APPENDIX 1 – SCOPING CONSULTATION FEEDBACK

As required by the *Environmental Assessment of Plans and Programmes Regulations 2004*, a scoping document was made available to statutory consultees[1] for a 5 week period (as defined under Regulation 12(6) of the 2004 SEA Regulations in relation to scoping). The scoping document was issued on Friday 7th August 2009, and set out information relating to the nature of draft plan/programme and the proposed approach of the SEA. An additional phase of scoping was initiated in April 2010 in order to consider additional blocks for inclusion in the SEA, and this was also issued to those statutory consultees indicated below. It should be noted that this document only included additional information relevant to the new blocks being considered and any new information of relevance since the production of the initial scoping document issued in August 2009.

In order to gain feedback on certain areas of the proposed SEA, a number of questions were asked of consultees, and these are listed below. Those which are emphasised in bold were also asked in the addendum scoping document of April 2010, and comments from both stages of scoping are summarised below:

1. **Consultees are invited to highlight additional plans or programmes which they consider relevant to the draft plan/programme.**
2. **Consultees are invited to draw attention to and provide (where possible) additional data sets which they consider of potential relevance to this SEA.**
3. Are there any objectives that you feel should be included or removed?
4. Are the indicators for each objective suitable? If not please suggest alternatives.
5. Do you have any comments on the proposed approach to assessment and consultation?
6. **Would your organisation like to be consulted on the SEA process in any additional way?**

A total of 8 responses were received from:

- Countryside Council for Wales (CCW)
- Environment Agency (EA)
- Scottish Natural Heritage (SNH)
- Cadw
- Natural England (NE)
- Historic Scotland – provided an addendum response, though no comments were offered
- Scottish Natural Heritage (SNH)
- Scottish Environment Protection Agency (SEPA)

The written responses of the consultees which responded to the scoping document are summarised below.

[1] *Statutory consultees are: Cadw, CCW, SNH, Historic Scotland, English Heritage, the Environment Agency, SEPA and Natural England.*

A1.1.1 Consultees are invited to highlight additional plans or programmes which they consider relevant to the draft plan/programme.

#	Organisation(s)	Additional Initiatives Raised	Response
1	EA	• Department for Energy and Climate Change (DECC): Framework for the Development of Clean Coal (2009) • DECC: Energy National Policy Statements (likely to be published for public consultation while the Environmental Report is being drafted) • Environment Agency: Flooding in England – a national assessment of flood risk (2009) • Environment Agency: Water for people and the environment: Water resources strategy for England and Wales (2009) • Planning Policy Wales (2010) • Ambient AQ and Cleaner Air for Europe Directive 2008/50 – must be transposed into UK legislation by June 2010 • Directive 92/43/EEC: Main objectives/requirements should refer to: Countryside Rights Of Way Act 2000 • Regional Spatial Strategies: add reference to Regional Economic Strategies (RESs) – oil or minerals are referred to in the Annex of the SE RES. RESs are to be merged with RSSs to form Single Regional Strategies • In Local Development Frameworks, add references to Local Authorities' (in England) Open Spaces Strategies drawn up under PPG17 that identify networks of green spaces of local amenity and wildlife value • One Wales, One Planet • Catchment Abstraction Management Plan for Cumbria • Local Authority Strategic Flood Risk Assessments • Relevant Shoreline Management Plans (SMPs)	These initiatives have been referred to in Appendix 3 of the Environmental Report and in relevant appendices and sections of the Environmental Report.
2	CCW	• Wildlife and Countryside Act 1981 (as amended) • Countryside Rights of Way (CRoW) Act 2000 • Planning Policy Wales (2002) and relevant Technical Advice Notes. • Wales Transport Strategy and Plan • West Midlands and North West England [Regional Spatial Strategies]	
3	NE	• the National Policy Statements (NPS), with particular reference to the Nuclear NPS,	

#	Organisation(s)	Additional Initiatives Raised	Response
		• Management Plans for Areas of Outstanding Natural Beauty and National Park Development Plans.	
4	EH	• The Government's Statement on the Historic Environment for England.	
5	SEPA	• Scotland and Solway Tweed River Basin Management Plans (RBMPs) – specific information about waterbody status can be found on the interactive RBMP map (http://213.120.228.231/rbmp/)	
6	SNH	• National Scenic Areas (NSAs) in the West Midlands, North West England and Borders areas (The Nith Estuary and East Stewartry) • SNHi on the SNH website: http://www.snh.org.uk/snhi/	

A1.1.2 Consultees are invited to draw attention to and provide (where possible) additional data sets which they consider of potential relevance to this SEA.

#	Organisation(s)	Additional Data Sets Suggested	Response
1	EA	• 'Water Environment' sections should refer to the significant water management issues from each RBMP • The baselines for the various SEA Areas should discuss the atmospheric deposition of pollutants • Regionally Important Geological Sites (RIGS) • Thames River Basin Management Plan (and other adjacent plans) • Thames Catchment Flood Management Plan (CFMP) and TE2100 plan and other relevant CFMPs • The National Water Resources Strategy and associated Thames (and other relevant) Regional Action Plans • Environment Agency National Flood Risk Assessment (2008) • Statistics on the State of the Environment in Wales (July 2009) • Wales index of multiple deprivation (weblink provided) • A number of specific comments relating to the short baseline sections presented in the scoping report (section 3.2) have been provided, though are not reproduced here • The Loughor Estuary is the site of a significant shellfish industry with great cultural and political significance in the region. • The Loughor Estuary was designated as a Sensitive Area [Eutrophic]	The additional datasets are noted and have been taken into account, where appropriate. Comments relating to section 3.2 of the scoping document have been identified in the baseline appendices and the baseline summaries presented in the Environmental Report.

#	Organisation(s)	Additional Data Sets Suggested	Response
		under the Urban Waste Water Treatment Directive in 2001 • The 2009 Bathing Waters Report, Wales • Groundwater Source Protection Zones (SPZs) in the Northwest. • Would like to see a more explicit statement about the need for HRA in relation to the Natura 2000 sites for the new blocks under consideration. • Liverpool Bay marine Special Protection Areas (SPAs) • Lune Deeps/Shell Flats Special Areas of Conservation (SACs). • We would like the SEA to consider flood and coastal risk, as relevant, for the new blocks included in the additional Scoping report. The current additional baseline does not specifically mention these issues, which should be highlighted in either the 'water environment' or 'climatic' sections.	
2	Cadw	• Pontcysyllte Aqueduct and Canal in north east Wales was inscribed as a World Heritage Site in June 2009 • Countryside Council for Wales/Cadw Register of Landscapes of Special Historic Interest in Wales • Cadw/ICOMOS Register of Parks and Gardens of Special Historic Interest in Wales • Historic Environment Records maintained in Wales by the Welsh Archaeological Trusts (County Archaeologists in England) which record non-designated heritage assets • Cadw has routinely been collecting site condition data for 20 years and the broad trend is highlighted most recently in The Welsh Historic Environment Position Statement 2007 (Page 33)	Comments are identified in Appendix 4i, sections 1.2, 1.4 and 1.5 and relevant sections of the Environmental Report.
3	SNH	• SNHi (http://www.snh.org.uk/snhi/) • National Biodiversity Network Gateway (http://www.searchndn.net/) • Landscape Character Series of Scotland • The Nith Estuary and East Stewartry NSAs.	These datasets have been used to aid the compilation of Appendices 4a and 4c, and associated baseline summaries in the Environmental Report.
4	SEPA	• Since the 2009 scoping consultation, the Scotland and Solway Tweed River Basin Management Plans (RBMPs) have been finalised. • Interactive RBMP map (http://213.120.228.231/rbmp/) provides details of each waterbody status, objectives, pressures and mitigation measures.	Information from the Scotland and Solway Tweed RBMPs has been used in Appendix 4d and relevant parts of the Environmental Report.
5	CCW	• National Character Areas do not apply to Wales or Scotland so their use to describe landscape issues or as indicators is not appropriate. For light pollution reference should be made to tranquillity/light pollution	It is noted that a number of character areas have now been defined and described for Wales by Land Use Consultants and CCW.

