Glasgow and the Clyde Valley Strategic Development Plan

Proposed Plan

Strategic Environmental Assessment

Supplementary Environmental Report

Submitted by Renfrewshire Council on behalf of the local authorities of GCVSDPA

June 2011

Contents

List of Figures

Acronyms

AA
Appropriate Assessment is the formal assessment by the Competent Authority of the impacts of a plan or project on the integrity of a Natura 2000 site (a Special Protection Area (SPA), Special Area for Conservation (SAC) or proposed SPAs and Ramsar sites).

BAP
A Biodiversity Action Plan aims to identify, conserve and protect existing biological diversity, and to enhance it wherever possible.

GIS
A geographic information system captures, stores, analyses, manages, and presents data that refers to or is linked to location. In the strictest sense, the term describes any information system that integrates, stores, edits, analyses, shares, and displays geographic information. In a more generic sense, GIS applications are tools that allow users to create interactive queries (user created searches), analyse spatial information, edit data, maps, and present the results.

GRIP
The Greenhouse Gas Regional Inventory Protocol is a scenario tool that can be utilised in order to compile Greenhouse gas emissions inventory at a particular region, in this case at the GCV area.

NRS
National Records of Scotland runs the Census and other data to publish information about population and households.

GVA
Gross Value Added is the difference between output and *intermediate consumption* for any given sector/industry, which is the difference between the value of goods and services produced and the cost of raw materials and other inputs which are used up in production.

HS
Historic Scotland is an executive agency of the Scottish Government and is charged with safeguarding the nation's historic environment and promoting its understanding and enjoyment on behalf of Scottish Ministers.

SAC
Special Areas of Conservation sites designated under the EC Habitats Directive. They are intended to ensure that rare, endangered or vulnerable habitats and species of Community interest are either maintained at or restored to a favourable conservation status.

SEPA
Scottish Environment Protection Agency. Scotland's environmental regulator. Its main role is to protect and improve the environment. SEPA is a non-departmental public body, accountable through Scottish Ministers to the Scottish Parliament.

SIMD
The Scottish Index of Multiple Deprivation identifies small area concentrations of multiple deprivation across all of Scotland in a fair way. It allows effective targeting of policies and funding where the aim is to wholly or partly tackle or take account of area concentrations of multiple deprivation.

SNH
Scottish Natural Heritage' role is to look after the natural heritage, help people to enjoy and value it, and encourage people to use it sustainably.

SOC
Single Outcome Agreement is an agreement between each Council in Scotland and the Scottish Government, based on the 15 national outcomes. The national outcomes reflect the Scottish Government's National Performance Framework but they also reflect established corporate and community plan commitments across Scotland's Councils and Community Planning Partnerships.

SAC
Special Areas of Conservation are strictly protected sites designated under the EC Habitats Directive.

SPA
Special Protection Areas. Sites designated under the EC Birds Directive. They are intended to protect the habitats of rare, threatened or migratory bird species.

SSSI
Site of Special Scientific Interest. These are areas of land or water which, in the opinion of SNH are of special interest by reason of their flora, fauna or geological or physiographical features.

VDL
Vacant and derelict land is land which is unused for the purposes for which it is held and is viewed as an appropriate site for development. This land must either have had prior development on it or preparatory work has taken place in anticipation of future development.

Glossary

Appropriate Assessment
Formal assessment by the Competent Authority of the impacts of a plan or project on the integrity of a Natura 2000 site (a Special Protection Area (SPA), Special Area for Conservation (SAC) or proposed SPAs and Ramsar sites).

Biodiversity
The variety of life on Earth at all its levels, from genes to ecosystems, and the ecological and evolutionary processes that sustain it.

Consultation Authorities
Organisations with a particular status for involvement in the SEA under the Regulations. In Scotland these are the Scottish Natural Heritage, Scottish Environment Protection Agency and Scottish Ministers (Historic Scotland).

Cultural Heritage
Includes scheduled monuments and other significant archaeological sites and landscapes, listed buildings, conservation areas, historic gardens and designed landscapes included in the published inventory and any others of national and Corporate importance which are likely to be included.

Cumulative Effects
The effects that result from changes caused by a project, plan, programme or policy in association with other past, present or reasonably foreseeable future plans and actions. Cumulative effects are specifically noted in the SEA Directive in order to emphasise the need for broad and comprehensive information regarding the effects.

Enhancement
Measures envisaged to maximise the benefits of the positive actions of implementing the plan.

Environmental Assessment
A tool for integrating environmental considerations into decision making by assessing the significant environmental effects. In the SEA Directive, an environmental assessment means "the preparation of an Environmental Report, the carrying out of consultations, the taking into account of the Environmental Report and the results of the consultations in decision-making and the provision of information on the decision", in accordance with the Directive's requirements.

Environmental Report
Document required by the SEA Directive as part of an environmental assessment, which identifies, describes and evaluates the likely significant effects on the environment of implementing a plan or programme.

Habitat Regulations Appraisal
The Habitats Regulations require competent authorities to undertake appropriate assessments in certain circumstances where a plan or project affects a Natura (European) site. Habitats Regulations Appraisal (HRA) refers to the whole process, including the **appropriate assessment** step.

Mitigation
Used in this guidance to refer to measures to avoid, reduce or offset significant adverse effects on the environment.

Monitoring
Activities undertaken after the decision is made to adopt the plan or programme so as to examine its implementation. For example, monitoring to examine whether the significant environmental effects occur as predicted or to establish whether mitigation and enhancement measures are effective.

Natura 2000
Under the EU Habitats Directive, SPAs and SACs are together intended to form a European-wide network of protected areas designed to maintain or restore the distribution and abundance of species and habitats of EU interest. Many areas qualify for both SPA and SAC designation and as a matter of Government policy Ramsar Convention sites are afforded the same level of protection.

Objective
A statement of what is intended, specifying the desired direction of change.

Responsible Authority
Under the Act, the authority by which or on whose behalf the plan is prepared, or its successor.

Secondary Effects
Effects which are attributable to the plan but which may not be obvious or direct. Secondary effects are specifically noted in the SEA Directive in order to emphasise the need for broad and comprehensive information regarding the effects.

Soil Sealing
The covering of the soil surface with impervious materials as a result of urban development and infrastructure construction. Sealed areas are lost to uses such as agriculture or forestry while the ecological soil functions are severely impaired or even prevented (e.g. soil working as a buffer and filter system or as a carbon sink). In addition, surrounding soils may be influenced by change in water flow patterns or the fragmentation of habitats.

Sustainable Development
This concept recognises that achieving economic growth has to be done in such a way that does not harm the environment or squander the natural resources we depend on, whilst at the same time distributing the wealth this creates equally to improve quality of life now and in the future.

Synergistic Effects
A type of **cumulative effect** where two or more impacts combine to produce a complex interaction where the effect may be larger or smaller that component impacts. Synergistic effects are specifically noted in the SEA Directive in order to emphasise the need for broad and comprehensive information regarding the effects.

SEA Act
Environmental Assessment (Scotland) Act 2005.

SEA Directive
Directive 2001/42/EC "on the assessment of the effects of certain plans and programmes on the environment".

Wellbeing
A good or satisfactory condition of existence; a state characterized by health, happiness, and prosperity; welfare.

Chapter One

Introduction

The SEA Process to date

1.1 In accordance with the Environmental Assessment (Scotland Act) 2005, a Strategic Environmental Assessment (SEA) of Glasgow and the Clyde Valley Strategic Development Plan is being undertaken.

1.2 SEA is a systematic method for assessing the likely environmental effects of development plans and aims to:

- integrate environmental factors into policy decision-making;
- improve policies, and enhance environmental protection;
- increase public participation in decision-making; and,
- facilitate openness and transparency of decision-making.

1.3 Considerable work has already been undertaken within the SDP Main Issues Report SEA process, including:

- scoping to explore the potential effects of the SDP, define the appropriate methodology and reach agreement on the proposed consultation timescales; and,
- a full assessment of the Main Issues Report including consideration of strategic alternatives, with a report published in November 2010.[1]

1.4 Over the past 6 months, the drafting and revision of the Proposed Plan has progressed and the iterative nature of the SEA process has continually fed into the decision-making process. The reports referred to above remain important and are still available online for public reference when considering the findings set out here.

Further engagement in the SEA process

1.5 It is important that the public and stakeholder organizations are given the opportunity to comment on the findings of this additional assessment work. This supplementary report sets out the findings of an additional process of environmental assessment of the Proposed Plan.

1.6 The Consultation Authorities and the public are now invited to provide further comments on the findings from this part of the process. This report is being made available for an 8 week period within which comments can be submitted to the GCVSDPA.

[1] These are available to view at www.gcvsdpa.gov.uk by following links to the SDP SEA documents.

1.7 Consultees are asked to avoid simply reiterating any views already expressed on the proposals outlined in the Main Issues Report. More exactly, this stage offers consultees the opportunity to express further views on the proposals contained within the Proposed Plan in light of environmental information provided in this report. The aim is to ensure decisions are made in light of the best available environmental information.

Glasgow and the Clyde Valley Strategic Development Plan

1.8 The Glasgow and the Clyde Valley Strategic Development Plan area (Figure 1) consists of eight separate Local Authorities namely, East Dunbartonshire, East Renfrewshire, Glasgow City, Inverclyde, North Lanarkshire, Renfrewshire, South Lanarkshire, West Dunbartonshire (excluding that part covered by the Loch Lomond National Park Authority).

1.9 The role of the Glasgow and the Clyde Valley Strategic Development Planning Authority (GCVSDPA) is to prepare a Strategic Development Plan (SDP) for the area. The SDP, when adopted, will replace the existing structure plan for the area - the Glasgow and the Clyde Valley Joint Structure Plan 2000 and its four subsequent Alterations. It differs from the previous generation of Structure Plans by focusing upon a spatial strategy and its priority developments.

Stages in developing the SDP

1.10 The Proposed Plan is the second key stage in developing the SDP. It follows on from the publication in September 2010 of the Main Issues Report (MIR).

1.11 Building upon the outcomes of the MIR consultation stage, the Proposed Plan sets out the Spatial Vision to 2035, its related spatial development strategy and the proposals needed to deliver them. It is an evolution of the long-term spatial development strategy first set out in the Glasgow and the Clyde Valley Joint Structure Plan 2000 and reviewed in 2006, but evolved to address a future likely to be dominated by a complex array of 'drivers for change', ranging from the global to the local.

What the SDP seeks to achieve

1.12 Against the background of long-term drivers for change e.g. a global economy, fuel prices and climate change, the key aim of the SDP is to set out a long-term Spatial Vision and related spatial development strategy. This will determine the future geography of development in the city-region to 2035, which will support economic competitiveness and social cohesion, set within a sustainable environmental approach. A copy of the Proposed Plan is available to view at the website address below[2].

[2] http://www.gcvsdpa.gov.uk

Figure 1: Glasgow and the Clyde Valley area

Chapter 2

SEA Methodology

2.1 This Supplementary Environmental Report has been prepared in parallel with the Proposed Plan. It assesses high level and significant effects from a city-region wide perspective, looking at key environmental features and the potential impacts from proposals and policies contained within the GCVSDPA Proposed Plan.

2.2 In order that outputs are manageable, the SEA of the strategic level Proposed Plan should be proportionate and fit-for-purpose. The findings help to highlight significant environmental effects at a city-region scale. The same methodology is used as the MIR Environmental Report published in November 2010. In the interests of clarity, it is worth noting that this Supplementary Report will not re-iterate the findings of the Environmental Report of the MIR. It will detail new elements or changes from the elements taken forward from the option presented in the MIR.

2.3 In terms of consistency, this Supplementary Report uses the same combination of thematic analysis, constraints mapping and an objective-led assessment as the MIR Environmental Report. This combination of approaches helps to present SEA information in as simple a format as possible with a view to engaging a wide range of stakeholders.

2.4 The Supplementary Report will then consider the cumulative and synergistic effects of the development proposals and policies followed by a consideration of the comments received during the consultation period. This report also provides a note of where actions have already been undertaken with regard to recommendations made in the MIR Environmental Report.

Chapter Three

Assessment of Proposed Plan

Introduction

3.1 The SDP is a new form of development plan. It is a strategic level document comprising a vision of the city-region to 2035 and a Strategic Development Strategy (SDS) to deliver that vision. The details of policy are devolved to constituent local authorities. However, Strategy Support Measures are provided where the Strategic Development Planning Authority (SDPA) wishes to provide additional explanation on interpretation of the plan and its spatial framework or components.

3.2 The key changes from the MIR to the Proposed Plan are as follows:

- a new suite of Strategy Support Measures 1-15;
- two new Strategic Economic Investment Locations;
- the identification of Strategic Freight Transport hubs;
- the identification of fourteen Green Network Strategic Priorities;
- an updated Forestry and Woodland Strategy;
- the identification of Broad Areas of Search for Minerals;
- the publication of the GCV Housing Need and Demand Assessment;
- three new designated Strategic Centres;
- promoting 'Carbon – Energy Masterplanning'; and,
- recognition that new waste facilities are required.

