the Mitigation Schedule (appended to the NPF Action Programmes) identifies strategic mitigation measures to minimise the potential significant for adverse effects from the development. The approach to the SEA of this development (a review of the effects arising from the development in principle) is considered appropriate for a plan at the strategic level.*

- 6.7 **Issue 5: Additional or alternative proposals to National Developments.** There was support for the identification of a national network of waste management installations and for the Central Scotland Green Network to be included as National Developments. SNH expressed disappointment that few of the National Developments can be considered 'sustainable' and recommended that other National Developments, which have the environment at their core, should be considered further.

Response: *These comments were taken into account in drafting the Proposed NPF. It was not possible to identify a network of waste*

management installations as a National Development because there is currently insufficient information on where these installations might be located. However, the revised text emphasises the central role of planning in delivering such infrastructure, and states that nationally significant installations may be included in the next NPF. Opportunities for environmentally driven alternative National Developments were explored during the redrafting process. The final suite of National Developments includes infrastructure projects which score strongly against the selection criteria. These criteria reflect economic, social and planning as well as environmental considerations. Initiatives designed to secure environmental objectives do not necessarily require National Development status to secure their delivery.

- 6.8 **Issue 6: Spatially cumulative effects.** The assessment concluded that there was potential for cumulative effects on the Firth of Forth arising from the proposed National Developments and overall spatial strategy set out in the Discussion Draft NPF. It was also suggested that the SEA could benefit from similar projections of the cumulative effects of development in different areas, to allow for alternative spatial strategies to be explored.

***Response:** This has been taken into account in drafting the Proposed NPF. An Appropriate Assessment is being undertaken to ensure that the NPF will not generate significant adverse effects on the Forth's Natura 2000 sites. The Proposed NPF emphasises the importance of managing change and using the resources offered by Scotland's firths. Mitigation proposed for each of the relevant National Developments, in relation to developments plans, and the NPF Action Programme will ensure a collaborative approach to delivering these aspects of the NPF in a sustainable way. The suggestion of further spatial analysis of cumulative effects was acknowledged and used to inform the approach to the assessment of candidate National Developments at Stage 3.*

- 6.9 **Issue 7: Strategic housing provision.** There were some concerns about the NPF's coverage of the broader aspiration for an increase in levels of new housing development. It was noted that the ER did not fully define the effects that may arise from proposals for new communities, including those which could be taken forward under the Scottish Sustainable Communities Initiative (SSCI). Whilst these effects would be explored in development plans and their respective SEAs, consultees felt that it would be useful to begin this process by undertaking further consideration at a national level.

***Response:** The SSCI proposals are currently being reviewed and it would therefore be premature to include any of the projects in the Proposed NPF. The Scottish Government will be requiring an SEA of the successful bids under the programme and, prior to this, is applying the principles of SEA to inform the SSCI evaluation process.*

- 6.10 **Issue 8: Sustainable Settlement Patterns.** Some consultees felt that the NPF should play a key role in achieving sustainable settlement patterns to assist with climate change adaptation. This should include locating development alongside sustainable transport routes, and taking flood risk into account. The latter issue was raised in relation to a number of proposed National Developments.

Response: *The need for planning to identify sustainable development patterns is explicitly supported by the NPF. The Proposed NPF makes further reference to flooding issues and sustainable transport. Other initiatives, such as the SSCI, will help to progress the aspiration of sustainable development patterns by exploring how the concept can be translated into planning practice. Flooding issues are also being addressed in the recently introduced Bill on Flood Management.*

- 6.11 **Issue 9: Effects on biodiversity.** Some consultees called for improved coverage of biodiversity issues in the NPF. It was suggested that the NPF consider urban and rural biodiversity and the strategic spatial characteristics of species and habitats. The role of development planning and management in linking biodiversity, landscape and regeneration was emphasised, and the Glasgow and Clyde Valley Green Network was identified as an example of good practice in green network development.

Response: *The Proposed NPF refers to biodiversity, and notes the influence of climate change upon it. The spatial references to landscape enhancement have been increased in the Proposed NPF. More detailed guidance is provided in NPPG14. The concept of a Central Scotland Green Network, as proposed by the NPF has been explored further by partner organisations, with specific proposals being included in the NPF Action Programme.*

- 6.12 **Issue 10: Contribution to sustainable transport.** Various comments were made in relation to the role of the NPF in promoting sustainable transport options. This included some concern that, although the NPF's strategy supported measures to achieve a modal shift, these principles were not reflected in the choice of National Developments. In addition the importance of walking and cycling for improving health was emphasised. Support was expressed for the NPF's commitments to better freight connectivity and improved access to centres of employment.