#	Organisation(s)	Additional Data Sets Suggested	Response
		maps for Wales.	These and the SNH Natural Heritage Zones/Landscape Character Series of Scotland are noted as sources of strategic level landscape character related information relevant to the whole SEA area. It is noted that the Wales tranquillity map has been updated for 2009 and this is discussed in Appendix 4c. Light pollution levels for the UK are presented in Appendix 4c.
		• The scale of the map (Figure 6) does not allow for the reader to easily identify that all European sites have been considered. Liverpool Bay pSAC is not included on the map	A full list of sites is tabulated in Appendix 4a, including Liverpool Bay pSAC.
		• Suggest SEA should consider environmental issues (as indicated Table 1 of the scoping document) for each block offered under the 14th round • With reference to the use of UK Sustainable Development Indicators, given the limited spatial extent of the Round 14 blocks, consideration should be given to using indicators that are more specific to the plan area and more relevant and reactive to the plan under scrutiny	Any area covered by the SEA may be offered for licensing. For the SEA to be applicable it must cover all of these areas. The 14th round block screening will cover the environmental issues for individual blocks applied for.
		• Reference needs to be made to the role of Wales' uplands as catchment for the Severn and Dee • Reference should be made to the Dee, Wye and Usk rivers' status as SAC	Specific comments relating to the baseline provided in the scoping report have been identified in the baseline appendices and the baseline summaries presented in the Environmental Report.
		• Relevant water utilities companies Water Resource Management Plans • Shoreline Management Plans • Relevant Review of Consents processes e.g. on the River Dee SAC • Relevant Local Development Plans/Local Development Frameworks • Relevant (including incomplete) Regional Spatial Strategies • Relevant Transport Plans • Relevant Regional Waste Plans	These have been considered for inclusion in the SEA.
		• Clarification is required as to whether the proposed additional blocks within north east Wales are included within the Wales SEA area and/or within the West Midlands. If this is the case there are a number of internationally and nationally designated sites for nature conservation, including the River Dee and Bala Lake SAC.	Only information relating to the new blocks was presented in the addendum scoping document. There are no new blocks in north east Wales. River Dee and Bala Lake SAC is noted in Appendix 4a, Appendix 6 and the

#	Organisation(s)	Additional Data Sets Suggested	Response
			Environmental Report.
		• Reference should be made to the Pontcysyllte Viaduct World Heritage Site.	Reference was made to this site in section 2.1 of the addendum document.
		• Reference should be made to the River Tywi.	This site is listed in Appendix 4a and referenced in the ER.
		• Reference should be made to developing National Policy Statements on Waste Water, Waste and Water Resources and to CCW's series of SEA Topic notes which can be found on CCW's website at www.ccw.gov.uk/landscape--wildlife/managing-land-and-sea/environmental-assessment/sea.aspx	Referenced in Appendix 3.
6	NE	• DEFRA's MAGIC Database http://www.magic.gov.uk/website/magic/	-

A1.1.3 Are there any objectives that you feel should be included or removed?

#	Organisation(s)	Objectives suggested	Response
1	EA, Cadw	• Recommend that the environmental objective of the SEA is changed to "protect and enhance environmental assets, including mitigating and adapting to climate change" • The objectives cover the range of likely significant effects with the exception of climate change adaptation and flood risk • Encourage DECC to use more positive objectives that will help test the programme against the aims of sustainable development • A number of SEA objectives were suggested by EA. These are not reproduced here though the full response can be viewed via the Onshore SEA webpages • SEA Objective "Promotes Waste Reduction" is welcomed, but may not be necessary in practice. Recommend an alternative such as "Quantity of waste reused or recycled as a % of total waste"	Updated Objectives resulting from scoping feedback can be found in section 3.2 of the Environmental Report.
2	Cadw	• The objectives relating to cultural heritage should seek to conserve, protect and enhance heritage assets, similar to the objectives for biodiversity	
3	NE	• Promoting and protecting opportunities for public access to the natural environment and outdoor recreation should be included as an objective under the 'Landscape', or 'Population and human health' headings	

#	Organisation(s)	Objectives suggested	Response
4	SNH	• The second landscape objective seeks to minimise impacts rather than to avoid them. An alternative could be that the strategy should be "consistent with the protection, enhancement or restoration of landscape character and local distinctiveness"	
5	CCW	• The objectives are highly generic • It is not felt that objectives which seek to comply with existing legislation are appropriate or useful • Refer to objectives and indicators suggested in response to 13th Onshore Round scoping • Consider using indicators/objectives suggested in the 'Practical Guide to the SEA Directive'	

A1.1.4 Are the indicators for each objective suitable? If not please suggest alternatives.

#	Organisation(s)	Suggested Indicators	Response
1	EA, Cadw	• Several indicators only refer to 'designated' areas or sites. The SEA may not capture potential impact on important regional or local important environmental assets – indicators should be developed to reflect this • Indicators should be time limited and capable of monitoring • Air Quality indicator should be reworded, "No adverse change in air quality" • Relying on compliance with IPPC permit conditions is too indirect from the environmental outcome. It may be that not all of the activities covered by the programme will need permitting under IPPC e.g. coal bed methane extraction • Climatic Factors: "Greenhouse gas emissions removed and captured" • Possible alternative approaches include comparing the overall climate change impact of this programme against that of alternative energy options and maximising the energy benefits obtained from the fuel • Unclear why an indicator relating to the quality of surface water and aquifers is included under the Air Quality objective. Recommend this is changed to, "The objectives of the Water Framework Directive to achieve good status and no deterioration in water quality by 2015" • Recommend that an indicator is used to ensure that the programme is resilient to the likely effects of climate change	Updated Indicators resulting from scoping feedback can be found in section 3.2 of the Environmental Report.

#	Organisation(s)	Suggested Indicators	Response
2	SNH	• Biodiversity, habitats, fauna and flora: first indicator should read "No damage by oil and gas activities to the features of interest of designated sites (this covers mobile species with habitat requirements outside the site)" • Second indicator is set too narrowly, and refers to the impacts of each activity rather than to the cumulative impact of all of them. The indicator should be to avoid impacts on the "favourable conservation status" of protected species (the measure attached to decisions relating to species protected by the Habitats Regulations). Could be extended to habitats and species listed under the UK Biodiversity Action Plan • Landscape: objective refers to designated and non-designated areas, but indicator relates only to designated sites. A possible indicator would be that there is no adverse change in landscape character or local distinctiveness	
3	NE	• Recommend an indicator that refers to the need to minimise adverse impacts on opportunities for access and recreation	

A1.1.5 Do you have any comments on the proposed approach to assessment and consultation?

#	Organisation(s)	Comments on Approach to Assessment and Consultation	Response
1	EA	• Recommend that the Environmental Report presents the findings of the SEA to enable an analysis of significance by topic *and* by SEA Area • Uncertain how the SEA will address the cumulative impacts of the programme along with energy National Policy Statements, Framework for Clean Coal, Offshore Energy programme (parts not covered in NPS) and other potential initiatives such as underground coal gasification • The Environmental Report should include a list of permits that will be needed for the developments and the environmental issues they cover • Recommend the SEA provide the evidence base for setting clear locational criteria in the programme that will help to meet its environmental objective as well as allowing oil and gas production, as used in the Energy National Policy Statements	Noted.
2	SNH	• Further explanation is required of the distinction between 'major' and 'minor' impacts. Some impacts may be of small scale but significant because of the importance and sensitivity of the receptor	These are qualitative categories as indicated as a viable option in OPDM (2005).

#	Organisation(s)	Comments on Approach to Assessment and Consultation	Response
		• Content with the timescale for the consultation on the Environmental Report	
3	CCW	• Further explanation is required regarding "impact categories", i.e. what will be the basis and criteria for assessing whether an impact is major positive, major negative etc, and how this approach aims to deal with/assess cumulative effects (*point also raised by SNH*) • Suggest assessment of alternatives should be considered in advance of Environmental Report stage • Assessment of effects on 'alternatives' should include all types of effect as defined in Annex I (f) of the SEA Directive • Raises "the possible need for terrestrial oil and gas licensing rounds to be subject to assessment under the Habitats Directive."	-
4	NE	We support the approach set out in the document.	-

A1.1.6 Would your organisation like to be consulted on the SEA process in any additional way?

#	Organisation(s)	Comments	Response
1	EA	Recommend using workshops and face-to-face meetings for consultation with statutory bodies and other advisors (such as Local Authorities, Wildlife trusts etc). EA's network of SEA contacts can be put in touch with consultants on request. We look forward to commenting on the Environmental Report at the time of public consultation.	-
2	SNH	Look forward to being consulted on the conclusions of the Environmental Report.	-

A1.1.7 Other Comments

#	Organisation(s)	Comments	Response
1	EA	• Should clarify whether the programme excludes underground coal gasification and CCS from fossil fuel power plants. • A brief description of methods used in obtaining onshore oil and gas and likely associated environmental effects should be included • DECC should state if the scoping process has scoped out any environmental issues which are regarded as not significant as this is one of the main objectives of scoping	The scoping document made reference to the three inclusive areas covered by the programme (Section 1.2 of the scoping document). The programme does not cover CCS or underground coal gasification. The discussion of effects in relation to activities associated with any possible licensing which takes place as a result of the next Onshore round is restricted to the assessment section of the Environment Report (section 5 and Appendix 5).
2	SNH	• The note below Figure 1 refers to two 'watery areas', Firth of Forth and the Dee, but the map suggests that the area subject to SEA might stop short of the River Dee; this should be clarified • Environmentally Sensitive Areas (shown in section 3.2.1) are a redundant designation which were applied to an agricultural incentive scheme which was replaced a few years ago • It would be helpful if section 4.1 showed how the key SEA stages related to the key stages in the licensing programme process	To clarify, the area subject to SEA includes the River Dee – note that activities related to these watery areas will take place onshore and involve no direct marine activities. It is noted that ESAs are redundant, though some are still valid until 2014. The SEA recognises that these, along with Countryside Stewardship, have been replaced by Environmental Stewardship.

A1.1.8 Scoping Compilation Synthesis

A1.1.8.1 Other Relevant Initiatives and Data Sets

A number of additional initiatives that are relevant to the plan/programme and data sets which might help inform the environmental baseline and assessment were suggested. Appendix 3 lists other relevant initiatives and their implications for the current SEA, and those suggested have been appended to this list and where appropriate taken into account in the environmental baseline (Appendix 4a-i) and Environmental Report. Additional data sets that had not already been used in producing Appendix 4 and the Environmental Report have been incorporated.