Philosophy and Principles

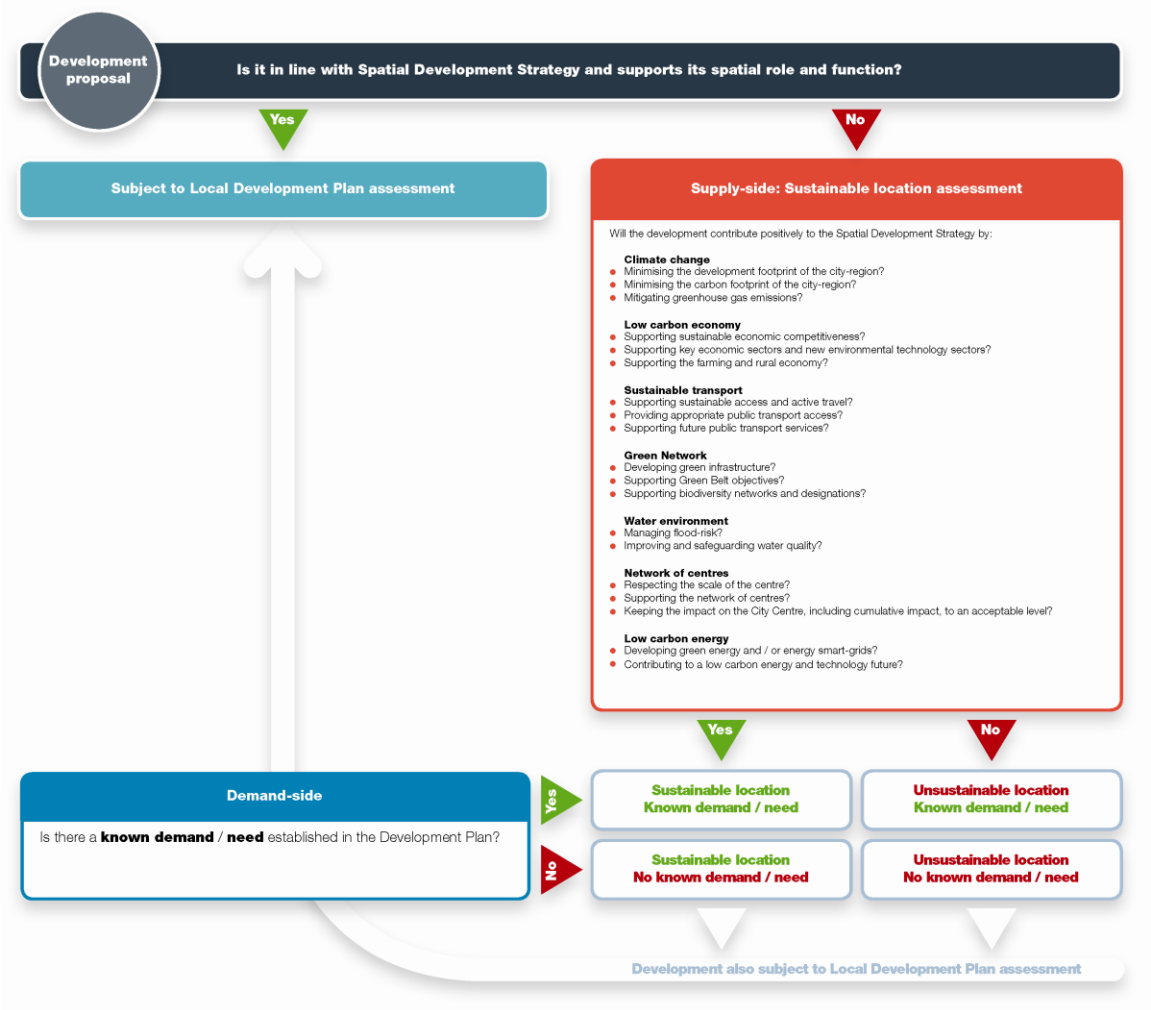
3.3 The SDP is a new type of strategic plan with a stronger focus on vision and strategy and a lesser focus on policy than the previous generations of Structure Plans. It remains important, however, to recognise its position within the Development Plan process relative to Local Development Plans and development management. Figures 2 and 3 provide a summary strategic framework for local authorities taking local planning development decisions. There are a number of fundamental principles upon which the SDP is based and Figures 2 and 3 are integral to these principles and their application within the Development Plan system. Assessment of Figure 3 is provided in the table below.

Figure 2: Spatial Development Strategy and Indicative Compatible Development

Strategy component	*Indicative forms of development in line with strategy*
Sustainable development locations	
★ Spatial Development Strategy core components	
★ **Clyde Waterfront** *	Economic activity, housing, tourism, fixed and green infrastructure, culture, leisure, education, health, public transport
★ **Clyde Gateway** *	Economic activity, housing, tourism, fixed and green infrastructure, culture, leisure, education, health, public transport
★ **Ravenscraig** *	Economic activity, housing, tourism, fixed and green infrastructure, culture, leisure, education, health, public transport
★ **Glasgow City Centre** *	Economic activity, retail, housing, tourism, public transport, culture, education, regional and local governance, public realm
★ **Community Growth Areas** * (see Schedule 1)	Housing, economic activity, infrastructure - including public transport, green infrastructure, social and community facilities
Strategic Economic Investment Locations (see Schedule 2)	Economic activity, support for key employment sectors, public transport
Freight Hubs (see Schedule 3)	Freight facilities, trans-shipment facilities, freight storage, freight parks
Network of Centres * (see Schedule 12)	Retail, culture, education, leisure, health, public realm, local governance, public transport
* mixed use focus	
Environmental component	
Green Network (Green Network Spatial Priorities see Schedule 5)	Green infrastructure, woodland creation, sustainable access and natural leisure facilities, biodiversity, biomass planting
Green Belt	Green infrastructure, woodland creation, sustainable access and natural leisure facilities, biodiversity, biomass planting
Forestry and Woodland	Tree planting, related leisure and education infrastructure, green infrastructure; biomass planting
Natural Resource Search Areas	Windfarms, mineral and surface coal workings, biomass planting

The indicative forms of development set out in this diagram should not be read as exhaustive. They are illustrative of the range and types of development which the Authority would expect as part of the Spatial Development Strategy. With its focus on minimising the development and carbon footprint of the city-region, the Authority would anticipate a mix of uses in locations as part of community regeneration and contributing to sustainable development.

Figure 3: Sustainable Location Assessment



Assessment

Schedule 3 components	SEA Objectives	Potential Effect	Relevant section of Figure 3
Biodiversity	To conserve and enhance the diversity of habitats and species.	Positive	This is implicit in green network thinking.
Population	To avoid further blight in disadvantaged communities.	Positive	This is a fundamental principle behind the Sustainable Locations Assessment.
Population	To promote and develop green network thinking.	Positive	Green Network is a key component
Human Health	To improve health and well-being through improved environment.	Positive	The Green Network and Sustainable Transport will increase access to quality green network for leisure pursuits and active travel.
Soil	To avoid adverse direct and indirect impacts of developments on soil stability, structure and quality.	Unknown	Strategic mitigation encourages the re-use VDL for development and green network purposes. Further mitigation will be required at local / project level.
Water	To protect and improve relevant waterbody status.	Positive	Specific reference is made to the water environment complementing the role of River Basin Management Plans, Area Action Flood Groups and Marine Planning. Continued support for sustainable water management and demand of new developments e.g. SUDS etc. Strategic elements of this are relevant at SDP level. This is also appropriate at local authority level.
Air	To protect and enhance air quality.	Positive	Specific reference is made to reduce GHG emissions. Strategic mitigation exists through the promotion of sustainable transport

Schedule 3 components	SEA Objectives	Potential Effect	Relevant section of Figure 3
			networks through sensitive siting of new developments.
Climatic Factors	To reduce GHG emissions	Positive	Seeks to ensure measures to minimise GHG emissions are addressed in development proposals.
Climatic Factors	To support climate change adaptation and mitigation.	Positive	Seek measures to minimise flood risks.
Material Assets	To promote sufficient infrastructure for future development needs.	Positive	Sustainable transport is a key element. Further strategic mitigation is inherent in the plan through the protection of minerals resource from sterilisation by Seek measures for safe treatment and disposal of waste.
Material Assets	To minimise waste	Unknown	This is difficult to predict from Figure 3 alone. The Plan promoting higher densification through the compact city model and provides for new network of waste facilities.
Cultural Heritage	To protect and where appropriate enhance the cultural and built environment.	Unknown	This is difficult to predict from Figure 3 alone. It is inherent in the Plan through the support for strategic centres and enhance further by Green Network.
Landscape	Protect and enhance the character of existing settlements	Positive	This is a crucial part of Green Network seeking measures to protect and improve the setting of settlements. This supports the place-setting agenda.

Economic and Demographic Framework

3.4 A number of economic futures have been modelled for the city-region and a baseline future suggests an economic scenario of reinforcement and continuation of the current service-based regional economy. However, it is anticipated that the resulting regional economy would generate insufficient economic activity to support the in-migration levels previously associated with the 2006 Structure Plan's 'Agenda for Sustained Growth' and updated for the SDP.

3.5 The SDP is pursuing a higher migration population projection allied with a low carbon sustainable economy for the city-region, shown in Figure 4. This approach is in line with the Scottish Government's '*A Low Carbon Economic Strategy for Scotland' (December 2010)*[3]. The economic basis of this approach involves a part shift away from the service economy towards a growth in specialist high-value products and related services e.g. green technology sectors, associated environmental sectors, tourism and leisure. This economic and demographic framework returns economic activity and employment generation to the pre-recession levels.

Figure 4: Population and household change

	2008	2025	Change 2008/2025	Annual 2008/2016	Annual 2008/2020	Annual 2008/2025
Population	1,755,310	1,822,048	+66,738	+3,347	+4,108	+4,706
Households	804,708	918,408	+113,700	+6,805	+6,576	+6,591

Assessment

3.6 The strategic environmental implications of this population and household change framework are outlined in Figure 5 below:

Figure 5: High migration population projection		
SEA objectives	**Potential Significant impact?**	**Description of impact and mitigation required**
Biodiversity: Conserve and enhance the diversity of habitats and species	**Yes**	There is potential for all population and household projections to impact negatively on diversity of habitats and species. Strategic mitigation is contained within the plan's spatial strategy and policies. With proper implementation it is possible that integrated Green Networks and green infrastructure e.g. SUDs, IHN etc. can have a significant positive impact on species and habitats, networks for people, settlement edges etc. A Habitats Regulations Assessment of the Proposed Plan identifies specific areas of concern in relation to international designations. Further detailed mitigation is required at specific locations and this can only be dealt with at a local or project level.

[3] http://www.scotland.gov.uk/Publications/2010/11/15085756/0

Figure 5: High migration population projection		
SEA objectives	**Potential Significant impact?**	**Description of impact and mitigation required**
Population: Avoid blight in disadvantaged communities	**Unknown**	It is difficult to determine whether the higher migration scenario will have a negative or positive impact on disadvantaged communities. Left unchecked increased migration could put pressure on infrastructure and disadvantaged communities may be further blighted. However, the migration will not be unchecked and the Proposed Plan makes provision for infrastructure provision in line with estimated growth. It also encourages regeneration projects and uses models of regeneration to help ensure success.
Population: Promote and develop Green Network thinking	**Yes**	Green Network thinking is not explicitly promoted in this specific part of the plan but it is integrated with the development strategy for increased population and household growth.
Human Health: Improve health and well-being	**Unknown**	Relating specific health improvements to the strategic development plans is difficult. Nonetheless, Green Network thinking is fully-integrated in the Proposed Plan and improved access to open and green space is planned in at this strategic level. The regeneration proposals contained in the Proposed Plan have at their core the aim of improving opportunities for the inhabitants and in turn this should improve quality of life and well-being.
Soil: Avoid adverse direct and indirect impacts of development on soil and stability, structure and quality	**Yes**	The scale of projected population and household growth is likely to have a significant impact on soil. At a strategic level this impact must be recognised however, the Proposed Plan puts forward a compact city model and this will reduce the land take required for similar population projections being accommodated on green field sites. Further mitigation is provided through the re-use of brownfield and derelict land as well as the Forestry Woodland Strategy encouraging soil stability. Mitigation measures are inherent in the planning system in terms of protecting valuable soils such as arable land etc. Local and project level mitigation measures also play an important part minimising potential negative impacts.

Figure 5: High migration population projection		
SEA objectives	**Potential Significant impact?**	**Description of impact and mitigation required**
Water Protect and improve relevant waterbody status	**Unknown**	The impact of the scale of projected population and household growth on water is unknown at this stage. There are a range of strategic mitigation measures in place through the Clyde Area Management Action Plan and the scale of development is likely to allow for the large scale measures required to address these issues including SUDS etc.
Air Protect and enhance air quality	**Unknown**	The impact of the scale of projected population and household growth on air is unknown at this stage. There is a range of strategic measures in place to protect air quality and action in this regard generally takes place at the local level. The compact city model put forward in the Proposed Plan seeks to provide the critical mass required for a step change in transport increasing journeys by public transport and reducing private car usage. Therefore the impact could be positive. However, the provision of public transport is outwith the remit of the SDPA.
Climatic factors Reduce GHG emissions	**Yes**	In terms of reducing GHG emissions, the Proposed Plan supports a range of measure to encourage a low carbon economy, including decarbonising energy and encouraging increased public transport usage as indicated in the paragraph above.
Climatic factors Support climate change adaptation and mitigation	**Unknown**	The impact at the strategic level could be significant. Strategic mitigation exists in the support and promotion of green infrastructure such as SUDS and Green Network alongside seeking to achieve the critical mass to support improvements to public transport. Similarly, the proposals for strategic freight hubs and the support for strategic centres inherently encourage a shift to more sustainable transport. The scale of development could then in fact support improvements in climatic factors.
Material assets Promote sufficient infrastructure for future development needs	**Yes**	The very purpose of the population and household projections is to allow for the identification of infrastructure requirements and encourage their development in suitable locations.