Response: *Further references to the role of planning in promoting sustainable transport options, including walking and cycling, have been included in the Proposed NPF.*

- 6.13 **Issue 11 : National developments and air quality.** Some of the National Developments are located close to existing Air Quality Management Areas (AQMAs). Cumulative effects on air quality may arise as a result of elements included in the Spatial Perspectives combined with some of the National Developments, particularly increased transport-related emissions to the west of Edinburgh and at Grangemouth, where increased shipping could add to existing industrial emissions. Further secondary effects on health arising from air quality problems should be mitigated.

Response: *The points raised at Stage 2 in relation to air quality, specifically in terms of the impacts of the National Developments, were considered further and built into the reporting of environmental effects at Stage 3 of the SEA. Scope for mitigation has been identified in the Mitigation Schedule which accompanies the NPF Action Programme. The Proposed NPF also now includes specific references to air quality.*

- 6.14 **Issue 12: Landscape and cultural heritage.** The role of the NPF in protecting and enhancing landscape and cultural heritage was discussed by consultees. It was proposed that this should include developing understanding, and reflecting landscape capacity and distinctiveness, as well as the links between landscape enhancement and biodiversity networks. It was noted that landscape protection and enhancement are important for both new and existing development areas. Consultees recommended that data sources for monitoring impacts on landscape should be identified clearly, including Landscape Character Assessments. Some consultees expressed concern that the effects of the NPF on NSAs and wild land had not been fully defined.

***Response:** The Proposed Framework includes an enhanced section on landscape, which explores key issues and emphasises the cultural heritage value of landscapes. Biodiversity improvements at a landscape scale are also supported. Degraded landscapes are also identified as a priority for enhancement in the Proposed NPF. Landscape enhancement, capacity and distinctiveness will be addressed in greater detail in taking forward development plans.*

- 6.15 **Issue 13: Water.** With regards to water, it was suggested that the NPF should explain the links between RBMPs and the planning system. SEPA noted that there were likely to be further effects from the NPF's proposals on water arising from morphological and physical impacts as well as changes to water quality.

***Response:** The links with RBMPs are addressed in the Proposed NPF. The assessment of candidate National Developments (Stage 3) took the comments made in response to Stage 2 into account by exploring effects on wider aspects of the water environment, including physical and engineered changes and effects on water quantity.*

- 6.16 **Issue 14: Marine environment.** Some consultees felt that further consideration should be given to the impacts on the marine environment.

***Response:** These comments from Stage 2 were taken into account in the Stage 3 assessment of candidate National Developments. Further updated references to wider processes of marine planning have been included in the Proposed NPF.*

- 6.17 **Issue 15: Energy.** With regard to the energy provisions of the NPF, it was recommended that further consideration be given to the environmental effects of biomass. Consultees emphasised that carbon capture and storage formed only part of a wider hierarchy of sustainable energy management measures. It was suggested that it would be useful to develop an action plan for the energy components of the Discussion Draft NPF.

***Response:** The Proposed NPF recognises the need for biomass to be planned in order to minimise its potential environmental effects. The role of carbon capture and storage as part of a wider hierarchy of energy measures is also recognised, and was taken into account in the Stage 3 assessment of candidate National Developments. The NPF sets out policies which prioritise energy efficiency and renewable energy generation, but also ensure that requirements for baseload generation can be delivered. The inclusion of several energy related developments in the*

suite of National Developments has ensured that key measures have been considered within the NPF Action Programme. The Scottish Government's Renewable Energy Framework seeks to deliver a similarly proactive approach to sustainable energy generation.

- 6.18 **Issue 16: Effects on soil.** Some consultees felt that there may be more negative effects on soil than had been identified in the ER, with varying levels of significance in different parts of the country. There was consensus that further data on soil functionality is required, to ensure that the implications of development and land use change are better understood.

***Response:** These comments were taken into account and informed the assessment at Stage 3 of the SEA. The Scottish Soil Framework has identified the need for further baseline data to produce a clearer picture of nationally significant soil management issues.*

- 6.19 **Issue 17: The role of mitigation.** The assessment findings, supported by consultees, showed that full consideration should be given to environmental mitigation measures (as previously detailed).