A1.1.8.2 Objectives and Indicators

A number changes to and/or additional objectives and indicators were suggested. The key suggestions in relation to objectives and indicators were:

- They should refer to climate change adaptation and flooding (NE)
- Reference to just designated sites in some circumstances (e.g. in relation to landscape) may restrict the SEA in capturing impacts on some important environmental assets (EA, Cadw, SNH)
- The ER should identify which objectives are significant for each SEA area (EA)
- Objectives relating to heritage should be comparable to those for biodiversity (Cadw)
- Public access and recreation should be considered under Landscape or Population and Human Health headings (NE)
- The objectives are highly generic and should not seek to merely comply with existing legislation (CCW)
- Should consider using recommendations from the Practical Guide to the SEA Directive (OPDM 2005) (CCW)
- The biodiversity indicator should be reworded to take account of mobile species with habitat requirements outside of designated sites (SNH)
- EA suggested a full range of objectives for each SEA topic and CCW referred to their 13th round response which likewise included a number of suggestions for objectives relating to SEA topic areas

These, along with the full set of suggestions (see sections A1.1.3 and A1.1.4 above), have been used to update the objectives and indicators for the SEA where appropriate, and these appear in section 3.2 of the Environmental Report.

A1.1.8.3 Approach to Assessment

The following key responses were received in scoping feedback in relation to the suggested approach to assessment:

- The EA recommended that “the SEA should provide the evidence base for setting clear locational criteria in the programme that will help to meet its environmental objective as well as allowing oil and gas production. This is an approach being used in the Energy National Policy Statements”
- In addition, the EA recommend the presentation of results of the SEA to enable an analysis of significance by topic and SEA Area
- EA would like to see a more explicit statement about the need for HRA in relation to the Natura 2000 sites for the new blocks under consideration
- SNH requested that the extent of the “Watery Areas” covered by the SEA was clarified in relation to the Dee

- SNH and CCW requested further explanation of the “impact categories” (i.e. minor negative, positive) used in the assessment
- CCW and EA requested further explanation of how the assessment deals with cumulative effects, its interaction with other plans or programmes such as the FDCC and National Policy Statements and effects from clusters of licensed activity
- CCW suggested that the assessment of alternatives should be considered in advance of the Environmental Report

APPENDIX 2 – ONSHORE OIL AND GAS ACTIVITIES, CONTROLS AND MITIGATION

A2.1 INTRODUCTION

The following appendix provides an overview of the main oil and gas exploration and development activities. All oil and gas exploration and development activities are subject to planning and/or other approval and permitting regimes. These activities, their physical and temporal footprint, and the key environmental issues (and mitigation) have been summarised under a number of headings:

- Conventional oil and gas exploration and production (Table A2.1)
- Virgin coal bed methane exploration and production (Table A2.2)
- Gas storage in hydrocarbon reservoirs (Table A2.4)

Useful summaries of onshore oil and gas and coal and coalbed methane activities are provided by DCLG (2006a, b). Minerals planning policies provide an important framework which complement, but do not replace or overrule, other national planning policies. Minerals Planning Statements (MPSs) set out national planning policies for minerals planning in England (see DCLG (2006c) Minerals Policy Statement 1: Planning and Minerals, which includes Annex 4: On-shore oil and gas and underground storage of natural gas). Similar documents exist for Scotland (see Scottish Executive (2006) Scottish Planning Policy SPP4: Planning for Minerals) and Wales (see the National Assembly for Wales (2000) Minerals Planning Policy Wales).

The final section of this Appendix summarises the main planning and environmental legislation which are pertinent to the onshore hydrocarbon industry.

A2.1.1 Conventional Oil and Gas Exploration and Production (COG)

Prospective areas for onshore oil and gas in the UK, as elsewhere, are confined to geologically appropriate sedimentary basins with adequate source and/or reservoir rocks, and source rock maturity. A suitable cap rock and migration pathways (permeability) are also key factors in determining reservoir viability and ease of extraction. The distribution of the principal oil and gas provinces (which may extend offshore, e.g. Wessex, Weald, West Lancashire) of the UK are indicated in Appendix 4h, *Material Assets* and in section 2.3 of the Environmental Report and these areas coincide with the spatial scope of this SEA. These commercially productive areas have been explored for about 100 years and are at a mature stage of development, though they still attract interest and modest onshore finds are still made (DCLG 2006a). Peak onshore oil production was in 1996, amounting to 5.4 million tonnes (40.5 million barrels), 83% of which was produced from Wytch Farm. DECC estimates at the end of 2008 put the total proven (Reserves which on the available evidence are virtually certain to be technically and commercially producible, i.e. have a better than 90% chance of being produced) UK reserves of oil remaining at 408 million tonnes (~3,060 million barrels). The contribution from onshore reserves was, in 2005, approximately 15.4 million tonnes (~2.9% of total reserves) which included reserves in a number of oil provinces (figures also for 2005):

- Wytch Farm: 12.4 million tonnes (~93 million barrels)
- Wessex Basin excluding Wytch Farm: 0.20 million tonnes (~1.5 million barrels)
- Weald Basin: 1.16 million tonnes (~8.7 million barrels)
- East Midlands: 1.6 million tonnes (~12 million barrels)

Table A2.1 – Conventional Oil and Gas Exploration and Production

Overview of activities	Temporal/physical footprint	Key environmental issues and mitigation
Exploration		
Seismic survey		
Vibroseis is the most commonly used method and typically involves 3-5 large vibrator units which sub-sonically vibrate the ground while a number of support vehicles record the returning shock waves for analysis.	Vibrators operate for 20-30 seconds at a time, following which the unit is moved on a few metres to the next vibration point. In a typical day, a unit may cover about 5km.	**Noise:** The process is barely audible to humans and generally confined to roads and other hard surfaces. Vibroseis may require access routes/clearance which should be suitably restored. Shot-hole methods, if employed, should ensure a correct charge at suitable depth to avoid the production of a crater.
Exploratory drilling		
Exploratory drilling is carried out to confirm the presence of hydrocarbons and characterise the reservoir. The site is levelled and a foundation of hardcore laid on which the rig is placed. Where the drilling site is remote from existing roads and services, the construction of access routes, and the provision of water, communications and power, may introduce ancillary activities beyond the boundaries of the site. Drilling is typically carried out with a rotary drilling rig which is about 40m high. Steel casing is run into completed sections of a borehole and cemented into place. The casing provides structural support, maintains the integrity of the borehole, and protects underground water resources from contamination by oil or drilling fluids. To cool the drilling bit and flush out rock fragments, water-based drilling mud is continuously circulated down the drill pipe and back up the borehole. The weight of mud in the borehole also provides a counter-balance to any underground pressures encountered although typical reservoir pressures in UK onshore oil and gas fields are	Very short but intensive activity – typically site construction, drilling and site clearance may take 12 weeks or less. Rig normally retained for an additional 10-14 days in order to line the borehole with steel casing and carry out a variety of short-term tests and measurements. If tests are provide positive results, longer term tests will be carried out as part of the appraisal phase. Drilling site covers approximately 1ha and it takes 2-6 weeks to prepare. Construction of a drilling site may require 200-300 lorry payloads (mostly of stone and hardcore) over a period of about 15 days. A further 25-60 payloads may be required in order to move the rig onto and off site. Drilling operations are a round-the-clock activity. A borehole takes 1-2 months to drill.	**Physical disturbance:** Site preparation involves the removal of topsoil and subsoil which are banked separately around the site for replacement once drilling is completed. Soil should be suitable protected through good site design in order to avoid damage resulting from erosion due to slope and rainfall. **Visual intrusion, noise, disturbance and light pollution:** The soil banks help screen the drilling site and reduce noise nuisance If in proximity to housing and other sensitivities, vehicle movements and drilling may be restricted to daytime hours. Access issues should be considered with respect to vehicle movements. **Accidents:** Drilling sites designed to contain accidental spillages, using bunds, lined drainage ditches, sumps etc. **Wastes:** Wastes are segregated and disposed of at authorised sites.

Overview of activities	Temporal/physical footprint	Key environmental issues and mitigation
low. In addition to the drilling rig, a typical site will also contain power generator sets; drilling mud tanks and mixing pumps; a shale shaker used to separate rock chippings from drilling mud; tanks for fuel, water and extracted oil; site offices and security arrangements. The mid 1980s saw the peak of exploration activity. Since that time, as fields were defined and development progressed, the number of new wells drilled gradually declined, even as production levels rose. Recent years have seen renewed interest in gas exploration, including coalbed methane contained within the country's coalfelds (see below).		
Appraisal		
The appraisal stage aims to evaluate the size and nature of the reservoir, to determine the number of wells required to extract the oil or gas, and to establish the probable production profile over the expected life of the field. Further seismic work and the drilling of additional wells may be needed to establish the size of the reservoir. The operator may opt for 'deviated drilling', which involves drilling at an angle from a site adjacent to the original discovery borehole. If it is thought to be a more significant find, a 'step-out' option will often be pursued, and several new boreholes may be drilled at a distance from the original borehole. During appraisal, the reservoir is tested to see whether the oil will flow under natural reservoir pressure or whether pumping will be needed to bring it to the surface. If pumping is required, which it normally is, a simple	Directional boreholes are generally longer than vertical boreholes. They therefore take longer to drill, cost more and may require a more powerful (and hence bigger and potentially more audible) rig. However, such drilling creates the potential to avoid environmentally sensitive areas as well as minimising the number of wellsites. Long-term production flow testing may continue over many months.	**Removal of produced oil:** Oil is generally stored on site and then removed by road tanker, involving perhaps 1-2 trips per day. **Flaring of produced gas:** Any gas produced may be burned off where it is present in small quantities. Because gas flaring can be visible at distance, operators now burn unwanted gas in specially designed ground flares.