Figure 5: High migration population projection		
SEA objectives	**Potential Significant impact?**	**Description of impact and mitigation required**
Material assets Minimise waste	**Unknown**	On the face of it, an increase in population and households would seem to increase waste. However, there is a body of strategic mitigation within the Government's Zero Waste Strategy which seeks to achieve significant changes to waste treatment and management. The development required to accommodate population and household growth offers the potential for provision of a new generation of waste facilities thus having a potentially positive effect on the provision of these facilities.
Cultural heritage Protect and enhance the cultural and built heritage	**Unknown**	Population and household growth at this scale has an unknown impact on cultural heritage. As with other SEA objectives, the scale of development required to accommodate this growth could have positive effects on a regional scale. For example, Green network thinking can complementing strategic heritage issues such as Scheduled Ancient Monuments. Similarly, focussing development within a strategic network of urban centres can encourage re-use of historical building and result in a renewed focus on the historic fabric of the GCV city-region.
Landscape Protect and enhance the character of the city-region and its component settlements	**Unknown**	The effects of population and household projections on landscape in themselves could be significant but are difficult to predict. It is recognised that the scale of development required to accommodate this growth could have a significant effect. Focussing development in and around existing settlements will have a significant impact on settlement edges but judicial use of conditions to incorporate green network thinking and planting schemes could have a significant positive effect. This level of detail is managed at the masterplanning stage. New development will also have a significant impact on the regional landscaping issues. These issues are considered later in this supplementary report.

Chapter Four

Assessment of Spatial Development Strategy

Introduction to the Proposed Plan

4.1 The Proposed Plan updates the model of the current Structure Plan development strategy by incorporating low carbon growth, climate change mitigation and taking account of recent economic changes. The Spatial Development Strategy (SDS) focuses on core spatial components and prioritised delivery.

Spatial Development Strategy

4.2 The SDS is based on a compact city model and applies across the whole city-region. It comprises several elements:

- the Development Corridor running through the city-region paralleling the River Clyde and the M8 corridor to Edinburgh;
- Glasgow City Centre;
- the Clyde Waterfront, the most advanced project in development terms. Whilst significant progress has been achieved, the scale of the remaining development is significant;
- the Clyde Gateway, a large-scale mixed-use community regeneration development. The project incorporates many of the 2014 Commonwealth Games facilities as well as being the initial focus for delivery of the Metropolitan Glasgow Strategic Drainage Plan;
- Ravenscraig, a long-term regeneration and re-structuring of the southern area of North Lanarkshire;
- Glasgow and Clyde Valley Green Network (GCVGN), a programme addressing the need for green infrastructure across the city-region; and,
- Community Growth Areas (CGAs).

4.3 The SDS is supported by the following policy:

"Strategy Support Measure 1

Delivery of the Spatial Vision to 2035 requires clear and focused priority to be placed upon meeting the development demands of the SDS, as set out in Diagram 20, through

- ***Local Authorities - Local Development Plans and related documents***
- ***Scottish Government Key Agencies - investment programmes***
- ***Infrastructure bodies - future capital programmes***
- ***Investment and Development Industries - development proposals***

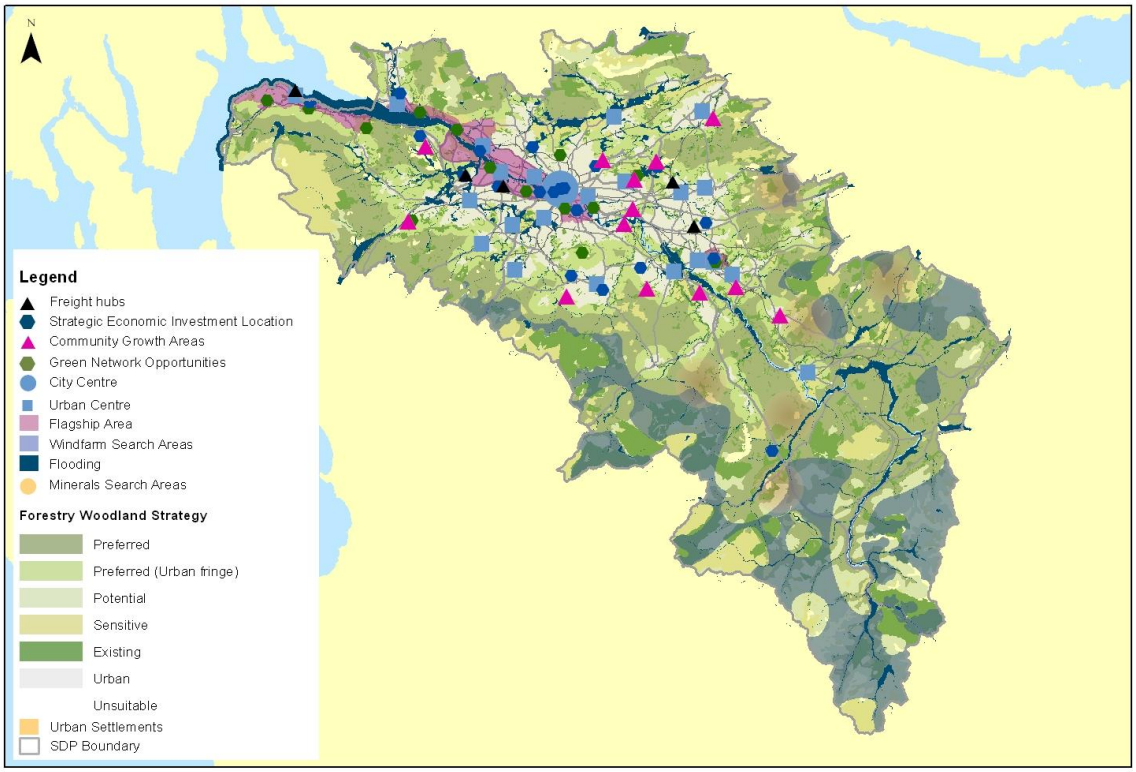
The SDS is clear and consistent in its intent, to support sustainable economic growth and development. In a period of severely constrained resources, a focus on delivery of the key SDS components represents a strong prioritisation of resources and an optimum return on investment."

Assessment

4.4 Using GIS, a number of maps have been drawn up to illustrate the potential impact of the SDS on the SEA objectives. Figure 6 shows the above developments and overlays data relating to major road and rail networks and coastal and fluvial flooding. The map illustrates:

- key development areas are located on main road and rail links ensuring connectivity with the wider city-region;
- the opportunity to integrate the green network concept with new development; and,
- flooding is a key issue for waterfront developments.

Figure 6: Proposed Plan Development, Transport Networks and Flood Risk



4.5 Major Flagship Initiatives such as Clyde Waterfront and the Clyde Gateway including the Commonwealth Games site are using brownfield land, integrating green infrastructure and green network thinking. The Metropolitan Glasgow Strategic Urban Drainage Plan is a model for integrating green infrastructure for the benefit of the environment, the people who live nearby or downstream. In terms of the economy, this project is also likely to have a positive impact on place-making and attracting investment. These measures directly address climate change adaptation and mitigation, designed to cope with existing flooding issue, accommodate new development as well as potential future demands due to climate change impacts such as increased rainfall. The use of green infrastructure also has a positive impact on biodiversity, landscape setting and quality of life issues. In the long term the development proposals are likely to have an overall positive effect on the SEA objectives.

Strathleven Corridor

4.6 There is a northward extension of the Development Corridor running north from the Clyde Estuary to Loch Lomond along the River Leven which acts as a gateway to the Loch Lomond and the Trossachs National Park. Relevant issues along this corridor relate to regeneration, economic activity, the quality of the tourism and visitor offer, environmental quality and flooding events. Specific proposals including the Lomond Canal, the Lomondgate Strategic Economic Investment Location have been put forward to address some of these issues. This location is emerging as a strategically significant opportunity worthy of further consideration supported by the following policy:

"Strategy Support Measure 2

West Dunbartonshire Council, with relevant strategic partners, will set in place a longer-term study to analyse the appropriate planning and investment requirements of the Strathleven Corridor, and its wider setting, including the Kilpatrick Hills, commensurate with its emerging role as a gateway to the Loch Lomond and the Trossachs National Park. The study should address regeneration and renewal requirements, sustainable transport options, connectivity and accessibility issues, as well as development of its environmental quality, 'green infrastructure' and its visitor attractions. It is anticipated that once complete, a strategic action package may be considered for inclusion in a future review of the SDP."

Assessment

4.7 There is a Natura 2000 site, Endrick Water, in this location relating to migrating Atlantic salmon and this will need to be addressed in the proposed study, particularly with regard to the canal proposal. This study will require a Habitats Regulation Appraisal and Appropriate Assessment to understand and mitigate against potentially negative aspects of development proposals on the Natura 2000 site.

Strategic Economic Investment Locations (SEILs)

4.8 In addition to the Strategic Economic Investment Locations (SEILs) identified in the MIR, the Proposed Plan puts forward two additional locations namely, the City Centre and Lomondgate. Both sites are existing locations that offer the opportunity to accommodate future development linked to regeneration areas where the future uses are not yet clear but there is an aspiration to develop the site for key industry uses. This is supported by the following policy:

"Strategic Support Measure 3
Strategic Economic Investment Locations

The Strategic Economic Investment Locations set out in Schedule 2 comprise the city-region's strategic response to long-term sustainable economic growth.

Through the Local Development Plan process measures are required to be put in place to safeguard current locations and to ensure their ability to respond to their defined role and function.

Equally, the opportunity locations require promotion for investment based upon their defined role and function, with subsequent safeguarding in Local Development Plans for the uses set out in Schedule 2 on Diagram 11."

Assessment

4.9 Mapped analysis for the SEILs with regard to flooding is shown in Figure 7 SEILs, Transport Corridors and Flooding. It shows flooding may be an issue in some locations and appropriate mitigation should be developed as part of design briefs for new development including using SUDs which offers the opportunity for green infrastructure and reinforcing the green network.

4.10 Figure 8 shows the location of SEILS in relation to Cultural Heritage sites and Vacant and Derelict Land. It illustrates that SEILS sites are located in areas where vacant and derelict land exists. Whilst cultural heritage features must be protected from the negative effects of development, it is important to recognise the potential positive impact that cultural heritage can offer including reinforcing the place-making agenda. Focusing investment in these areas could lead to the reuse of historic buildings and / or more investment in the historic townscape.

4.11The relationship between the SEIL locations and Natural Heritage is shown in Figure 9. It shows the two SEILs have SSSIs in close proximity namely, Gartcosh (Woodend Loch and Bishop Loch) and Glasgow Airport (Black Cart). Development at Gartcosh has already been subject to extensive environmental assessment and green network thinking has been integrated here. This will be required of any further development proposals that may come forward. Development at the Glasgow Airport (Black Cart) site is identified in the GCV SDP Habitats Regulations Appraisal and a strategic level Appropriate Assessment accompanies this Supplementary Environmental Report.

4.12 With the exception of the two new designations, there are no further changes in relation to the SEILs. These designations are not intensifying the use, it is more an issue of labelling and therefore the assessment focuses on issues relating to the principle of designating a network of strategic locations. The assessment of the effect of SEILs on transport, air, biodiversity, water and soil remain the same as the MIR assessment. Similarly the associated mitigation measures, noted in the MIR Environmental Report and required at local and project level remain relevant as do the recommendations. These are noted below.