***Response:** Full consideration of mitigation measures has been undertaken throughout the SEA process. A detailed Mitigation Schedule has been produced and appended to the NPF Action Programme. Key measures have also been incorporated into the main text of the Action Programme and the Proposed NPF where possible and appropriate.*

7. STAGE 4: ENVIRONMENTAL EFFECTS OF THE PROPOSED NATIONAL PLANNING FRAMEWORK

- 7.1 The Proposed National Planning Framework (NPF) has now been finalised, taking into account the findings and consultee views that emerged during Stages 1 to 3 of the SEA process.
- 7.2 The changes between the Discussion Draft and the Proposed NPF were the focus of the final stage of the SEA. These changes were made in response to the views of consultees on the Discussion Draft NPF, including those expressed specifically in relation to the SEA. The SEA shadowed the redrafting process, and each key change was considered to establish whether its environmental effects would be positive or negative. The likely environmental implications of the changes were fed back into the drafting process.

Key findings

- 7.3 The Proposed NPF is a succinct document. Much of the background information, cross referencing and justification for the strategy provided in the Discussion Draft have been removed or summarised in the interests of clarity and brevity. Some parts of the NPF have been updated to reflect more recent policy developments. It is not considered that this process of streamlining and updating has substantially reduced the environmental benefits of the NPF, or resulted in any significant adverse environmental effects.
- 7.4 Many of the other changes are relatively detailed, potentially resulting in minor environmental effects. The following changes are expected to provide further positive, but largely minor, environmental effects:
- Reworking of the section on climate change, which considers its implications for transport, energy, waste, biodiversity and new technologies.
 - Encouragement of city region spatial planning to achieve a shift to sustainable transport modes over the next 20 years (paragraph 54). Further references to cycling and walking opportunities are included later in the document.
 - Inclusion of a statement that development plans should seek to achieve a net enhancement of landscape quality and biodiversity (paragraph 54).
 - Note that cultural, social and recreational facilities have a crucial role to play in maintaining community identity and morale (paragraph 65).
 - A new paragraph on air quality with priority given to addressing problems in AQMAs (paragraph 82).
 - A new paragraph on strategic noise mapping and the preparation of noise action plans (paragraph 83).
 - Additional text under the heading 'Vacant and Derelict Land,' (paragraphs 88 to 90) which explains the implications for environments and communities, updating progress on reclamation and emphasising the opportunities for improvement.
 - Changes to 'Scotland's Landscapes' section to cover 'Landscape and Cultural Heritage,' with broader references to encapsulate the cultural heritage value of landscapes (paragraphs 96 to 99).

- New text at paragraph 110 confirming support for sustainable transport links to and from ports.
- New text at paragraph 120 supporting improvements to the West Coast Main Rail line to allow for increased freight movements by rail.
- Reworking of energy section to emphasise rationale for reducing greenhouse gas emissions, and the aspiration for Scotland to be a leading location for renewable energy technology and export (paragraphs 143 to 163).
- New guidance on biomass at paragraph 145 *“Biomass plants should be sited where they can make best use of locally available resources and will not encourage inappropriate planting.”*
- Further text explaining that higher building standards and improved insulation can substantially reduce heating requirement, and reference to consultation on a Renewable Heat Action Plan (paragraph 161).
- New text (179-181) under ‘Communications Technology’ noting the importance of broadband access and continuing investment by the Scottish Government.

7.5 In addition, the SEA has examined some of the more substantial policy revisions that have been built into the Proposed NPF, to ensure that the potential for negative effects has been minimised as far as possible. The following key changes and effects have been considered in more detail:

- The Proposed Framework includes new references to major transport improvements, specifically referring to demand responsive transport, park and ride facilities, and reflecting the findings of the STPR. Whilst each of these developments could have mixed environmental effects, these have been explored and mitigated as far as possible within the STPR process, and will be considered further as they are taken forward in local implementation. The Stage 3 analysis of candidate National Developments has also made the potential environmental effects of many of the more major transport projects explicit.
- Under ‘Energy,’ new text has been added to emphasise the importance of some areas for offshore wind energy developments, and the north and west coasts for tidal power. The Proposed NPF explains the need for further consideration of environmental sensitivities in selecting sites for this type of development. This is expected to provide positive effects overall, with more specific issues arising from sector specific plans and proposals, as opposed to the NPF. Further environmental assessment will be undertaken at a more detailed stage in the planning process.
- Under Baseload Power Stations, a new paragraph (152) has been added to the Proposed Framework, explaining that the Scottish Government does not support new nuclear power stations, and favours timely decommissioning and environmental remediation of redundant facilities. It notes the role of planning and SEPA in delivering this. This approach, which simply summarises the Government’s policy for this sector and highlights the role of planning in supporting the process, is not in itself expected to generate any significant effects.
- The ‘Energy’ section has also been revised to provide an updated reference to supplementary planning guidance on the location of wind farms and UK