Overview of activities	Temporal/physical footprint	Key environmental issues and mitigation
pumping mechanism popularly known as a 'nodding donkey' standing 4-6 metres in height, will be installed to determine the likely flow rate and other characteristics of the reservoir. In the case of gas production the DECC will normally allow a relatively small amount of gas to be vented or flared during testing subject to planning restraints, unless the gas produced is made use of, such as for electricity production.		
Development and Production		
If the field is viable, the reservoir may be small enough to be tapped using one or more of the existing exploratory or appraisal wells. If so, the production stage will result in little extra drilling activity. If the reservoir needs to be tapped by additional production wells, more drilling will be required. Most existing oilfields in Britain involve a simple production system of nodding donkeys to pump the oil to the surface; facilities to separate oil, gas and water, and road tankers to transport the products off site. Any significant quantities of gas produced are treated to produce commercial gas or pumped back into the reservoir to maintain its internal pressure. Smaller quantities of gas may be vented or flared. Any water extracted with the oil or gas is treated for disposal or reinjected back into the reservoir. Reinjection wells may be specifically drilled for this purpose. Where reservoir pressures are particularly low, additional quantities of water may need to be imported, requiring suitably sited pumping stations and water pipelines. In small fields, the road and rail networks are generally sufficient for the export of oil to the	A gathering station which processes the oil from several wells may take up to 4ha. A rail depot or marine terminal, to which the oil would be brought by road or pipeline, might need a larger area of perhaps 7ha. The production life of an oil or gas field can be over 20 years, after which time the facilities must be dismantled and the sites restored to their former or an appropriate new use (DCLG 2006d).	**Visual intrusion, noise, disturbance and light pollution:** Nodding donkeys tend to be relatively inconspicuous, being electrically driven and quiet in operation, a gathering station and any associated storage and export terminals needed for larger oilfields, can be more noticeable but can usually be effectively screened from view. Routine operations at a well managed onshore production site should cause little disturbance during production. **Atmospheric emissions:** Although site design may include a safety flare for safe disposal of gas in an emergency, routine flaring of gas for production would not be permitted. Sites with electricity generation or compressors for reinjection or export will produce combustion emissions. **Aqueous wastes:** Produced water is either treated on or offsite prior to disposal or reinjected into geological formations. **Accidents:** Spills can be caused by a blowout; by spillages during drilling, production or the

Overview of activities	Temporal/physical footprint	Key environmental issues and mitigation
refinery. For fields producing large quantities of oil and gas, a network of underground pipelines may be the most efficient option.		transport of oil by road, rail or pipeline; or by the inappropriate disposal of oily wastes. The risk of oil pollution is minimised by good operating practice, including elements such as design of wells, the selection of drilling equipment, the design of sites to contain spillages, the standard use of safety equipment such as blow-out preventers, careful site management and oil spill contingency plans. There are established design standards and risk assessment and management processes to avoid and mitigate the risks of fire and explosion at production facilities.

Source: Nature Conservancy Council (1986), E&P Forum and UNEP (1997), DCLG (2006a), DECC Onshore Oil and Gas Website (https://www.og.decc.gov.uk/information/onshore.htm)

A2.1.2 Virgin Coal Bed Methane (VCBM)

Virtually all coals contain some methane as the result of coal formation which either adsorbs into coal micropores (<2nm) or is dispersed in pore spaces surrounding it (DCLG 2006b), with gas sorption being related to the pore and structure development of coal, which is largely influenced by coal type and rank (Buston and Clarkson 1998, Crosdale *et al.* 1998). Virgin Coal Bed Methane (VCBM) is coal bed methane derived from coal seams which have otherwise been untouched (i.e. they have not been previously mined), and is generally worked from surface boreholes (DCLG 2006b). The quantity of gas released depends on gas content, and the permeability and thickness of the coal seam. There may be some trade-off whereby a coal seam of good thickness and permeability can compensate for low gas content, though seams of high permeability may have increased water disposal problems (DTI 2001b).

VCBM extraction requires seams thicker then 0.4m at depths between 200 and 1,500m (the limit of conventional mining) (DCLG 2006d). Any shallower and the coal is likely to have lost its gas by natural leakage while at depths greater than 1,500m the yield is unlikely to cover drilling costs, though new technologies may eventually permit the use of deep coal resources. Permeability is of key importance, and in general, UK coals exhibit low permeability, reducing the potential for VCBM (DCLG 2006b).

VCBM potential is directly connected to the distribution of UK coalfields, which are almost all within strata of the Carboniferous system (300-330Mya), and to date, several wells have been drilled in Scotland and Wales, with future prospects in parts of northern England (DCLG 2006b); commercially viable VCBM operations have thus far only been a success in the USA and Australia (Creedy and Tilley 2003). Enhanced CBM (ECBM) utilises the injection of CO_2 or N_2 gases (or both, i.e. in flue gas streams) in order to displace methane from coal into fractures where it can be recovered, and such systems have been tested in

the USA and in Canada (DTI 2001a) and its feasibility tested elsewhere (e.g. Hamelinck *et al.* 2002) There is a growing interest in the application of such methods the UK, partly in association with possible Carbon Capture and Storage (CCS) schemes, though such technology is still in its infancy (e.g. see EC 2006, Hongguan *et al.* 2007, 2008).

The total estimated VCBM resource is $2.5x10^{12}m^3$ (DTI 2001b), and though it is not possible to put a figure on the economically recoverable reserves at this time they are thought to be very much smaller (Creedy *et al.* 2001). The highest gas contents of over $20m^3$ per tonne can be found in South Wales and it is here where most commercial interest is centred (Methane to Markets 2005). For commercial viability, it has been estimated that well flows of $5{,}600\text{-}7{,}000m^3d^{-1}$ would need to be produced on average for a 30 well site (Creedy 1999). The main barrier to exploiting this resource is the low permeability of seams (Creedy *et al.* 2001).

Note that this section does not cover Coal Mine Methane (CMM) or Abandoned Mine Methane (AMM) as these are covered by a separate regulatory regime.

Table A2.2 – Virgin Coal Bed Methane

Overview of Activities	Temporal/Physical Footprint	Key Environmental Issues and Mitigation
Extraction, Production and Restoration		
The equipment used in coalbed methane extraction is similar to that for conventional gas reservoirs. Drilling of a coal seam takes place vertically or via a deviated or directional drilling process, augmented by the fracturing of strata through the use of hydraulic (typically water, foam or gel) pressure (hydrofracing, hydrofraccing or hydraulic fracturing), which has the effect of increasing permeability and gas recovery (DCLG 2006d). The liquid used is mixed with sand or some other proppant which maintains the fracture spaces once they have been created (Creedy *et al.* 2001). Hydrofracing tends to produce elongated fractures in coal seams up to 300m on either side of the borehole in the direction of least resistance in the formation (Creedy *et al.* 2001). Several other methods of CBM stimulation have been suggested to increase seam permeability in VCBM deposits in order to enhance gas recovery. These include: • The repeated pressurisation/depressurisation of seams with compressed air to remove coal particles – relatively weak compared to hydrofracing (DTI 2001b). • Chemical removal of carbonate cement with acid – probably environmentally unacceptable and commercially unfeasible (Creedy *et al.*	Production site might require an area of 0.25ha which includes provision for visual screening by trees, shrubs or earth mounds (DTI 1999). From the start of drilling, a coalbed methane well could be in production within 6 weeks although current UK experience suggests it may be some time after appraisal has been completed before production proposals drawn up (DCLG 2006d). Coalbed methane wells generally have much lower flow rates than conventional wells and take some time (6-12 months) to build up to full production. They have productive lives of 30 years or more (DCLG 2006d). Production of commercial volumes of	Key issues are as for traditional oil and gas exploration and production with the following differences **Number of wells and spatial extent of facilities** To effectively exploit the coalbed methane resource more wells are typically needed spread over the coal field. For production this would entail gathering pipelines linking the wells to the production plant. **Water disposal** Water quantities and qualities can vary greatly, even in the same coal basin. In some cases the pH and dissolved solids may be such that the water can be discharged to a local watercourse, but more likely treatment will be necessary. May be possible to re-inject all or some of the water back into the coal strata, provided precautions taken to ensure aquifers are not contaminated (DTI 1999), for instance ensuring the borehole is adequately cemented (Creedy *et al.*