Figure 7 SEILS, Transport Corridors and Flood Risk

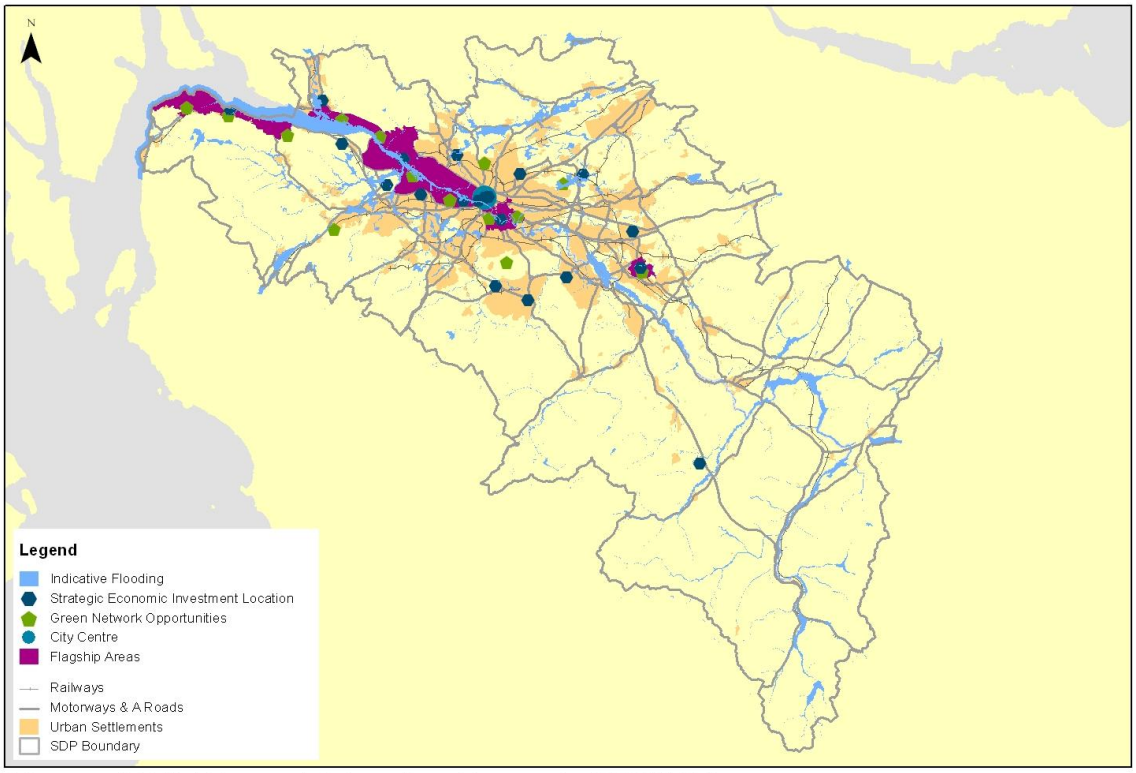


Figure 8: SEILS, Cultural Heritage and Vacant and Derelict Land

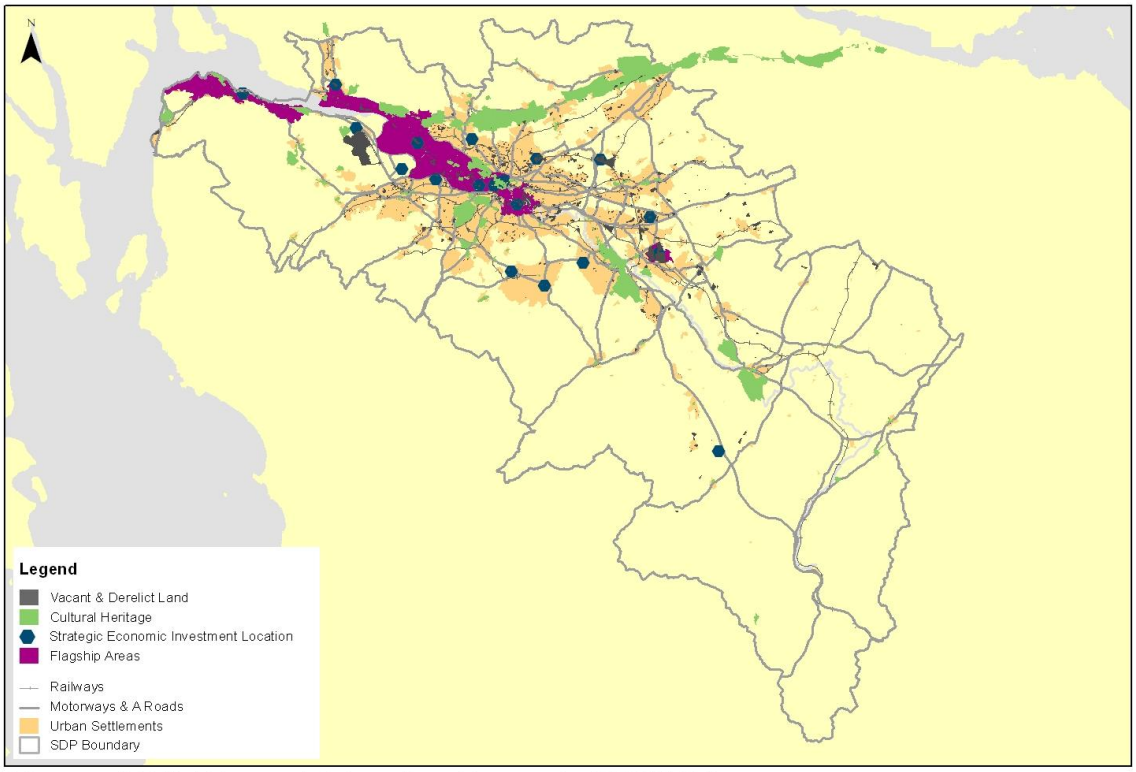
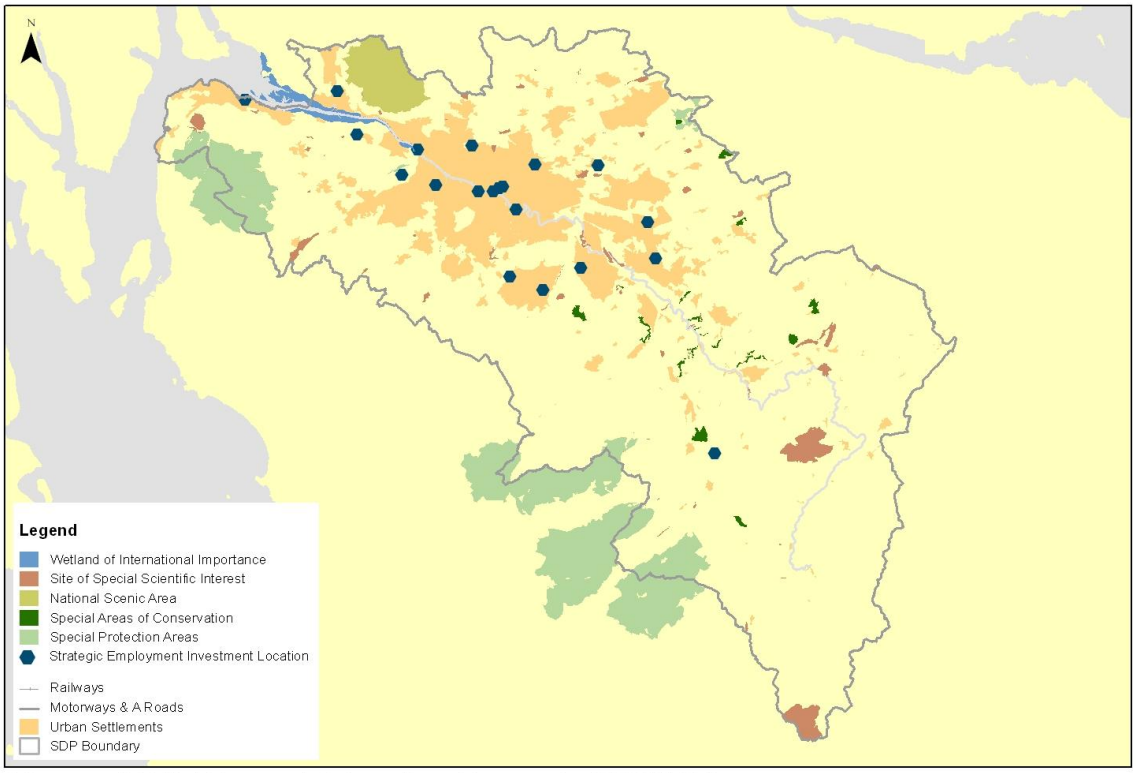


Figure 9: SEILs and Natural Heritage



Recommendation 1:

4.13 As details of proposals emerge, the Lomondgate Study will undertake further detailed environmental assessment in relation to the Natura 2000 site and the Regional Scenic Area.

Recommendation 2:

4.14 In relation to SEILs, the aspiration for sustainable transport is embedded within the Proposed Plan and this provides strategic level mitigation to link the SEILs network with sustainable transport. Further measures at the local and project level will be required to mitigate the potential for increased GHG emissions resulting from increased traffic.

Recommendation 3:

4.15 In relation to SEILs, where flooding is identified as a potential risk, development sites should incorporate green infrastructure elements, such as Sustainable Urban Drainage Systems (SUDS), to mitigate against potential negative impacts of the development. SUDS features should seek to link in with the wider Green Network.

Glasgow International Airport (GIA)

4.16 The Proposed Plan promotes GIA as the city-regions primary linkage with its wider business and tourism markets and both these areas are crucial to future competitiveness. This is supported by the following policy:

> ***"Strategic Support Measure 4***
> ***Glasgow International Airport and sustainable transport access.***
>
> ***The fundamental regional connectivity issues of Glasgow International Airport require that a sustainable transport solution for the airport be agreed between stakeholders as part of the wider package of transport investment underpinning this strategy.***
>
> ***In the absence of such a solution which addresses large-scale modal shift, road access will remain pivotal to Glasgow International Airport's future and an early commitment to resolve capacity problems on the M8 adjacent to the airport remains an imperative."***

Assessment

4.17 The key environmental concerns with this policy are the same as those identified in the Environmental Report for the MIR and mainly related to climatic factors with significant negative effects predicted to arise from the tension with Government targets to reduce greenhouse gas emissions, particularly those arising from the transport sector.

4.18 There are Natura sites related to migrating swans within the vicinity of GIA. The Environmental Report for NPF2 has already undertaken a strategic Appropriate Assessment (AA) of the potential impacts of strategic enhancements at Glasgow airport. It concluded that the proposals could be implemented without adverse effects on the relevant Natura sites, partly as a result of the inclusion of a high level safeguarding policy within the Structure Plan 2006 Alteration. This will remain in place until the replacement strategic development plan is adopted. The SDP has been subject to a Habitats Regulation Appraisal (HRA) and AA. Whilst it can be concluded that, providing that the above mitigation is put in place, no adverse effects will arise from this development, further project level AA will be required as the plans for the airport progress.

Recommendation 4:

4.19 With regard to GIA and any development around the airport, it is recognised that a Habitats Regulation Appraisal is required along with further Appropriate Assessments relative to Natura 2000 sites that have the potential to be affected by development proposals within the MIR.

Recommendation 5:

4.20 With regard to GIA, further environmental assessment and project-level mitigation will be required to avoid or reduce the predicted more localised negative effects of the development at the local level, focusing on issues including impacts on soil, water, cultural heritage and landscape.

High Speed Rail (HSR)

4.21 The Proposed Plan states its support for identifying a location for HSR terminal. When the HSR project reaches the stage of proposing locations for terminals and routes further assessment will be required. This is supported by the following policy:

"Strategic Support Measure 5:
High Speed Rail: meeting the challenge

Glasgow City Council and related stakeholders to take early action to identify a location in central Glasgow for a High Speed Rail terminus; to secure and safeguard related development land, and to secure and safeguard the options for sustainable transport connections between the terminus and the rest of the city region.

Similar safeguarding action on route and development land options will be required of the other authorities through whose administrative areas the HSR may pass en route to a Glasgow terminus."

4.22 At this stage, no significant effects are predicted due to lack of project specification. When the HSR reaches a stage of proposing locations for terminals and routes further assessment will be required.

Strategic Freight Hubs

4.23 A new element of the Proposed Plan is the identification of five Strategic Freight Hubs, namely:

- Eurocentral/Mossend (North Lanarkshire) - Rail
- Gartsherrie (North Lanarkshire) - Road
- Deanside, Renfrew (Renfrewshire) - Rail
- Glasgow International Airport (Renfrewshire) - Air
- Ocean Terminal, Greenock (Inverclyde) - Sea

These are existing freight locations aimed at promoting a modal shift between road, rail and marine shipping at key locations. These locations play an important role in supporting the key economic sectors and the related SEILs. The potential reduction in GHG emissions is also a key driver in terms of promoting these sites. This is supported by the following policy:

"Strategic Support Measure 6
Strategic freight facilities

The Strategic Freight Transport Hubs on Diagram 11 and in Schedule 3 comprise the strategic response to long-term sustainable freight movements into and within the city-region.

Measures require to be put in place to safeguard relevant investment in such locations.