guidance on wind farm developments and radar (paragraph 149). Paragraph 156 also includes new text explaining that grid improvements should be targeted at areas which planning authorities identify as preferable for renewable energy development, and in paragraph 159 a commitment is made to a programme of landscape maintenance and enhancement to mitigate the effects of grid reinforcement. This additional text is expected to provide a clearer spatial approach to renewable energy development, which would generate environmental benefits into the long term.

- Under Waste Management, the Proposed Framework notes that development of necessary infrastructure is a Government priority. The Proposed Framework includes a new paragraph (166) explaining the central role of the planning system in timely delivery of new installations required to meet targets and noting that nationally important installations may be included in the third NPF. Again, no direct or significant environmental effects are expected from this approach.
- New text has been added under ‘Flooding and Water Resource Management,’ stating that flooding has implications for coastal defence and cultural heritage (paragraph 176). The Proposed NPF also now notes in paragraph 177 that flood management can be linked with greenspace and ecological networks. Overall, environmental benefits are expected from this approach.

7.6 The changes to the suite of National Developments formed a particular focus at this stage of the assessment. The Proposed Framework takes forward the 9 developments identified in the Discussion Draft. It also includes four additional National Developments and two further airport enhancements. The effects of these developments was assessed and consulted on at Stage 3 of the SEA, and the findings of the assessment and further consultee views on in light of this environmental information have been taken into account. In summary, the developments, and their predicted environmental effects, are as follows:

Additional National Development	Summary of Effects
Improved rail connectivity in the West of Scotland	This project is not expected to result in any significant adverse environmental effects, but may have significant positive effects by providing sustainable infrastructure to serve long-term patterns of settlement development and encouraging use of sustainable transport options. This is likely to contribute to a reduction in CO ₂ emissions in the long term, thereby helping to deliver climate change mitigation. Consultee views on the environmental effects of this development were positive, as a result of its potential to contribute to the aim of achieving a shift to use of more sustainable modes of transport.
Additional airport enhancements (Aberdeen and Prestwick) added to	Whilst negative effects in terms of greenhouse gas emissions could be expected from any increase in passenger levels arising from these enhancements, it is noted that the contribution of the Proposed NPF to this is likely to be limited, as it focuses on improving surface access, particularly by public transport. Consultees from within the aviation industry also

Additional National Development	Summary of Effects
Glasgow and Edinburgh airport enhancements	<p>identified measures which have been developed to reduce emissions from the sector as far as possible.</p> <p>Positive effects on quality of life may arise from improved economic opportunities and connectivity, but some communities may also experience negative impacts as a result of nuisance effects such as noise. It is currently expected that local air quality issues should be manageable without generating significant adverse effects.</p> <p>Further environmental assessment and scheme-level mitigation will be required to avoid or reduce negative effects from the developments at the local level, focusing on issues including impacts on soil, water, cultural heritage and landscape.</p>
New port on Loch Ryan	<p>No significant adverse environmental effects are currently expected from this development. Consultee views on the environmental effects of this development were generally positive, including support for the associated land based transport improvements as a result of their potentially positive environmental effects.</p> <p>Although shipping generates greenhouse gas emissions, the improved facilities should reduce the length of the crossing and may help to promote the route as a sustainable alternative to more polluting options, specifically short-haul flights.</p> <p>The sensitivity of the local area to the development on the basis of the condition and value of its biodiversity, water, cultural heritage and landscape will require further consideration and mitigation at the project level.</p>
New power station and transshipment hub at Hunterston	<p>Significant concerns were raised by SEA consultees about possible emissions arising from the proposed power plant but evidence was also provided by consultees suggesting that the proposed CCS technology was more reliable than had originally been suggested. Whilst accepting that controls of emissions from this type of plant already exist, the health and atmospheric effects of the clean coal element of this development remain unclear given the lack of a detailed project specification at this stage. Further exploration and mitigation at the project level and the application of the appropriate consenting regimes will therefore be required.</p> <p>As noted by consultees, the development could have significant adverse effects on a nationally protected and regionally important biodiversity site. The project masterplan and its associated environmental assessment will therefore require to explore the scope for mitigating effects on habitats and bird species in detail.</p>