Overview of Activities	Temporal/Physical Footprint	Key Environmental Issues and Mitigation
2001). • The introduction of methanogens which microbially increase CBM and permeability by removing pore-plugging waxes – may be worth further research (Creedy *et al.* 2001). De-watering is commonly required to initiate gas production through the ensuing pressure reduction in the strata. Dewatering process can in some cases last for the whole of the productive life of the well. Typically as water production decreases, gas production increases. Over time, the water production virtually stops whilst the reservoir goes into a conventional production decline. The intention is therefore to lower the pressure immediately around the well to a point where the methane desorption will occur. The gas released will then diffuse through the coal matrix towards the point of lowest pressure, namely the well bore (DCLG 2006d). Pipelines, gathering stations and gas processing facilities are required to connect the producing wells and process the gas. Abandonment programme usually involves sealing well bore with cement, cutting of the well casing 2m below ground level and sealing remaining casing with a welded steel plate. Excavation required for this work must then be backfilled and all site equipment removed. Any crushed stone must be removed and topsoils and subsoils spread and treated to remove soil compaction. Period of management required to restore site to original condition.	gas requires networks of boreholes with associated pipelines. The usual spacing is for one borehole for every 500-1,000m. More densely drilled wells cause additional pressure reduction and increase the desorption rate, thus supplying more free gas. Directional drilling of a number of wells from a single surface location offers one way of reducing the number of surface drill sites and pipelines (DCLG 2006d).	2001). The quantity of water expected from UK sites is low due to the poor permeability of strata (Creedy *et al.* 2001).

Source: DTI (1999), Creedy et al. (2001), DCLG (2006d)

A2.1.3 Gas Storage (GS) in Hydrocarbon Reservoirs

The draft plan/programme subject to this SEA needs to be considered in the context of overall UK energy supply and greenhouse gas reduction efforts. Security of supply is one of the key issues identified by the Energy White Paper and the Energy Review Report (DTI 2006). With production from UK oil and gas fields declining, the UK will become yet more reliant on imports (DCLG 2006d). By 2010, imports could be meeting up to 40% of the UK's total gas demand, which could rise to 60% by 2020 if unabated. The 2009 White Paper, 'The UK Low Carbon Transition Plan', proposes that this could be reduced to 45% mainly through energy efficiency measures and greater renewables deployment. The UK also became a consistent net importer of crude oil in 2005, with net imports amounting to 14% of

the crude oil refined in the UK in 2008, reduced to 8% if exports of refined products are taken into account – imports are expected to continue to rise as indigenous production reduces (Wicks 2009) A linked factor is the need for more gas storage capacity, since until recently seasonal fluctuations in UK gas demand were met by varying production rates from UK fields. For context, UK gas storage capacity is about 4.5% of annual consumption (4.4 billion cubic metres) compared with 25% in France and 21% in Germany (DCLG 2006a, Wicks 2009). If the capacity of storage projects currently planned or in the planning process[1] is taken into account, the UK's gas storage has the potential to increase by 18.5 billion cubic metres – the National Grid (2008) proposes that around a third of these will be constructed leading to an actual increase of 5 billion cubic metres, or 10% of the expected gas demand in 2020 (National Grid 2008, as cited in Wicks 2009).

There are three types of large-scale underground natural gas storage facilities: salt caverns, depleted/depleting gas or oil fields, and aquifers (DCLG 2006d). Note that the current SEA only covers licensing for gas storage in depleted gas or oil fields since the other options are subject to different regulatory regimes.

Depleted reservoir formations must have high permeability and porosity. The porosity of the formation determines the amount of natural gas that it may hold, while its permeability determines the rate at which natural gas flows through the formation, which in turn determines the rate of injection and withdrawal of working gas. In certain instances, the formation may be stimulated to increase permeability (Ilex Energy Consulting 2006).

Gas storage in depleted fields is the most widespread method and often the least expensive. Along with aquifer storage they are capable of storing very large volumes of gas and are particularly suitable for strategic storage and storage to meet seasonal changes in demand. An advantage of using depleted natural gas or oil fields for underground storage is that they are known to be capable of storing natural gas or oil for geological time-scales, and they can often require less "cushion gas" (volume of gas that must remain in the storage facility to provide the required pressurisation to extract the remaining gas) than other underground storage scenarios. Furthermore, they have commonly been well characterised as a result of the gas or oil extraction programme (BGS 2004).

UK storage facilities of this type include Humbly Grove oil field, Hatfield Moors gas field which stores gas 1,800m below ground onshore to the East of Sheffield and the Rough gas field off the East Coast that has been developed to store natural gas 3,000m underground (BGS 2004).

Other depleted reservoir gas storage projects are indicated in Table A2.3.

Table A2.3 – Examples of Depleted Reservoir Storage Projects under Development

Installation	Capacity	Start /Proposed Start	Status
Albury Phase 1	160Mcm	2009	Pre-planning
Albury Phase 2	Up to 715Mcm	2010	Planning approval for appraisal drilling
Bletchingley	Up to 900Mcm	2010	Pre-planning Drilling required
Caythorpe	210Mcm	2011	Planning approved

[1] Note that this includes all forms of gas storage (onshore and offshore), not just those in depleted hydrocarbon reservoirs.

Installation	Capacity	Start /Proposed Start	Status
Saltfleetby	600Mcm	2008	Pre-planning

Source: Entec (2006), JESS (2006), National Grid (2008)

Table A2.4 – Gas Storage in Hydrocarbon Reservoirs

Overview of Activities	Temporal/Physical Footprint	Key Environmental Issues and Mitigation
Gas Storage Operations		
The techniques used in underground gas storage exploration and evaluation are essentially the same as those used for conventional oil and gas. Consideration of proposed facilities includes (DCLG 2006d): • The integrity of the geological structure, i.e. is there the possibility of a leak • The results of gas pressure modelling – these indicate controls on the amount of gas that can be stored and rate of injection • Number of wells required for effective use	Gas storage sites can utilise the existing oil or gas infrastructure on site thereby reducing physical footprint. Depending on the characteristics of the store further wells may need to be drilled. Gas processing facility involves an above-ground site of about 2ha. Pipeline between site and NTS buried to minimise physical footprint. Depleted field stores takes a long time to fill (60 to 180 days) and a long time to empty (45 to 75 days). Times vary according to type of facility, the number of wells and the above ground engineering (Ilex Energy Consulting 2006).	Key issues are as for traditional oil and gas exploration and production with the following differences **Accidental events:** The storage and transportation at high pressures of significant quantities of flammable natural gas has the potential to present a safety hazard to people living and working nearby in the unlikely event of an accidental release. Prospective operators will prepare safety reports which will accompany applications for planning permission and hazardous substances consent. These will include an assessment of the major hazards, initial estimates of risks to people and a description of the safety measures that will be adopted.
The Humbly Grove gas store in Hampshire which started operations in November 2005 and will store approximately 280 million m^3 of gas provides an illustration of onshore gas storage operations in depleted hydrocarbon reservoirs (Star Energy Website) Humbly Grove operates by taking natural gas from the Transco National Transmission System (NTS) through a 27km long 24 inch diameter pipeline to the Humbly Grove oilfield. The gas is then pumped into the reservoir for storage. During periods of high demand the gas can be returned to the NTS after having been processed. To convert the existing site into a storage site, an additional processing plant has been constructed, together with the installation of compression equipment to pump the gas into the gas store from the NTS and to return the gas back to the NTS. Prior to injection into underground storage, the gas is pressurised from the grid pressure of approximately 70 bar to a storage pressure of up to 200 bar. For the gas to be returned to the grid it must meet specified requirements in terms of moisture content, temperature and pressure and may require reprocessing to meet pipeline entry specifications. The Humbly Grove gas store also re-pressurises the oil reservoir and will extend the life of the field from less than 10 years to around 20 years. Storage sites include a flare to burn off surges in natural gas. Burning the gas is a source of carbon dioxide, although this is only a small		

Overview of Activities	Temporal/Physical Footprint	Key Environmental Issues and Mitigation
percentage in terms of overall site emissions.		

Source: Entec (2006), Ilex Energy (2006)

A2.1.4 Main Planning and Permitting Controls

EC legislation is given effect in the UK through Acts of Parliament and their statutory instruments. These are implemented by either the DEFRA, Environment Agency in England and Wales, Scottish Environment Protection Agency (SEPA), the local authorities or the DECC (pipelines only). A hydrocarbon installation must obtain the relevant licences from these authorities for both construction and operations. In assessing applications for licences, the authorities will consider their effects on the environment against the relevant UK legislation.

The key planning and environmental legislation having implications for the hydrocarbon industry is summarised below.