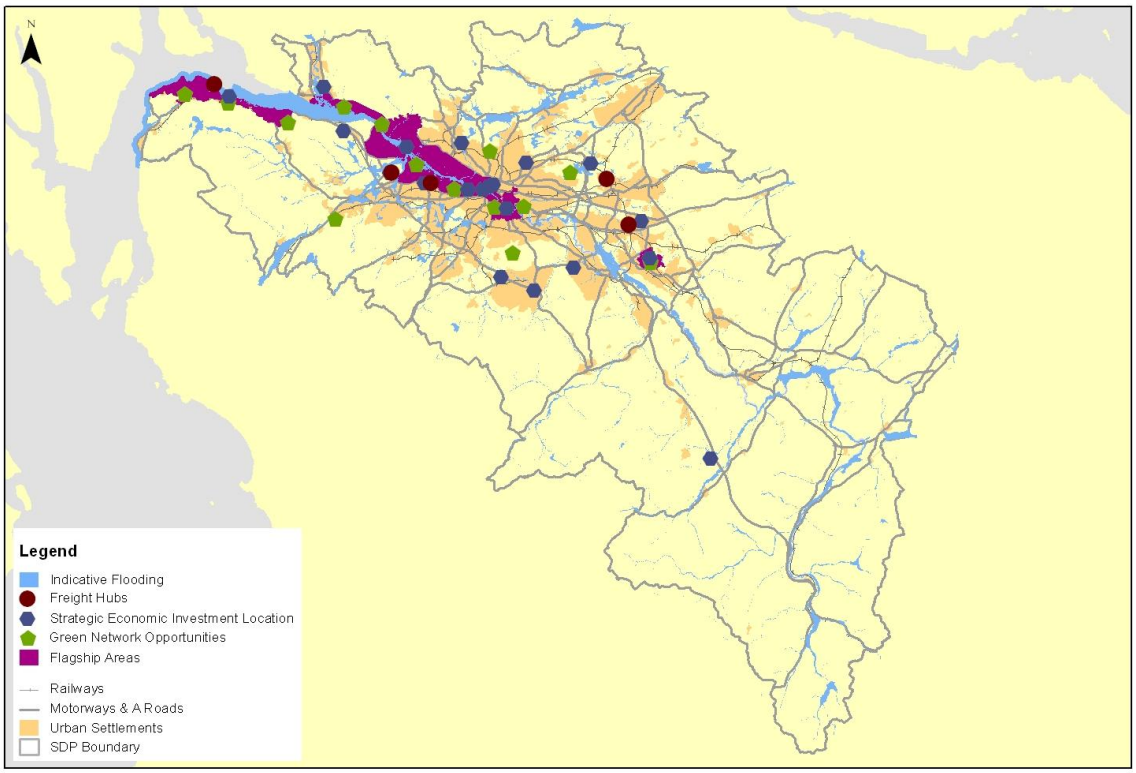
Ancillary land allocations adjacent to such facilities, where appropriate, should be designated freight parks and safeguarded solely for the purposes of freight activity, for example, storage, trans-shipment, break-bulk infrastructure and related services."

4.24 The five locations identified in the Proposed Plan are the result of consultation with the Freight Transport Association recognising their role in supporting the key sectors. In identifying these Strategic Freight Transport Hubs, the intention is to make use of existing and established facilities and not to encourage freight related development at new locations. For example, the air, rail and sea facilities are fixed locations. Historically, Gartsherrie is the focus for container based storage in the GCV area and the Proposed Plan is continuing to focus on this location.

Assessment

4.25 When considering Freight Hubs in relation to flood risk Figure X shows some correlation. All Strategic Freight Transport Hubs are operational at present and, in common with the identification of SEILs the designation of Strategic Freight Transport Hubs is not necessarily intensifying the use. It is more an issue of labelling and therefore the assessment focuses on issues relating to the principle of designating a network of strategic locations.

Figure 10: Strategic Freight Hubs, Flood Risk and Transport



4.26 Figure 10 shows the Strategic Freight Transport Hubs in relation to flood risk. Where new development proposals related to the Freight Transport Hubs coincides with flood risk, mitigation will be required. These will be better identified on a site by site basis at local or project level.

4.27 Figure 11 shows the Strategic Freight Transport Hubs in relation to Cultural Heritage and Vacant and Derelict Land. Potential positive benefits from development include the re-use of derelict land and the use of historic buildings as part of the place-making agenda. Figure 12 shows there is very little interaction between Freight Transport Hubs and natural heritage.

4.28 From a strategic point of view, the overall environmental impact of the Freight Transport Hubs is likely to be positive particularly with regard to GHG emissions, climatic factors and soil where vacant and derelict land is re-used. These are established locations and development will be encouraged only where it supports the reduction of road transport. Road to rail traffic will be channelled to these specific locations principally to reduce the impact on the strategic road network. Although there may be some localised impacts, these are offset by the overall reduction in road traffic and associated emissions.

4.29 The potential negative effect of any new freight facility development will be felt at a local or project level and mitigation measures should be fully identified particularly with regard to water and landscape issues. This may include the use of planting and green network thinking to increase the capacity of the local environment to accommodate development at these established locations. The use of SUDS will mitigate against potential adverse effects on water from drainage issues. A combination of these elements will allow for multi-functioning green infrastructure and green spaces within the GCV. These hubs act as a gateway to the GCV area and landscape is a crucial element in place-making.

Alternative

4.30 The 'do-nothing' approach is an alternative scenario for Freight Hubs. However, goods and products would still need to be transported and without supporting key locations, this transport would continue to take place and it is more likely this would occur on the road. Therefore, the identification of key locations, with the backing of the freight industry is considered the most environmentally sound approach.

Figure 11: Strategic Freight Transport Hubs, Cultural Heritage and Vacant and Derelict Land

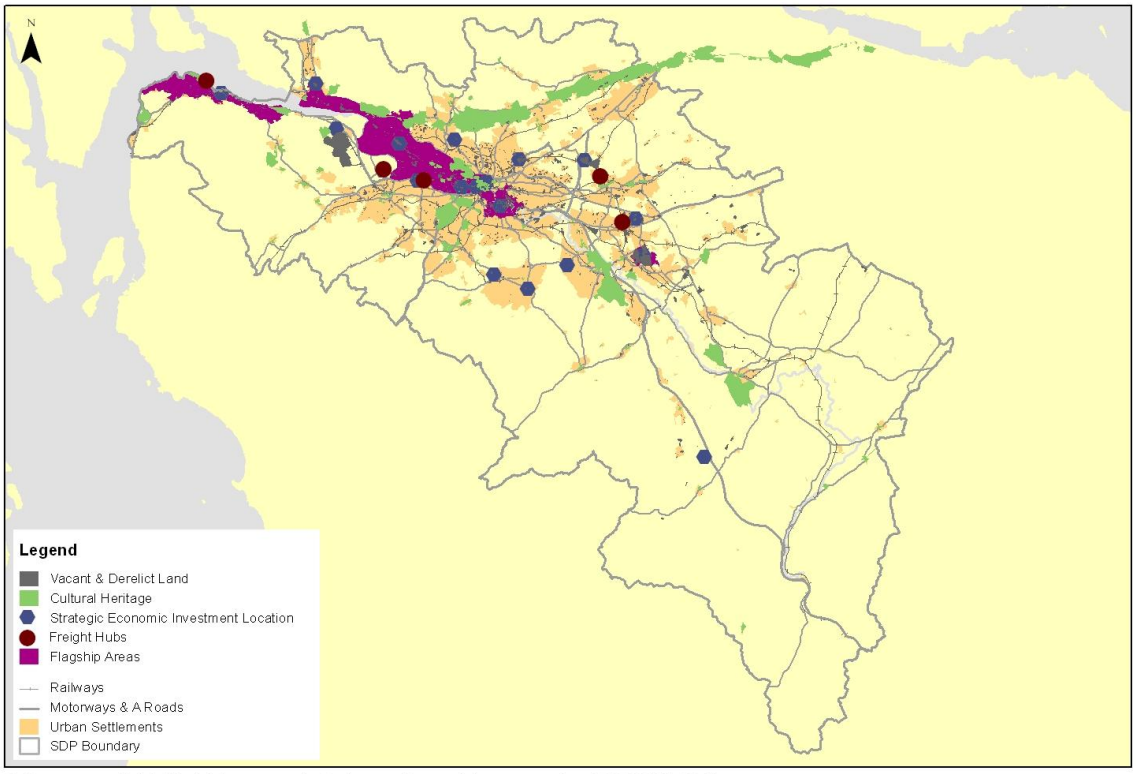
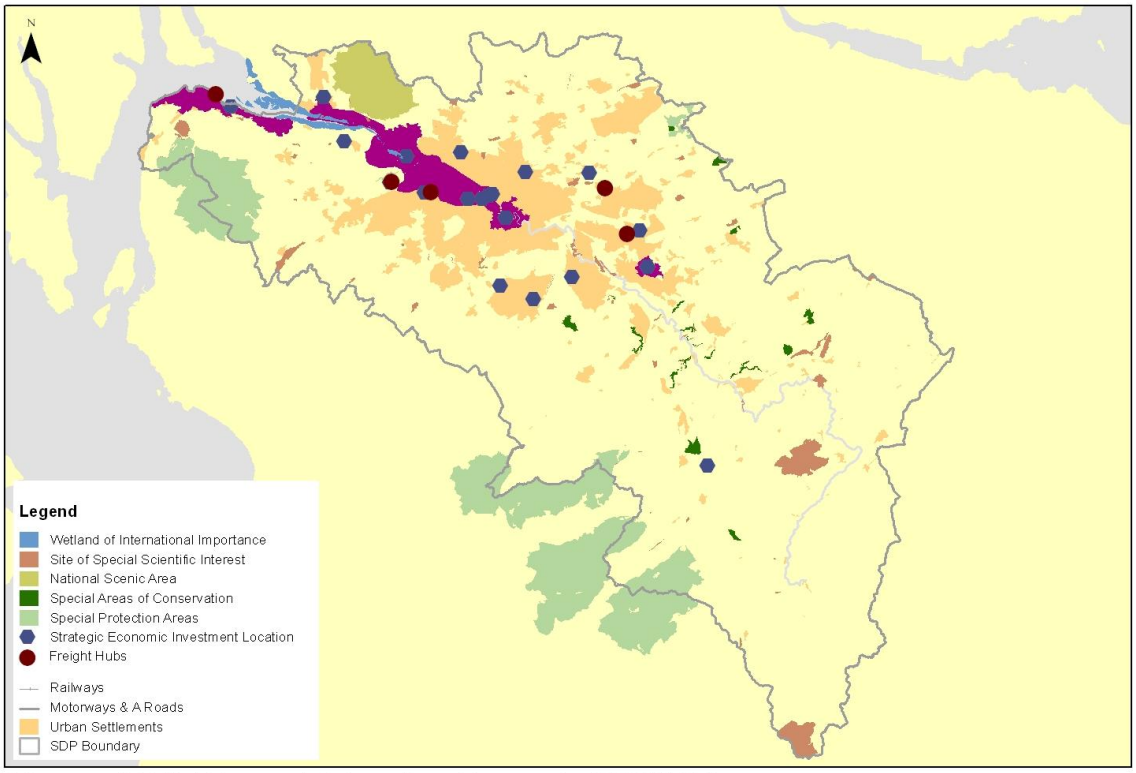


Figure 12: Strategic Freight Hubs and Natural Heritage



Recommendation 6:

4.31 In relation to freight related development associated with Strategic Freight Hubs, mitigation should be fully identified at local or project level. This is likely to include green network design elements incorporating SUDS, water, soil and landscaping to create multi-functioning green infrastructure within the place-setting agenda.

Sustainable Transport

4.32 The Proposed Plan recognises that the delivery of sustainable transport is explicitly linked to the achievement of the Spatial Vision and the SDS maximises the relationship between land use and sustainable transport. There is a focus on both key strategic centres as economic and retail hubs and key public transport corridors as well as how they serve the SEILs and the Community Growth Areas (CGAs). This is supported by the following policy:

"Strategic Support Measure 7
Sustainable transport: the need for a step-change

In order to achieve the necessary long-term step-change in sustainable transport to 2035, Transport Scotland, the Strathclyde Partnership for Transport and the constituent local authorities require to reach agreement on the specific programme of sustainable transport investments and measures to be included in the Strategic Transport Projects Review, the Regional Transport Strategy and in individual Local Development Plans, Local Transport Strategies and related programmes."

4.33 This policy supports for public transport plans alongside Schedule 4 (GCV Proposed Plan, page 29). It is important to note that the SDPA is not responsible for the delivery of public transport and Strategic Support Measure 7 and Schedule 4 list options for creating sustainable transport links, not firm commitments. These options are listed to illustrate how sustainable transport supports and complements the SDS.

Glasgow and the Clyde Valley Green Network

4.34 The Proposed Plan identifies fourteen Green Network (GN) Spatial Priorities listed in Schedule 5 (Proposed Plan, page 33). The Glasgow and Clyde Valley Green Network is a fundamental component of the SDS and NPF2's Central Scotland Green Network (CSGN). Its aim is to transform environmental quality and the potential scale of the Glasgow and Clyde Valley Green Network is substantial.

4.35 In order to provide critical focus for delivery over such a large part of the city-region and to provide momentum to the planned transformational change, priorities have been identified. The fourteen key green network spatial priorities reflect those locations where environmental, social, access and regeneration elements are integrated and which provide the opportunity to extend networks to maximise the return on available resources. The model used to identify the strategic priorities can also be used at a local level thus enabling green network integration at a detailed local level.

4.36 The strategic spatial priorities represent the most significant prospect to deliver habitat, access creation, and green and open space enhancement opportunities associated with major development. This is supported by the following policy:

"Strategic Support Measure 8
Green infrastructure: an economic necessity

The development of a multi-functional green network will contribute to the economic competitiveness and quality of life of the city-region.

At the same time, the Green Belt should continue to be designated.

Delivery of the Green Network and the review and designation of the inner and outer boundaries of the Green Belt should be priorities for Local Development Plans so as to ensure that the key environmental objectives, set out above, are achieved."

Assessment

4.37 The GN spatial priorities are predicted to deliver significant positive effects in respect of the SEA objectives. However, it should be remembered that the model used to identify these priorities gives rise to address deficits in the GCV. The Proposed Plan recognises that this is not the only effort required in delivering a green network. These are strategic priorities and further positive GN action is required in more local developments.