Additional National Development	Summary of Effects
	<p>The likely need for additional electricity grid connections was noted by consultees. This will require further consideration and environmental assessment as appropriate.</p>
<p>New non-nuclear baseload capacity at other existing power station sites</p>	<p>This National Development involves new baseload electricity generating capacity and associated infrastructure at a number of existing power station sites to be delivered over the long term as current facilities reach the end of their programmed operating lives. As with the proposals for Hunterston, several consultees expressed concerns about the potential effects of these developments, partly due to the lack of detail on their specification, and due to the unproven nature of the carbon capture and storage technology which would play a fundamental role in limiting emissions. Other consultees, however, provided additional information on existing controls of emissions from this type of plant which they felt would limit the potential for negative environmental effects.</p> <p>Whilst accepting that controls of emissions from this type of plant already exist, the health and atmospheric effects of the clean coal element of this development remain unclear given the lack of a detailed project specification at this stage. Whilst clean coal technology combined with carbon sequestration has the potential to provide a more sustainable option than the existing coal fired power stations, actual benefits will depend on further technological development and in particular the effective deployment of carbon sequestration measures. However, it should also be recognised that new baseload generating capacity in this form could contribute positively to the aim of diversifying energy supplies.</p> <p>As confirmed by consultees, there is potential for these developments to result in significant adverse effects on biodiversity, given their scale and likely construction and operational requirements, and their potential proximity to protected biodiversity sites. However, it is also acknowledged there is evidence of possible benefits through effective mitigation and compensatory measures, and that these examples could be used to inform project level planning, to minimise and mitigate any adverse effects.</p> <p>The developments may also have direct but more minor negative effects on water, soils, cultural heritage and landscape. Further environmental effects and issues, including waste generation and management were raised by consultees responding to Stage 3 of the SEA.</p> <p>Secondary effects may arise from the sourcing and transportation of coal and other minerals used in the operation</p>

Additional National Development	Summary of Effects
	of such facilities and arrangements for ash management. All of these effects will require further consideration at the project level.

- 7.7 The Proposed NPF includes new text relating to the National Developments, stating that: *“As projects of national importance, the Scottish Government will expect their design to be of a high quality. Given the Government’s climate change targets, it will also be important to ensure that they are designed to minimise their carbon impact, with mitigation measures employed to counteract any negative impacts on emissions.”* Positive effects are envisaged from this addition.

8. PROPOSED ENVIRONMENTAL MITIGATION AND MONITORING

- 8.1 Although the SEA has shown that some parts of the Proposed NPF have the potential to generate adverse environmental effects, it is expected that measures can be put in place to avoid or minimise them. Mitigation measures have been suggested by consultees throughout the SEA process.
- 8.2 Some mitigation measures could be taken forward with or without the guidance of the NPF SEA, and it is important to bear in mind that the NPF forms just one element in a hierarchy of development plans. Many of the proposed mitigation measures therefore take the form of guidance to be applied within the SEAs of strategic and local development plans and in implementing each of the National Developments.

Measures for avoiding or reducing environmental problems

- 8.3 In summary, the following key actions are proposed to avoid or reduce the significant environmental effects of each of the National Developments included within the Proposed NPF:
1. **Forth Crossing:** requires further survey and design work and a detailed construction plan to ensure that impacts on biodiversity, landscape, soil, water and cultural heritage are avoided or minimised. In addition, a waste management plan should be prepared to minimise waste generated and maximise the use of recycled materials.
 2. **Improved Rail Connectivity in the West of Scotland:** there may be a need to explore the effects of the project on undesignated biodiversity networks, cultural heritage, water and drainage infrastructure and the water environment more generally. Effects on population and human health should be minimised through the use of appropriate construction methods and operational management.
 3. **Strategic Airport Enhancements:** Measures to reduce the adverse but indirect effects of these developments on climate change, including management of fixed assets and operational activities, should be prioritised. It is expected that effects on biodiversity should be manageable at a local scale through partnership working. Construction and operational management will be required to minimise effects on health and communities, including noise, vibration and air quality. Ongoing work to manage flood risk at Edinburgh and Prestwick airports should be continued. Further detailed design and mitigation to minimise other environmental effects, including on water, soils, landscape and cultural heritage, will be required.
 4. **Grangemouth Freight Hub:** Flood risk assessment and additional coastal defences will be required to take into account long-term climate change. Ongoing monitoring of effects on the AQMA and regulation of emissions from shipping activity is recommended. Further consideration of the effects of increased shipping activity on the coastal and marine environment, including on protected sites and species, will be required.
 5. **Rosyth International Container Terminal:** Further consideration of the effects of increased shipping activity on the marine environment, including in relation to protected habitats and species, will be required. This should

be accompanied by more detailed mitigation measures including siting, design, ongoing regulation and good practice in shipping.