Legislation	Main Requirements	Regulator
Town and Country Planning Act 1990 (England and Wales); Town and Country Planning (Scotland) Act 1997; Planning and Compensation Act 1991; and Environment Act 1995	Planning permission is required for all hydrocarbon developments including exploration and appraisal wells and production and export facilities.	Local authorities/County Councils
The Planning Act 2008 Draft Overarching National Policy Statement for Energy (EN-1) Draft National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)	The Act establishes the Infrastructure Planning Commission and makes provisions about its functions concerned with the authorisation of nationally important infrastructure. The Act also deals with the development of a single consent regime for projects. The Act considers a range of issues (e.g. transport, water, waste, waste water), but with specific reference to energy, considers; generating stations, electric lines, underground gas storage facilities, LNG facilities, gas reception facilities, gas transporter pipelines and other pipelines. This Act makes changes to certain existing planning regimes including the Town and Country Planning (EIA) Act 1990. Implemented by a number of National Policy Statements (NPSs) including six Energy NPSs.	Local authorities/County Councils /Ministers (Major Infrastructure Planning Unit)
Petroleum Act 1998; and The Petroleum (Production) (Landward Areas) Regulations 1995	A licence is required for exploration, development, production and abandonment of all hydrocarbon fields	DECC
EC Directive (85/337/EEC): Assessment of the effects of certain public and private projects on the	Requires certain developments to prepare an Environmental Statement as part of the planning approval process.	Local authorities

Legislation	Main Requirements	Regulator
environment; and Town & Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999, Environmental Impact Assessment (Scotland) Regulations 1999		
Pipelines Act 1962; and Pipe-line Works (Environmental Impact Assessment) Regulations 2000	Requires pipelines over 16 km in length to prepare an Environmental Statement as part of the approval process. Note that under the Energy National Policy Statement (EN-4), applications for pipelines otherwise requiring consent under section 2 of the Pipelines Act 1962 (and diversions to such pipelines) will be considered by the IPC/successor. These pipelines are referred to in the EN-4 as cross-country pipelines, and only cover those transporting oil and gas.	DECC, [2]Ministers (Major Infrastructure Planning Unit)
Gas Act, 1986; and Public Gas Transporter Pipe-line Works (Environmental Impact Assessment) Regulations 1999	Requires certain pipeline developments to prepare an Environmental Statement as part of the approval process.	DECC
EC Directive (92/43/EEC); Conservation of natural habitats and of wild fauna and flora; and Conservation (Natural Habitats) Regulations 1994	Requires developments to take account of Special Areas of Conservation in their environmental impact assessment. Approvals granted via the above Regulations.	Local authorities
EC Directive (96/82/EC): Control of major accident hazards; and a) Planning (Control of Major Accident Hazards) Regulations 1999 [2000 in Scotland] b) Control of Major Accident Hazards (COMAH) Regulations 1999 (Control of Major Accident Hazards (Amendment) Regulations 2005)	A licence is required for storage of listed hazardous substances. Requires operators to implement certain management practices and report to the competent authorities.	Local authorities, HSE, Environment Agency/SEPA
EC Directive (80/68/EEC) Groundwater; and Groundwater Regulations 1998	Discharges of listed substances which could pollute groundwater require to be authorised through the issue of a licence.	Environment Agency/SEPA
EC Directive (1999/31/EC) on the landfill of waste EC Directive on the management of waste from extractive industries (2006/21/EC)	Most wastes may only be disposed of at a facility operated by the holder of a suitable Waste Management Licence.	Environment Agency/SEPA

[2] The Government announced that the Infrastructure Planning Commission (IPC) will be abolished. Ministers will take the decisions on new infrastructure projects and a Major Infrastructure Planning Unit will be established in the Planning Inspectorate.

Legislation	Main Requirements	Regulator
Environmental Protection Act 1990, Part II; and The Environmental Permitting (England and Wales) (Amendment) Regulations 2009 Waste Management Licensing Regulations 1994		
EC Regulation (259/93): Supervision and control of shipments of waste within, into and out of the European Community; and Transfrontier Shipment of Waste Regulations 1994	A licence is required for transfrontier movement and disposal of hazardous waste.	DEFRA/Environment Agency/SEPA
Water Framework Directive (2000/60/EC) The Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 The Water Environment (Water Framework Directive) (Northumbria River Basin District) Regulations 2003 Water Environment and Water Services (Scotland) Act 2003 The Water Environment (Controlled Activities) (Scotland) Regulations 2005	New strategic planning process to be established for the purposes of managing, protecting and improving the quality of water resources. Describes a series of controlled activities requiring prior authorisation. Also covers the requirements of the Groundwater Regulations.	Environment Agency/SEPA
Environmental Liability Directive (2004/35/EC) The Environmental Damage (Prevention and Remediation) Regulations 2009. These regulations are only relevant to England. For Scotland see: The Environmental Liability (Scotland) Regulations 2009, and for Wales see: The Environmental Damage (Prevention and Remediation) (Wales) Regulations 2009. Also see the Environmental Permitting (England and Wales) Regulations 2007.	This legislation is based on the 'polluter pays principle' so those responsible prevent and remedy environmental damage they have generated, rather than the liability being inherited by the taxpayer. The emphasis should be on prevention through PPC (see Environmental Permitting Regulations). 'Environmental Damage' refers to: • Adverse effects on the integrity of a SSSI or the conservation status of species and habitats protected by EU legislation • Adverse effects on surface or ground water (see: Water Framework Directive) • Contamination of land that may result in a significant risk to human health Operators must report to the relevant authority with information relating to the damage and threat. The relevant	Environment Agency, Marine and Fisheries Agency, CCW, Natural England, Local Authorities, Scottish Ministers, Scottish Natural Heritage, Scottish Environment Protection Agency

Legislation	Main Requirements	Regulator
	authority depends on the environment at risk: **Environment Agency:** Damage caused by operations regulated by the Environment Agency under EPR. **Marine and Fisheries Agency:** Damage to EU species and habitats in the sea where regulated by the Environment Agency. **CCW or Natural England:** Damage to SSSI or EU species and habitats (except where regulated EPR – see above) where operations are regulated by local authorities under EPR. **Local Authorities:** damage to land caused by operators regulated by local authorities under EPR, and to land which is not SSSI.	
Energy Act 1976; and The Petroleum Act 1998	Consent is required for flaring or venting of hydrocarbon gas. Requires licensees of an onshore field to ensure that petroleum is contained both above and below ground.	DECC
Environment Act 1995, Part IV; and Air Quality Regulations 2000 (The Air Quality (Scotland) Amendment Regulations 2002) The Air Quality Limit Values (Scotland) Amendment Regulations 2005 Pollution Prevention and Control Regulations 2000 Environmental Permitting (England and Wales) Regulations 2007 (Amended 2009)	Sets emission limits for certain substances and requires authorities to take action where quality parameters are exceeded. Most activities that were regulated by Local Air Pollution Control have been transferred to the Pollution Prevention and Control (PPC) regulatory regime. From 6th April 2008 PPC has been incorporated into the framework of the Environmental Permitting Regulations (EPR).	Local authorities
EC Regulation (3093/94): Substances that deplete the ozone layer; and Environmental Protection (Controls on Substances that Deplete the Ozone Layer) Regulations 1996	A licence is required for the production, supply, use, trading and emission of certain "controlled substances" that deplete the ozone layer.	DEFRA
Environmental Protection Act 1990, Part IIA Contaminated Land (England) Regulations 2006 Contaminated Land (Wales) Regulations 2006 Contaminated Land (Scotland) Regulations 2000 and 2005	Requires local authorities and environment agencies to identify land to be designated as special sites. Provision to be made for their remediation.	Environment Agency/SEPA/ local authorities
Control of Pollution Act 1974, Part III;	Requires local authorities to take action	Local

Legislation	Main Requirements	Regulator
Environmental Protection Act 1990, Part III; and Environment Act 1995, Part V: and Pollution Prevention and Control Act 1999 and Pollution Prevention and Control Regulations 2000	where noise limits are exceeded.	authorities
Environmental Protection Act 1990, Part I; Environmental Protection (Prescribed Processes and Substances) Regulations 1991; and Pollution Prevention and Control Act 1999 and Pollution Prevention and Control Regulations 2000 (Most recent amendments include Pollution Prevention and Control (England and Wales) (Amendment) (England) Regulations 2006, Pollution Prevention and Control (Scotland) Amendment (No.2) Regulations 2005)	Certain potentially polluting processes require to be licensed by the authorities. Industries must demonstrate environmental management through Best Available Technology Not Entailing Excessive Cost (BATNEEC) for IPC and Best Available Techniques (BAT) for IPPC.	Environment Agency/SEPA/ local authorities
Environmental Permitting (England and Wales) Regulations 2007, (Amended 2009) and draft 2010 Regulations. Replaces Pollution Prevention and Control Regulations 2000 from 6th April 2008.	Streamlines and combines separate waste and pollution control, replacing over 40 pieces of legislation. Regulations identify what needs an environmental permit: installations (carrying out activities in energy, metals, minerals, chemicals and waste sectors); a waste operation (disposal or recovery of waste); a mobile plant. The operator of a new facility needs to obtain a permit before they are able to lawfully operate.	Environment Agency/local authorities
Environmental Damage (Prevention and Remediation) Regulations 2009	Emphasis is on the setting up of proactive prevention measures by the operator to prevent damage from occurring, with enforcing authorities determining when damage is likely and the necessary remedial measures. Environmental damage refers to: adverse effects on a designated SSSI, or to species or habitats outside SSSIs that are protected by EU legislation (e.g. Natura 2000 sites); adverse effects on surface or groundwater; contamination of land, resulting in a significant risk of adverse effects to human health.	Environment Agency/Marine and Fisheries Agency/CCW/ Natural England/local authorities

Legislation	Main Requirements	Regulator
Draft Overarching National Policy Statement for Energy (EN-1)	This Overarching National Policy Statement for Energy (EN-1) is part of a suite of NPSs issued by the Secretary of State for Energy and Climate Change. It sets out the Government's policy for delivery of major energy infrastructure projects, implementing the requirements of the Planning Act 2008 for nationally significant energy infrastructure projects.	Ministers (Major Infrastructure Planning Unit)
Draft National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)	Provides the primary basis for decisions on applications for gas supply infrastructure and gas and oil pipelines considered to be nationally significant. Relevant facilities are covered in sections 17-21 of the Planning Act 2008.	Ministers (Major Infrastructure Planning Unit)

Source: Modified and updated from DECC Onshore Oil and Gas website: (http://www.og.decc.gov.uk/regulation/legislation/environment/onshore_hydrocarbons/part01.htm)

A3 OTHER POTENTIALLY RELEVANT INITIATIVES

A3.1 Introduction

The *Environmental Assessment of Plans and Programmes Regulations 2004* require that within the SEA Environmental Report consideration is given to:

- the degree to which the "*plan or programme influences other plans and programmes including those in a hierarchy*"
- as well as 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*".