Alternative

4.38 An alternative approach to green network planning would involve not identifying strategic priorities. This would result in a more ad-hoc approach to green network planning. The Proposed Plan aims to fully integrate green network thinking with the development required to encourage economic investment to allow economic growth. The place-making agenda plays a large part in attracting this investment and green networks are at the heart of the SDS. During times of austerity measures, it might be easy to overlook the importance of delivering the green network and the spatial priorities have been identified to highlight its importance. Therefore, the 'do nothing' alternative is unlikely to result in more positive environmental outcomes and therefore is not considered appropriate.

Forestry and Woodland Strategy

4.39 The modern forestry context is strategic and complex and forestry now has roles in place making, developing opportunities for health and well-being and recreation, brownfield land recycling, climate change mitigation through carbon sequestration and maintenance, climate change adaptation through flood and catchment management, biomass production and biodiversity and integrated habitat management. Forestry has a contribution to make to the city-region economy. A GCV Forestry and Woodland (FWS) strategy has been developed to inform and guide forestry planting and investment.

4.40 The FWS is a standalone guide to the future of role and potential for forestry and woodland in the city-region, including decisions on new planting, investment programmes and grant support[4]. A separate Environmental Report has been prepared for the GCV FWS and includes headline findings of the FWS Environmental Report. These headline effects have been incorporated in the Supplementary Report.

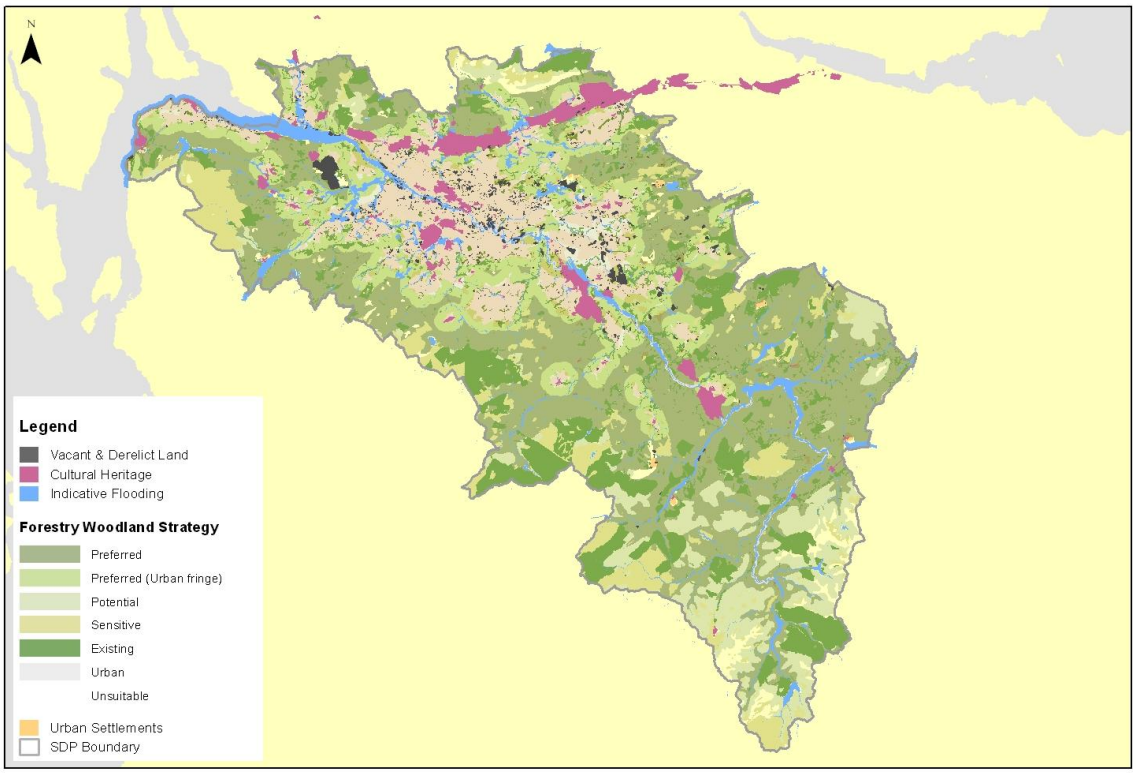
Assessment

4.41 Figure 13 shows there is some correlation between flood risk and the FWS. Positive environmental effects can occur where the right kind of planting is used. However, inappropriate planting can exacerbate an existing problem and therefore mitigation may be required where planting proposals are forward. This involves Forestry Commission Scotland, in terms of its grant scheme programme as well landowners and local authorities undertaking assessments at local and project level.

4.42 The positive environmental effects of forestry planting include mitigating climate change in terms of reducing net carbon emissions into the atmosphere. Trees absorb (or sequester) carbon from the atmosphere as they grow, only releasing it again when timber is burnt or decays naturally. By increasing the overall extent of woodland, and encouraging wider use of timber products, the FWS helps to increase the amount of carbon sequestered across the GCV area and this helps to offset carbon emissions from fossil fuel use.

[4] www.gcvsdpa.gov.uk

Figure 13: FWS and Flood Risk, Cultural Heritage and Vacant and Derelict Land



4.43 The FWS could also have a significant effect on the landscape at a regional scale. Positive effects would include biodiversity including habitat networks and ecological adaptation; reinforcing the place-setting agenda; and priority planting on the urban fringe. This could improve the setting of both valued and degraded environments including the civic landscape, parks, gardens, stalled land, vacant and derelict land as well as along key access routes. It could also have significant effect on the creation of CGAs and other new development and in rural developments providing diversification for farming.

Alternative

4.44 An alternative approach to FWS would involve business as usual and relying on the existing FWS developed in conjunction with the current Structure Plan. This approach would fail to take account of the emerging low-carbon economy and the opportunities that the new FWS affords in terms of building in climate change mitigation and adaptation measures. The FWS is linked to green network thinking and the Proposed Plan aims to fully integrate this with the development required to encourage economic investment to allow economic growth. The place-making agenda plays a large part in attracting this investment and forestry has an important role in supporting the SDS. During times of austerity measures, it might be easy to overlook the importance of delivering forestry and woodland in the city-region context. The 'do nothing' alternative is unlikely to result in more positive environmental outcomes and therefore is not considered appropriate.

Recommendation 7:

4.45 In relation to flood risk, the FWS indicates that care is required to ensure planting does not exacerbate existing problems. Mitigation should be identified at a local or project level.

Biomass Woodfuel Production

4.46 The Proposed Plan is promoting biomass woodfuel production and suggests making use of both vacant and derelict land and underused land with little medium-long term potential for development for this purpose. With around 3,800ha of such land, the Proposed Plan puts forward the notion that the areas of search around the urban fringe offer such potential. The FWS also notes the potential to establish short rotation crops and short rotation forestry on vacant and underused land, and in some urban fringe and rural areas where farming is less viable.

4.47 The FWS suggests that the greatest scope for biomass woodfuel lies in the management of existing woodlands across the region, however, one of the main barriers to this potential is the low level of awareness among landowners. There is also potential to make better use of material traditionally left behind when productive forests are harvested.

4.48 Biomass woodfuel is a bulk material and transport costs can be relatively high. There needs to be an effective processing and the provision of processing plants is a likely spin-off development from a successful biomass woodfuel industry.

Assessment

4.49 Large scale biomass planting could have some positive benefits as biomass woodfuel are generally regarded as carbon neutral. However, the process of using them can emit CO2 and other greenhouse gases (GHGs). The scale of GHG emissions is dependent on the technology used e.g. at a community level in combination with Combined Heat and Power and district heating. At this strategic level and without design details, it is therefore difficult to predict if biomass planting will reduce GHG emissions.

4.50 Biomass planting could have significant effects on the landscape, particularly if planted on a large scale within the urban fringe. However, the Proposed Plan and FWS are not suggesting biomass planting over the entire urban fringe area. It is highlighting a potential source of renewable heat which may also help to address soil issues such a vacant and derelict land. The management of existing woodland is also likely to have effects on landscape and climatic factors.

4.51 It is worth noting that in the longer term, adaptation may be required as climate change is expected to alter the capacity of soils to support biomass production. This is a matter for the FWS to address in future reviews.

Recommendation 8:

4.52 As planting proposals related to biomass woodfuel come forward, further assessment should consider landscape, air, transport issues.

Surface Coal and Aggregate Minerals

4.53 Surface coal has a role to play in secure base load energy supplies and current consents will lapse by 2018 and additional locations are required. The Proposed Plan identifies broad areas of search in the following locations:

- North Lanarkshire-wide with resources broadly located in the Forth Plateau and Slamannan Plateau; and
- South Lanarkshire-wide with resources broadly located in the Avon Valley, Douglas Valley, Mouse / Medwin Valley and Clyde Valley.

4.54 In terms of aggregate minerals, the Proposed Plan states that there are sufficient hard rock reserves within the plan period up to 2035. However, sand and gravel reserves are constrained beyond the first 10 years of the SDP and additional locations are required. The Proposed Plan identifies broad areas of search as follows:

- South Lanarkshire-wide with resources broadly located in the Avon Valley, Douglas Valley, Mouse / Medwin Valley and Clyde Valley.

4.55 The broad areas of search provide a basis for local planning authorities to identify locations and develop detailed methodologies. This is supported by the following policy:

"Strategic Support Measure 9
Natural Resources Planning

Low carbon economic growth requires that indigenous supplies of natural resources continue to be developed and that, where feasible, a phased programme of development be established through the life of the plan.

Broad areas of search for surface coals, sand and gravel aggregate, biomass wood-fuel production and wind energy have been outlined in the Strategic Development Strategy and it will be for Local Development Plans to take forward the refinement of these areas to establish their long-term potential."

Assessment

4.56 At a strategic level mineral extraction always has negative environmental effects. The nature of the development is likely to result in the following negative impacts:

- a significant negative impact on the landscape in the short and medium and long term;
- environmental and population protection including water, natural heritage designations and affected communities;
- involving communities in restoration schemes.

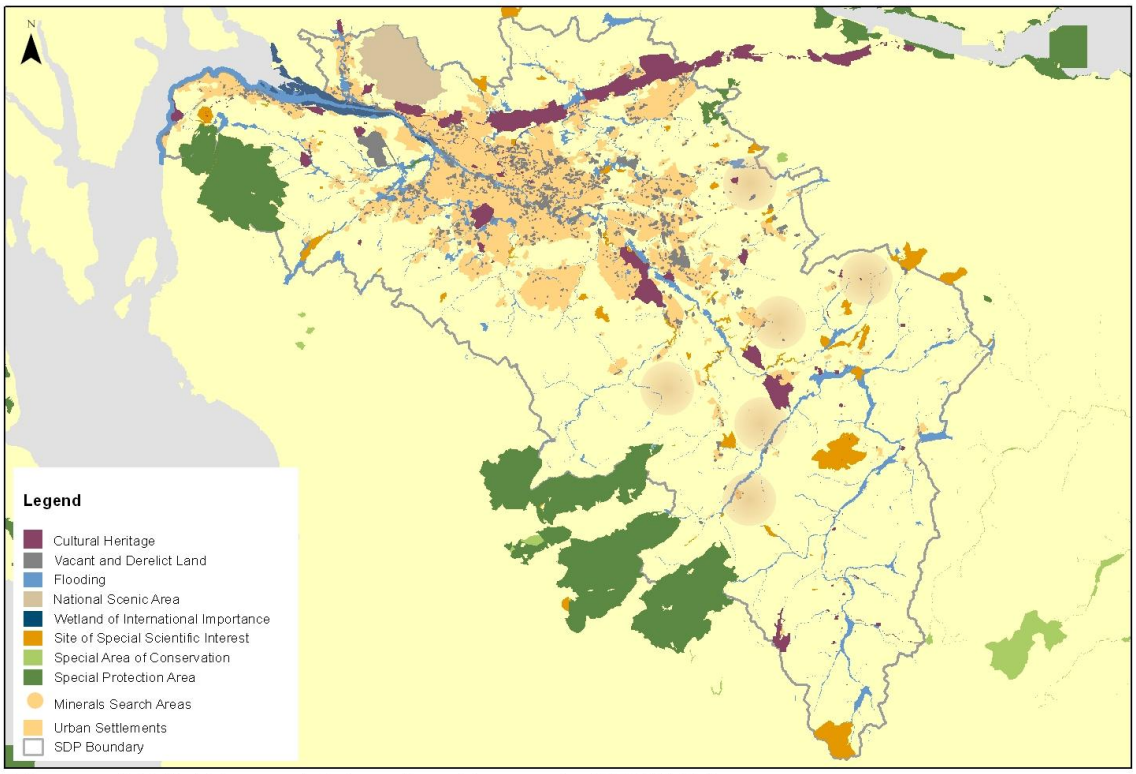
4.57 Mitigation at the strategic level includes the broad areas of search guiding development to certain locations. Local authorities can further restrict locations as a result of specific circumstances, for example, proximity to settlements, natural or cultural heritage resources and the need for measures regarding population, air, water, soil restoration, landscape and other SEA objectives can be assessed more fully. Monitoring the environmental effects can guide future assessments and help predict negative impacts more accurately and identify effective mitigation. Both North Lanarkshire and South Lanarkshire Councils have undertaken Environmental Reports for their approach to minerals and their findings are similar to those outlined above.