6. **New Port on Loch Ryan:** Any associated road improvements may require mitigation such as appropriate including siting, design and construction to avoid adversely affecting protected species and habitats, wider ecological networks, landscapes, and cultural heritage.
7. **Scapa Flow Container Transshipment Facility:** Measures to avoid or minimise adverse effects on the marine environment from shipping and development will be required, together with an more detailed assessment of the effects of shipping activity on nearby Natura 2000 sites. Further assessment of effects on marine heritage resources and the heritage value of the port itself, should be undertaken to identify construction and operational mitigation measures as required.
8. **New Power Station and Transshipment Hub at Hunterston:** Regulation of the emissions from the power station, combined with those arising from the port, will be required. Further development of carbon sequestration measures and clarification of associated environmental risks should be provided prior to the development proceeding. Appropriate construction methods, siting and design of the developments and associated operational activities to minimise ecological effects should be explored within the development masterplan. Detailed design and siting should minimise adverse effects on the coastal environment, cultural heritage and landscape and minimise waste arising from the power plant.
9. **New Non-Nuclear Baseload Capacity at Other Existing Power Station Sites:** Further assessment of the likely emissions from the power plants, in the light of the design and development of carbon sequestration measures, will be required as the projects progress. This should take into account existing pollution controls on emissions from such plants. Appropriate construction practice, siting and design should minimise effects on biodiversity, landscape, soils, water, communities and cultural heritage. The sourcing of materials to service the plant should be reviewed in more detail to provide further mitigation of potential secondary effects. Detailed consideration of the effects of the power stations on local communities, including during the construction phase, should continue at each stage of the planning process. Sustainable ash management strategies will also be required.
10. **Electricity Grid Reinforcements:** Fuller consideration of the landscape effects of the schemes and exploration of reasonable siting, design and routing alternatives that avoid unacceptable cumulative landscape and visual effects and minimise adverse effects on other aspects of the environment will be required for some of the components. Mitigation of effects of some of the projects (i.e. new links and connections) on biodiversity, soil and water will be achieved through choice of transmission line or cable route and specification; avoidance of sensitive areas and appropriate installation techniques. Appropriate design, siting and installation measures should also reduce direct effects on known and unknown archaeology, cultural landscapes and historic buildings.
11. **Metropolitan Glasgow Strategic Drainage Scheme:** The NPF SEA identified mostly positive effects from the development. However, further consideration of possible impacts on archaeology arising from alterations

to underground drainage systems may lead to more detailed mitigation measures. Scope for integrating the sustainable drainage solutions with wider plans for enhancing green networks should also help to maximise the positive effects of this development.

12. **Commonwealth Games Facilities and Infrastructure:** Although it is generally expected that the developments will result in environmental benefits, further SEA work should be used to identify measures which reduce the impacts of events and temporary activities, construction or alterations at sensitive sites, including Cathkin Braes and Barry Links, and some venues of cultural heritage importance. Work is also being undertaken to minimise the waste, energy and carbon impacts of the Games.

8.4 All of the National Developments will require a fuller assessment of their carbon impacts.

8.5 As with any SEA of a high level land use plan or strategy, the NPF SEA defined many mitigation measures that will be implemented through specific sectoral policies, or lower down in the hierarchy of developments. The need for a joined up approach to development planning, which ensures that the broad effects of the NPF are taken into account and mitigated, has been underlined by this outcome from the NPF SEA. To follow this up, the Scottish Government will work with local authorities to identify how better continuity between the SEAs of national policy, strategic and local development plans can be achieved in practice.

Monitoring

8.6 The NPF and its impacts are already subject to regular monitoring. The purpose of SEA monitoring should be to ensure that mitigation is effective and that any early or unexpected effects are recognised and addressed. A review of the data sources used in the 2006 NPF Monitoring Report was undertaken to identify where this could be supplemented in the next phase of monitoring to take on board issues arising for the SEA. Whilst these data sources may not specifically define the impact of the NPF on environmental problems, they should help to highlight any particular areas of concern, to be investigated further through additional, more tailored monitoring and data analysis at the more local level of planning.

8.7 The Environmental Report provided a draft monitoring framework for the NPF. This will be finalised and set out in the SEA Statement.



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