Table A3.1 outlines the main objectives/requirements of a range of other initiatives (including plans and programmes) established at international, European Community or national level which are relevant to conventional oil and gas, coal bed methane and underground gas storage leasing.

Table A3.1 – Other relative initiatives relevant to the plan/programme

Initiative	Main objectives/requirements	Implications
International and European Conventions/Agreements and Legislation		
UN Conference on the Human Environment, Stockholm, 1972 The UN Conference on Environment and Development (UNCED, Earth Summit) Rio de Janeiro, Brazil 1992 The World Summit on Sustainable Development (WSSD), Johannesburg, September 2002 - Commitments arising from Johannesburg Summit The UN Millennium Declaration (2000) and Millennium Development Goals The EU's sustainable development strategy (2001) – A sustainable Europe for a better world: A European strategy for sustainable development 'Securing The Future' the new UK strategy for sustainable development March 2005 Local Authorities have been encouraged to adopt their own strategies for sustainable development at local level The Department of Trade and Industry Sustainable Development Action Plan 05-06	The UN Conference on Environment and Development in 1992 reviewed the linkages between economic and social development and environmental protection and adopted Agenda 21. The Rio declaration on environment and development reaffirmed the declaration of the UN Conference on the Human Environment (Stockholm conference 1972) and included 27 sustainable development principles, "the Rio Principles". In December 1992 - The UN General Assembly created the Commission on Sustainable Development (CSD) to ensure effective follow-up to UNCED and a special session of the General Assembly Earth Summit + 5, held in New York in 1997, adopted a "Programme for the Further Implementation of Agenda 21". Following from UNCED, the WSSD (Rio+10) reviewed progress and results achieved since the 1992 Earth Summit and adopted the Johannesburg Plan of Implementation (JPOI), with concrete steps and quantifiable and time-bound targets and goals. The seventh of the Millennium Development Goals is for Environmental Sustainability and includes a target to "integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources".	UK Government sustainable development strategy includes a table of the UK's international priorities for sustainable development primarily arising from the WSSD which are relevant to the draft plan/programme.

Initiative	Main objectives/requirements	Implications
EU Sustainable Development Strategy (2006) Builds upon the Gothenburg Strategy 2001	The strategy sets overall objectives and concrete actions for seven key priority challenges for the coming period until 2010, many of which are predominantly environmental: • Climate change and clean energy • Sustainable transport • Sustainable consumption & production • Conservation and management of natural resources • Public Health • Social inclusion, demography and migration • Global poverty and sustainable development challenges	Consider the potential impact of plan alternatives on a range of indicators of sustainable development.
A European Strategy for Sustainable, Competitive and Secure Energy. European Commission Green Paper. March 2006. COM(2006) 105 final Action Plan for Energy Efficiency: Realising the Potential – Saving 20% by 2020	Puts forward suggestions and options that could form the basis for a new comprehensive European energy policy. Identifies six key areas where action is necessary: • Energy for growth and jobs in Europe • An Internal Energy Market that guarantees security of supply • Tackling security and competitiveness of energy supply • An integrated approach to tackling climate change • Encouraging innovation • Towards a coherent external energy policy	Consider the implications of licensing and potential activities on maintaining security of supply.
An Energy Policy for Europe. Communication from the Commission to the European Council and the European Parliament. COM(2007) 1 final	This Strategic Energy Review follows on from the submissions received during the consultation period on the Green Paper above. Proposes that the European Energy Policy be underpinned by: • An EU objective in international negotiations of 30% reduction in greenhouse gas emissions by developed countries by 2020 compared to 1990. In addition, 2050 global GHG emissions must be reduced by up to 50% compared to 1990, implying reductions in industrialised countries of 60-80% by 2050. • an EU commitment now to achieve, in any event, at least a 20% reduction of greenhouse gases by 2020 compared to 1990.	As above.

Initiative	Main objectives/requirements	Implications
Vienna Convention for the Protection of the Ozone Layer, 1985	Aims to protect human health and the environment against adverse effects resulting or likely to result from human activities, which modify or are likely to modify the ozone layer.	Activities conducted subsequent to licensing would require to be compliant with EU and national legislation regarding ozone depleting substances.
Montreal Protocol (UN September 1987) EC has implemented the Protocol through Regulation 2037/2000/EC	The Protocol is revised regularly and sets out a timetable for the phase-out of ozone-depleting substances or substance groups (e.g. chlorofluorocarbons (CFCs), halons).	Activities which may be conducted subsequent to licensing would require to be compliant with implementing EU and national legislation and consistent with Montreal Protocol requirements.
Ozone Depleting Substances Regulation 2037/2000/EC The Environmental Protection (Controls on Ozone Depleting Substances) Regulations 2002 (SI 528) implement the requirements of the 2000 EU regulation	A licence is required for the production, supply, use, trading and emission of certain "controlled substances" that deplete the ozone layer.	As above.
Kyoto Protocol and the UN Framework Convention on Climate Change The Copenhagen Accord The UK Climate Change Act 2008, which entered into force at the end of November 2008, contains legally binding targets for UK carbon account reductions of at least 80% by 2050, and at least 26% by 2020, against a 1990 baseline (altered to 34% on 1990 levels by The Climate Change Act 2008 (2020 Target, Credit Limit and Definitions) Order 2009)	The protocol set out a series of targets for specific greenhouse gases and established a framework of actions and requirements to meet these targets with the aim of achieving a meaningful time frame. The UK's target under the Kyoto Protocol is to reduce its greenhouse gas emissions to 12.5% below 1990 levels by 2008-2012 The 2007 Bali UN Climate Change Conference adopted "the Bali Road Map", which includes amongst other things: the "Bali Action Plan", for a new negotiating process to tackle climate change; and the timetable for the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol. Aim is for both processes to be complete by end 2009.	Consider implications of the draft plan in terms of greenhouse gas emissions and climate change.

Initiative	Main objectives/requirements	Implications
Council Directive 2003/87/EC of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC	EU Greenhouse Gas Emission Trading Scheme: • Promotes reduction of greenhouse gas emissions. • Allocation of greenhouse gas emissions permits and allowances which can be traded	Consider potential implications of draft plan in terms on ETS thresholds and the National Allocation Plan. Activities conducted subsequent to licensing would require to be compliant with EU and national legislation.
Geneva Convention on Long-Range Transboundary Air Pollution 1979.	Provides framework for controlling and reducing environmental damage caused by transboundary air pollution. Convention protocols cover range of pollutants including persistent organic pollutants, heavy metals, sulphur, VOCs and nitrogen oxides.	Consider implications of the draft plan in terms of transboundary air pollution.
The convention on EIA in transboundary context 1991 (Espoo Convention) Implemented by the 1997 Directive 97/11/EC	To facilitate wider, more transparent and comprehensive consultation process for projects with cross-boundary effects.	As above.

Initiative	Main objectives/requirements	Implications
Air Quality Framework Directive (96/62/EC) First Daughter Directive (1999/30/EC) relating to limit values for NO_x, SO_2, Pb and PM_{10} in ambient air. Second Daughter Directive (2000/69/EC) relating to limit values for benzene and carbon monoxide in ambient air. Third Daughter Directive (2002/3/EC) relating to ozone. Fourth Daughter Directive (2004/107/EC) relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air. Implemented in England through the Air Quality Limit Values Regulations 2001 (as amended) and similar in Scotland (SSI 2001/224), Wales (SI 2001/2683) & Northern Ireland (S.R. 2002/94) Air Quality Standards Regulations 2007 The UK Government and the devolved administrations published the latest Air Quality Strategy for England, Scotland, Wales and Northern Ireland, in July 2007.	EU air quality policy takes the form of an Air Quality Framework Directive and a number of 'daughter' directives which address individual or groups of pollutants. The main aims of the framework are: • Sets limits and thresholds for air quality • Assessing air quality in uniform manner • Information made available to public • Maintaining/improving ambient air quality	Consider potential implications of draft plan in terms of air pollution (e.g. exhaust emissions, flaring and venting). Activities conducted subsequent to licensing would require to be compliant with EU and national legislation on Air Quality.