4.58 Figure 14 shows the broad areas of search in relation to flood risk, cultural heritage, natural heritage and vacant and derelict land. The map shows there is some correlation with flood risk and natural heritage. However, it is recognised that broad areas of search in themselves do not imply significant adverse risk to these elements. At this strategic level, it is sufficient to note that these potential conflicts exist and require that further assessment take account of these issues at local authority-wide level and again, in more detail at proposal level.

Wind Energy

4.59 There has been no change to the broad of search for wind energy since the MIR and therefore no further assessment is required at this stage. Issues relating to tensions between proposed land uses are discussed in the Cumulative Impacts section of the Supplementary Report.

Figure 14: Minerals Broad Areas of Search, Flood Risk, Cultural Heritage, Natural Heritage and Vacant and Derelict Land



Housing

4.60 The long-term strategic planning of housing in the city-region has been prepared under the auspices of the Scottish Government's Housing Need and Demand Assessment (HNDA, Background Report 12), which addresses all housing tenures. The demographic scenario adopted for the SDP (refer Section 2), founded on higher migration into the city-region, projects a level of household growth greater than that projected by the Scottish Government's National Records of Scotland. The demographic scenario is the first of several elements of flexibility built into the HNDA.

4.61 Two affordability assumptions have been applied to the household projections, high - which assumes households are willing to spend a higher proportion of their income to meet their housing requirements, resulting in a larger private sector and low – which assumes a lower level of spend and therefore a larger affordable sector. The adoption of both assumptions separately for the two main sectors across the city-region authorities has resulted in an element of overlap when the projected households in each sector are totalled.

4.62 Flexibility is built into the HNDA assessment by adopting optimistic household projections, incorporating backlog need over and above household projections, and discounting the contribution to supply from windfall sites. All these factors have helped the Authority to conclude that it has identified a generous land supply to meet projected demand for private sector housing, whilst the position for the assessed need for affordable housing,

including the intermediate sector, has been deferred to the constituent local authorities through their LHSs and LDPs.

4.63 The SDP does not propose to identify housing supply targets and allocate land for the Affordable sector, as this housing is provided and operates largely within local authority boundaries. This approach is also related to the difficulties alluded to above in translating what are estimated need requirements into numbers of new houses and in identifying intermediate housing as a potential sector. The provision of affordable housing will be dependent upon subsidy which is uncertain and financial products being developed which are realistic and attainable by those in housing need seeking to gain a foothold in such housing.

4.64 The constituent local authorities, in conjunction with the Housing Market Partnership, are required to determine their respective housing supply targets and associated housing land requirements in their LHSs and LDPs. This is particularly relevant to the Affordable sector (including Intermediate housing), as in those local authorities with no shortfall indicated, they may have a requirement for intermediate housing at LA sub-area level, or the authority may wish to encourage the growth of this sector. This is supported by the following policy:

"Strategic Support Measure 10
Housing Development and Local Flexibility

Local authorities should continue to audit their housing land supply in light of the prevailing housing market conditions, with a view to augmenting, where appropriate, the private sector supply in the short term to 2020. This action is particularly relevant where a private sector contribution could address housing needs in the Affordable Sector.

Local flexibility, through the release of additional limited scale sites, will be acceptable only where such sites

- ***are consistent with the fundamental principles of the SDP;***
- ***have met in full the criteria listed in the sustainable location assessment (Diagram 4);***
- ***can be serviced by the developer, in terms of supporting infrastructure; and***
- ***are in accordance with emerging Local Development Plan planning policy frameworks."***

Assessment

4.65 The private sector housing allocation has not altered since the preferred option in the MIR and there is no new allocation for the HNDA figures since these are subject to further LHS calculations including government funding. This Supplementary Report will not reassess the housing element. Strategic level mitigation is contained within the SDS. Its emphasis is on minimising the footprint of the built fabric of the city-region requiring that these needs and demands be met in the most sustainably accessible locations. By their nature, these locations are predominantly brownfield, rather than greenfield.

4.66 For development proposals that are not identified in the SDS, the Proposed Plan requires that the Sustainable Location Assessment, shown in Figure 3, is used as a filter to prevent unsuitable development.

4.67 Local authorities should use Diagram 4 from the Proposed Plan to make an appropriate decision. Diagram 4 Sustainable Location Assessment is the filter for proposals outwith priority locations and seeks introduces elements for mitigation. Does Sustainable Location Assessment include the most significant SEA objectives? Note that mitigation can also be identified through LDP process.

Recommendation 9:

4.68 With regard to Intermediate Affordable Housing and in conjunction with the Sustainable Locations Assessment, local authorities should devise further mitigation for SEA objectives based on local circumstance.

Urban Centres

4.69 Since the publication of the MIR three new centres have been added to the Network of Strategic Centres namely, Barrhead, Partick / Byres Rd and Shawlands. These are existing urban centres and are supported by the following policy:

> ***"Strategic Support Measure 11***
> ***Network of Strategic Centres***
>
> ***Local Development Plans should be the primary vehicle for taking forward the management and development of the Network of Strategic Centres, in particular with provisions to arrest the decline of traditional town centres.***
>
> ***This planning should be in accordance with the principle (Diagram 4) of safeguarding and developing their key community role and diversity of function.***
>
> ***The long-term health and well-being of Glasgow City Centre is central to the SDS and needs to be reflected in development management decisions of the local authorities."***

Assessment

4.70 This is similar situation as the SEILs, in that the centres themselves are not new and it is the designation as part of the network of strategic centres that is the issue. The question is whether the allocation of three further sites poses significant environmental effects that differ from the assessment conclusion in the MIR Environmental Report.

4.71 The main environmental impacts of the strategic network of centres are likely to be around climatic factors, particularly transport emissions. As expected, all centres are on bus routes and most are served by rail access. The proposal to reinforce these centres is, on the face of it, likely to result in a positive effect in term of reducing transport emissions. Nevertheless, good access to public transport can skew assumptions for some town centres because the availability of parking can influence private car use. For that reason, the opportunity to reduce private transport related emissions is dependent upon the parking policies.

Recommendation 10:

4.72 Mitigation exists within the Proposed Plan with regard to support for sustainable transport. Any negative impacts relating to traffic emissions can only be dealt with at an individual local authority level. No further mitigation action is required of the SDPA at this stage.

Energy

4.73 The SDS aims to reduce urban-based emissions and the retro-fit potential of the urban fabric to improve emission reduction is strategic in scale and investment. The SDPA has modelled future energy scenarios in the city-region and its economy against a backdrop of GHG emission reduction targets. It concluded that a fundamental de-carbonising of energy is required in order to meet 2050 Government targets.

4.74 The compact city model could support a decarbonisation of local supply using a variety of micro-generation. The SDS model incorporating the thirteen CGAs, the Clyde Waterfront, Clyde Gateway and Ravenscraig/Motherwell/Wishaw is sited as the most suited to incorporating these elements. This is supported by the following policy:

"Strategic Support Measure 12
Energy and a new low carbon paradigm

In order to achieve a paradigm shift in energy generation and consumption to meet a low or decarbonised future, a structured approach "Energy – Carbon Masterplanning" could be adopted in Local Development Plans when taking forward the core components of the SDS model, including Community Growth Areas (Diagram 10).

This approach needs a partnership with power utility companies to develop tailored energy solutions for the communities concerned."

4.75 Carbon master planning is defined in the Proposed Plan Glossary as a systematic process of analysing current and future power demand and associated supply infrastructure at the local level and the potential for incorporation of micro-renewable generation so as to provide the context for the design and development of smart-grids which maximise non- and low carbon power usage.

Assessment

4.76 The policy is aspirational and aims to have a positive effect on GHG emissions but it is difficult to predict specific environmental effects at this stage. Carbon master planning has the potential to have a significant effect on the design of development and this will impact on a wide range of SEA objectives including strategic landscape issues, if these design principles are to be applied across the SDS model. This level of detail is more accurately predicted at the masterplanning stage within the context further environmental assessment.

Recommendation 11:

4.77 With regard to Carbon Masterplanning, further environmental assessment is necessary at the more detailed local stage in order to accurately capture its effects on SEA objectives.

Waste

4.78 The Scottish Government's *Zero Waste Plan (ZWP)* sets out its vision for a zero waste society by focusing on a waste hierarchy with a target of 70% recycling and a maximum 5% to landfill for all Scotland's waste by 2025. The SDP recognises waste as an economic resource which can support its vision.

4.79 Within the SDP area, the ZWP states that additional operational waste management infrastructure capacity is required by 2025 for 810,000 tonnes for recycling and source segregated organic wastes for composting and anaerobic digestion and 1.15 million tonnes for treating unsorted wastes *(2011 ZWP Annex B regional capacity figures)*. Meeting these targets and the actions required by the ZWP will require the development of additional waste management facilities in the SDP area.

4.80 The SDPA and its constituent local authorities will work together to develop an integrated network of waste management facilities. As a matter of priority, the Authority will consider potential joint working mechanisms to support the delivery of such facilities to meet the capacity requirements set out in the Zero Waste Plan by 2025.

4.81 In terms of landfill, the ten year rolling landfill capacity requirement for the SDP area is 23 million tonnes *(2011 ZWP Annex B regional capacity figures)*. Currently there is adequate capacity within existing and approved sites within the SDP area to satisfy this requirement. These issues are supported by the following policy:

"Strategic Support Measure 13
Zero Waste and the planning challenge

The provision of the appropriate infrastructure to meet the Zero Waste Plan targets will support the SDS.

Development proposals for waste management facilities will generally be acceptable in industrial and storage or distribution locations and at existing waste management facilities particularly where there exists the opportunity to maximise the potential for the reuse of waste heat through co-location with potential heat users."

Assessment

4.82 Additional waste facilities are required within the GCV area within the timescale of the Proposed Plan. The Proposed Plan follows advice from Government to use existing sites or large vacant industrial sites until this issue can be addressed more fully through a joint working process.

4.83 In terms of the environmental impacts of different types of waste facilities, a Defra commissioned report concludes that, on the evidence from studies so far, the treatment of municipal solid waste has at most a minor effect on health in this country. It recognises the evidence on environmental effects is limited, but as such it does not appear to suggest adverse environmental effects of waste management, other than those already identified and which are being addressed, such as methane emissions from landfill. The report

recognises that further research will be undertaken in order to refine the evidence base for policy making.

4.84 The waste hierarchy provides a sound environmental guide to help inform the future waste strategy for the GCV. Consequently, joint working should focus on increasing the efficiency of our use of resources, with policies developed within the overall framework of the Zero Waste agenda.

4.85 Some of the potential negative environmental effects at a regional scale will be minimised through existing planning and licensing processes. Additionally, further environmental benefits could be gained by, for example, co-locating facilities which would reduce the total land needed and the need to transport waste between different sites.

Recommendation 12:

4.86 In relation to waste management, joint working should focus on increasing efficiency of our use of resources, taking account of information from emerging research. New studies and proposals will be subject to further assessment including SEA and EIA.

Water

4.87 The SDP recognises the benefits that implementation of the WFD can bring particularly in relation to delivering the Glasgow and Clyde Valley Green Network, biodiversity, tourism, regeneration, climate change, health and recreation. The *Flood Risk Management Act (2009)* places an onus on local authorities to work together to reduce flood risk. The first flood risk management plans are required to be in place by 2015. The importance of the functional flood plain to store and convey flood water is recognised. This is supported by the following policy:

"Strategic Support Measure 14
Water environment and flood risk

In order to achieve the objectives and targets set out in the Water Framework Directive, the Flood Risk Management Act (2009), Water Environment and Water Services (Scotland) Act 2003 and the Clyde Area Management Plan, the SDP supports the protection and enhancement of the water environment and the reduction of flood risk through the delivery of the Metropolitan Glasgow Strategic Drainage Plan, the extension of the Glasgow and Clyde Valley Green Network, the use of sustainable urban drainage systems and the safeguarding of the storage capacity of the functional floodplain."

Assessment

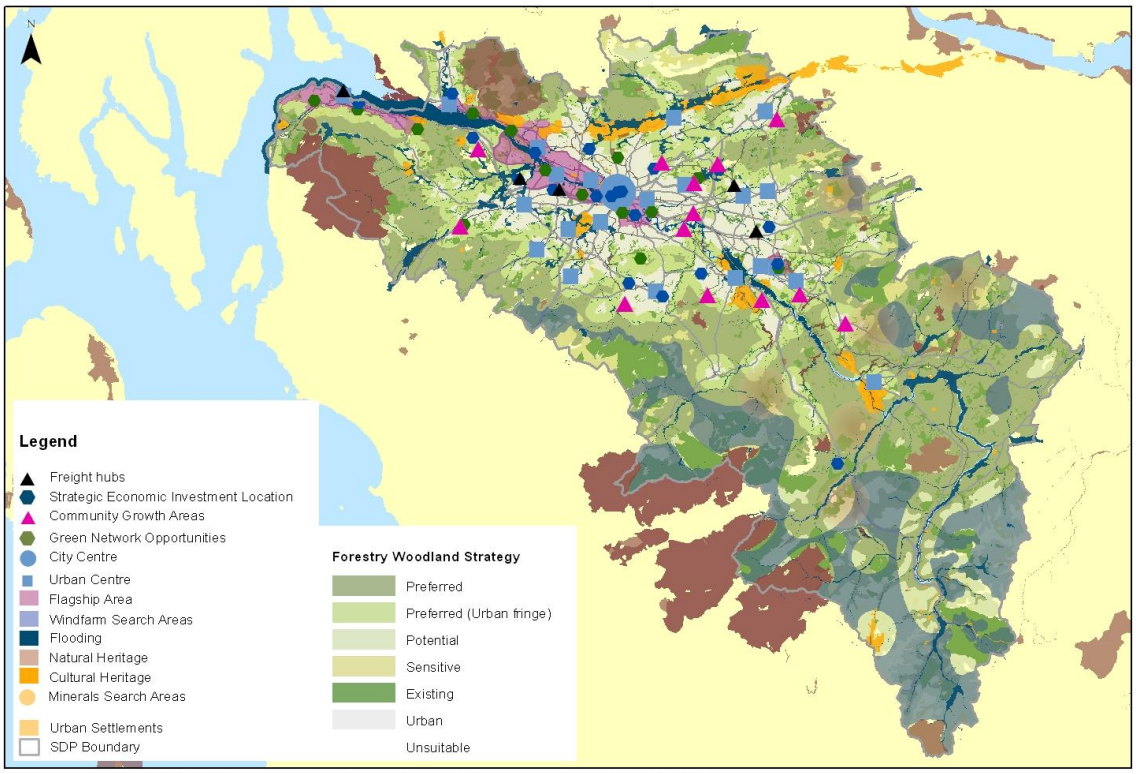
4.88 This is a policy statement is setting out the strategic aspirations for the SDP with regard to developing green infrastructure in relation to water. Overall, this policy is likely to result in positive environmental effects in a number of areas, not least water quality but also habitat networks and ecological adaptation, landscape and population and health.

Chapter Five

Cumulative, synergistic and secondary effects

5.1 This section draws together areas of cumulative and synergistic effects and considers the 'bigger picture'. Figure 15 shows all Proposed Plan development in relation to all strategic level constraints. There is an element of 'squaring the circle' in terms of tackling potential significant and strategic negative impacts with identifying mitigation measures at local level. This will require monitoring and discussion amongst the eight constituent GCV authorities.

Figure 15: Cumulative and Synergistic Effects



5.2 Overall, there will be positive synergistic effects from the Proposed Plan and the following has been concluded:

- SEILs and Strategic Freight Transport Hubs and Urban Centres should reinforce transport corridors and public transport and support city centre;
- The focus on an increasing renewable energy production and the shift from fossil fuels should reduce GHG emissions;
- FWS should help develop native habitat networks and reinforce the landscape setting of the city-region;

- green networks should improve quality of life and health issues in relation to the GCV population, and from wide afield in terms of tourism, as well as improving habitat connections;

- the historical environment offers opportunity to reinforce the place setting agenda and focussed investment in existing urban centres should assist this process.

5.3 Notwithstanding the above, there is potential for some tension between land uses. Figure 15 shows there is some tension between the broad areas of search for wind energy and minerals. The broad areas of search in themselves are not indicative of development taking place on the ground. However, there is at least potential for wind farm applications on land where mineral resources are present. Should this situation arise, mitigation could include the excavation of the mineral resource prior to wind farm development. Clearly, this is a matter for site specific proposals dealt with at the local level where environmental impacts can be more fully predicted and effective mitigation identified.

5.4 Figure 15 illustrates there is some potential tension between FWS and wind energy. As indicated above, the broad area of search for wind energy is not indicative of development on the ground. The same applies to the FWS, it is unlikely that the whole GCV area will have tree cover in 2035. However, it is helpful to be forewarned of potential tensions as it helps to more accurately predict negative effects and identify appropriate mitigation. Again, this is a matter for masterplanning or site specific proposals.

5.5 There is some potential tension with development and flood risk and in turn this effects on River Basin Management Planning. With regard to River Basin Management Planning and cumulative impact, impacts caused by directing development to certain locations will require further assessment to accurate record cumulatively effects. Strategic mitigation is built in to the Proposed Plan through the use of SUDS with new developments. However, this should be monitored.

Recommendation 13:

5.6 Some flagship areas along the Clyde have the potential to generate cumulative effects in relation to water, and in particular flooding and River Basin Management Planning. It is recommended that the SEA monitors the link between development and increased capacity of drainage infrastructure.

Recommendation 14:

5.7 The SDP as a whole has the potential to change to the overall definition, character and quality of the settlement edges but many effects will be specific to place and local environmental character. Local level planning has the opportunity to realise the opportunities for mitigation and enhancement for each scheme and ensures this links into development on the ground.

Recommendation 15:

5.8 With regard to identifying gaps in cumulative impact, further detail on the cross boundary impacts of biomass woodfuel planting, River Basin Management Planning or wind energy is required. This would allow the LDPs and their accompanying SEAs to identify particular locations where there may be potential significant effects.

Chapter Six

Summary of consultation responses and recommendations from previous Environmental Report

Introduction

6.1 This chapter outlines the relevant recommendations made in the Environmental Assessment of the MIR and comments received during the previous consultation period. If a response to recommendations and comments can be made at the Proposed Plan stage then an explanatory comment has been included.

Previous recommendations and responses

6.2 The following recommendations were put forward by the Environmental Report for the MIR.

	Recommendation	**Response**
1	The proposed plan should more explicitly emphasise the inter relationship between the delivery of key infrastructure requirements and the achievement of the Spatial Vision. The aim of this will be to ensure that the broad aim of sustainable transport is carried through to influence development on the ground therefore creating positive environmental effects and avoiding negative effects.	This has been addressed throughout the Proposed Plan. Particularly in the Spatial Vision, Diagram 7, page 13 of the Proposed Plan. SDS Competitiveness, paragraph 4.29, page 23 Sustainable Transport section and SSM7.
2	With regard to the SEA of the SDP process, it is recognised that a Habitats Regulation Appraisal (HRA) is required along with further Appropriate Assessments (AA) relative to Natura 2000 sites that have the potential to be affected by development proposals within the MIR.	An HRA and AA have been undertaken and are published in conjunction with the Proposed Plan.
3	Further consideration should be given to the strategic role of Biomass planting in the city-region. Greater clarity should be given at the Proposed Plan stage taking account of environmental designations and constraints with particular regard to landscape and cultural heritage issues.	This has been addressed in the Proposed Plan.
4	Evidence of research on the strategic significance of mineral resources and the impact of demand thereof should be provided in a background report to accompany	Background Report 10 Minerals Search Areas is published alongside the

	the Proposed Plan and its associated supplementary assessment. Assessment of the impacts of adopting a broad area of search for aggregate minerals should be included in the ER of the Proposed Plan.	Proposed Plan.
5	There is potential opportunity for the development of the CGAs to use the vacant and derelict land to develop the concept of the Green Network and fully integrate this with the new development and this could be explored further should the SDPA reconsider the allocations of developable land. At this stage, these are site specific issues and therefore more appropriately dealt with at the local and project level. Community Growth Areas (CGAs) should themselves incorporate and develop the Central Scotland Green Network - not just in the case of vacant and derelict land but also within the new housing areas. Given the scale of this new development, the CGAs could provide a model for the green network in the rest of the conurbation, and in some respects could enhance the environmental qualities of their local area e.g. by expanding habitat networks.	Background Report 8 Green Network Spatial Priorities is published alongside the Proposed Plan. A model was developed for Background Report 8 and it can be adapted for use at local and masterplanning levels.
6	Regarding the promotion of environmental action and climate change section of the MIR, it is agreed that further work is required to refine the opportunities map for biomass woodfuel production for inclusion in the Proposed Plan.	Background Report 9 Forestry and Woodland Strategy is published alongside the Proposed Plan
7	Would like to see consideration of the impact of climate change on landscape over the longer term.	Addressed in this Supplementary Assessment
8	Would like to see a more detailed analysis of the significant effects from the city-region wide strategy ensuring that the consequences are fully understood before embarking on LDP process.	Addressed in this Supplementary Assessment
9	Climate change mitigation and adaptation could be more fully considered within the ER	Addressed in this Supplementary Assessment

Chapter Seven

Monitoring and Mitigation

7.1 The primary method of monitoring will be through reviewing the performance of the Local Development Plans that follow the SDP. Therefore, the SDPA to should pull together and provide a succinct overview of all the monitoring reports prepared by each local authority. Regarding indicators at the strategic level, the SDP should:

- test the predictions made in the assessment and check the delivery and performance of mitigation measures;
- collect information for future assessment purposes (data gaps);
- monitor any environmental effects that have been identified as being significantly negatively.

7.2 SDPA will develop a small suite of regional indicators during the life of the SDP (using Diagram 4 from the Proposed Plan).

7.3 Some flagship areas along the Clyde have the potential to generate cumulative effects in relation to water, and in particular flooding and River Basin Management Planning. It is recommended that the SEA monitors the link between development and increased capacity of drainage infrastructure.

7.4 The SDP as a whole has the potential to change to the overall definition, character and quality of the settlement edges but many effects will be specific to place and local environmental character. Local level planning has the opportunity to realise the opportunities for mitigation and enhancement for each scheme and ensures this links into development on the ground.

7.5 With regard to identifying gaps in cumulative impact, further detail on the cross boundary impacts of biomass woodfuel planting, River Basin Management Planning or wind energy is required. This would allow the LDPs and their accompanying SEAs to identify particular locations where there may be potential significant effects.

Chapter Eight

Schedule 3 Compliance

8.1 This table shows that all elements of Schedule 3 of the Act have been tackled in this assessment of the MIR.

Table 5: Schedule 3 Compliance

Schedule 3 Components	Chapter and section of ER
"an outline of the contents, main objectives of the plan or the programme and of its relationship (if any) with other qualifying plans and programmes' (Schedule 3(1))	An outline of the MIR is provided throughout the entire Report specifically Chapters 2, 4, 5, 6 and Appendix B
'The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme.' (Schedule3 (2))	This is highlighted in Chapter 2 and Appendix A
'The environmental characteristics of areas likely to be significantly affected' (Schedule 3(3)) 'any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC Schedule 3 (4)	These elements are tackled in Chapter 2 and Appendices A &B
'the environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation' Schedule 3 (5)	This is tackled in Appendix B
'The likely significant effects on the environment, including –(a) on issues such as	These elements are given consideration in

(i) biodiversity; (ii) population; (iii) human health; (iv) fauna; (v) flora; (vi) soil; (vii) water; (viii) air; (ix) cultural heritage, including architectural and archaeological heritage; (xii) landscape; and (xiii) the interrelationship between the issues referred to in heads (i) to (xii); (b) short, medium and long term effects; (c) permanent and temporary effects; (d) positive and negative effects; and (e) secondary, cumulative and synergistic effects'. (Schedule3 (6)).	Chapters 4, 5, 6 and 7
'the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme' (Schedule3 (7))	Mitigation measures are mentioned throughout the assessment Chapters 4, 5, 6 and 7 but with particularly emphasised in Chapter 8
An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of expertise) encountered in compiling the required information (Schedule 3 (8))	Where preferences have been stated in the MIR these have been assessed and explained. Further information will be provided in a supplementary assessments as more alternatives area selected in the preparation of the Proposed Plan
A description of the measures envisaged concerning monitoring in accordance with section 19 (Schedule 3 (9))	Monitoring issues are discussed in Chapter 8. Further monitoring issues will emerge from the supplementary assessment of the Proposed Plan
A non technical summary of the information provided under paragraphs 1 to 9	Accompanies the Environment Report and will accompany any necessary supplementary assessments

Chapter Nine

NEXT STAGES

9.1 Stakeholder consultation will be an ongoing part of the development process of the SDP, to ensure that it is developed with key stakeholder inputs, including the wider public. Comments are sought on the SEA process and whether the appropriate issues for the SDP have been identified. We would also welcome comments on any perceived omissions or gaps in our analysis.

9.2 Consultation and engagement will be undertaken for both the SDP and the SEA by various means including:

- the use of the GCVSDPA web site for information exchange, updating on timescales and events and inviting comment and feedback;
- workshops and meetings;
- feedback from SDP consultations relevant to the SEA. This will include convened meetings with the Statutory Consultees, interviews (either face to face or by telephone) with regional consultees and facilitated discussions.

9.3 The Environmental Report was prepared by the Glasgow and the Clyde Valley Strategic Development Planning Authority (GCVSDPA) and was submitted to the Consultation Authorities (Scottish Natural Heritage, Historic Scotland and Scottish Environmental Protection Agency) via the SEA Gateway on 30th June 2011, and opened for public consultation, along with the GCVSDPA Proposed Plan until 26th August 2011.

9.4 All relevant documents can be found at www.gcvsdpa.gov.uk if you are unable to access the documents online then they can be obtained from the following address:

Glasgow and the Clyde Valley Strategic Development Planning Authority
Lower Ground Floor
125 West Regent Street
Glasgow
G2 2SA
Alternatively you can call: 0141 229 7730

Written comments on the relevant documents are welcomed and are asked to be received by 26th August 2011.

By email: proposedplan@gcvsdpa.gov.uk

By post: Glasgow and the Clyde Valley Strategic Development Planning Authority
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