Initiative	Main objectives/requirements	Implications
Ambient Air Quality and Cleaner Air for Europe (2008/50/EC) – replaces the Air Quality Framework Directive and requires to be transcribed to UK law by June 2010. See: Defra (2009f) Technical Report to Accompany UK PM_{10} Time Extensions Notification Forms: April 2009.	2005/50/EC has the following key elements: • For clarity, existing legislation should be merged into a single directive with no changes to air quality objectives • New objective for $PM_{2.5}$ including a limit value and exposure related objectives – there is no minimum concentration identifiable for $PM_{2.5}$ where risks to human health are reduced • The possibility to exclude natural sources of pollution in assessing compliance values where they can be reliably measured and where exceedances are due in whole or part to natural contributions • Possible time extensions under Article 22 until 11th June 2011 for PM_{10}, or five years for NO_2 and benzene for compliance with limit values, based on conditions and assessment by the EC	Consider potential implications of draft plan in terms of air pollution (e.g. exhaust emissions, flaring and venting).
National emission ceilings for acidification and eutrophication (2001/81/EC)	Set national emission ceilings for acidifying and eutrophying pollutants and for ozone precursors in order to provide fuller protection for the environment and human health against their adverse effects Emission ceilings for each Member State for four atmospheric pollutants to be met by 2010: • Sulphur dioxide (SO_2) • Nitrogen oxides (NO_x) • Volatile Organic Compounds (VOCs) • Ammonia (NH_3)	Consider potential implications of draft plan in terms of air pollution (e.g. exhaust emissions, flaring and venting).
Clean Air for Europe (CAFE) programme 2001 Communication (COM(2001)245)	The aim of CAFE was to develop a long-term, strategic and integrated policy advice to protect against significant negative effects of air pollution on human health and the environment. Underpinned the development of the Thematic Strategy on Air Pollution under the Sixth Environmental Action Programme. The Commission adopted the Thematic Strategy in September 2005.	As above.

Initiative	Main objectives/requirements	Implications
Aarhus Convention Directive 2003/35/EC of the European Parliament and of the Council of 26 May 2003 providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending with regard to public participation and access to justice. Council Directives 85/337/EEC and 96/61/EC	The Convention and subsequent directive enabling its ratification, provides for: • The right of everyone to receive environmental information that is held by public authorities • The right to participate in environmental decision-making • Access to justice with respect to the above	Publicise and ensure SEA available to all relevant stakeholders.
Directive 2003/35/EC of the European Parliament and of the Council 2003	Provides for public participation in the preparation of environmental plans, programmes and projects with significant environmental impacts, thus enabling the ratification of the Aarhus Convention by the Community	As above.
Directive 2001/42/EC of the European Parliament and of the Council on the assessment of the effects of certain plans and programmes on the environment.	Strategic Environmental Assessment required for relevant plans and programmes.	The SEA should address all requirements of Directive 2001/42/EC.
Council Directive 97/11/EC of 3 March 1997 amending Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment. The Directive is implemented through the Town and Country Planning and other EIA Regulations	Requires an Environmental Impact Assessment (EIA) and a public consultation document, an Environmental Statement (ES) to be submitted for certain projects considered likely to have an environmental effect.	Development activities will be subject to the EIA regulations.

Initiative	Main objectives/requirements	Implications
Water Framework Directive (2000/60/EC) Currently two 'daughter directives' are in preparation. They are aimed at protecting groundwater and reducing pollution of surface water (rivers, lakes, estuaries and coastal waters) by pollutants on a list of priority substances. The Directive has been transposed into Scottish, English and Welsh law by the following regulations: • The Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 • Water Environment and Water Services Act (Scotland) 2003 • The Water Environment (Water Framework Directive) (Northumbria River Basin District) Regulations 2003 • The Water Environment (Water Framework Directive) (Solway Tweed River Basin District) Regulations 2004	Purpose and Objectives: • prevents further deterioration, protects and enhances the status of aquatic ecosystems • promotes sustainable water use • aims at enhanced protection and improvement of the aquatic environment • ensures the progressive reduction of pollution of groundwater and prevents further pollution • contributes to mitigating the effects of floods and droughts River Basin Management Plans (RBMP's) to be created by 2009, including programmes of measures (which are to be implemented by 2012). RBD's are made up of both river basins and associated groundwater and coastal waters. There are to be 9 RBMP's for England, together with two cross-border districts partly in Wales (Severn) Scotland (Solway Tweed). There is a current consultation for RBMPs for England and Wales. SEPA is currently consulting on 8 river basin district management plans for Scotland in addition to a Solway Tweed management plan. Both consultations are due to end in June 2009.	Activities conducted subsequent to licensing would require to be compliant with requirements of the Water Framework Directive and implementing national legislation.

Initiative	Main objectives/requirements	Implications
Groundwater Directive (2006/118/EC) will operate alongside 1980 Groundwater Directive (80/68/EEC) until December 2013 In the UK the main legislation implementing the Directive is the Water Resources Act 1991 and the Groundwater Regulations 1998. Implementation in Scotland currently being consulted on, due to end 19th May 2009	The groundwater directive complements the Water Framework Directive (Article 17). It requires: • groundwater quality standards to be established by the end of 2008 • pollution trend studies to be carried out by using existing data and data which is mandatory by the Water Framework Directive (referred to as "baseline level" data obtained in 2007-2008) • pollution trends to be reversed so that environmental objectives are achieved by 2015 by using the measures set out in the WFD • measures to prevent or limit inputs of pollutants into groundwater to be operational so that WFD environmental objectives can be achieved by 2015 • reviews of technical provisions of the directive to be carried out in 2013 and every six years thereafter • compliance with good chemical status criteria (based on EU standards of nitrates and pesticides and on threshold values established by Member States).	Consider potential for effects on groundwater. Activities conducted subsequent to licensing would need to be compliant with requirements of the Groundwater Directive and implementing national legislation.
Discharges of Dangerous Substances Directive (76/464/EEC) and the Priority Substances under the Water Framework Directive	The Directive 76/464/EEC is now integrated in the Water Framework Directive (2000/60/EC), which was adopted in September 2000.	See the Water Framework Directive (2000/60/EC).
Urban Waste Water Treatment Directive (91/271/EEC) Implemented in the UK through the Urban Waste Water Treatment Regulations 1994 (amended 2003). Separate documents detail regulation for England and Wales, Scotland, and Northern Ireland.	To protect the environment from the adverse effects of waste water discharges from urban and industrial sources Sets acceptable pollutant levels	Consider potential for effects from waste water discharges resulting from licensing. Activities conducted subsequent to licensing would need to be compliant with requirements of the Groundwater Directive and implementing national legislation.

Initiative	Main objectives/requirements	Implications
Council Directive 75/442/EEC of 15 July 1975 on waste, repealed in directive 2006/12/EC, 2006. Council Directive 91/689/EEC (the Hazardous Waste Directive (as amended) Council Directive 99/31/EC of April 1999 on the landfill of waste (as amended) ("Landfill" Directive Other directives on specific waste streams such as electrical waste and packaging	Framework Directive required member states to take measures to encourage: • The prevention or reduction of waste production and its harmfulness • The recovery of waste by means of recycling, re-use or reclamation or any other process with a view to extracting secondary raw materials • The use of waste as a source of energy Hazardous Waste Directive set the framework within Member States for provisions to control the movement of hazardous wastes. Provided a European-wide definition of hazardous waste promoting the correct management and regulation of such waste. Landfill Directive aimed to reduce amount of waste to landfill, promote recycling and recovery, establish high standards of management	Consider contributions to the implications of the draft plan regarding wastes. Activities conducted subsequent to licensing would require to be compliant with requirements of Waste Directives and implementing national legislation.
European Council Directive 91/689/EEC (the Hazardous Waste Directive). See also Council Decision 2000/532/EC and amendments in 2001/118/EC, 2001/119/EC and 2001/573/EC. Also the European Waste Catalogue 2002 Transposed in the UK by the Hazardous waste (England and Wales) Regulations 2005 and the List of Waste (England) Regulations. Also see Interpretation of the definition and classification of hazardous waste (2nd edition) produced by the EA, SEPA and EHSNI.	Sets the framework within Member States for provisions to control the movement of hazardous wastes Provides a European-wide definition of hazardous waste promoting the correct management and regulation of such waste.	Consider any potential contributions to hazardous waste production resulting from licensing/leasing.

Initiative	Main objectives/requirements	Implications
Environmental Liability Directive (2004/35/EC) The Environmental Damage (Prevention and Remediation) Regulations 2009. These regulations are only relevant to England. For Scotland see: The Environmental Liability (Scotland) Regulations 2009, and for Wales see: The Environmental Damage (Prevention and Remediation) (Wales) Regulations 2009. Environmental Permitting (England and Wales) Regulations 2007	This legislation is based on the 'polluter pays principle' so those responsible prevent and remedy environmental damage they have generated, rather than the liability being inherited by the taxpayer. The emphasis should be on prevention through PPC (see Environmental Permitting Regulations). 'Environmental Damage' refers to: • Adverse effects on the integrity of a SSSI or the conservation status of species and habitats protected by EU legislation • Adverse effects on surface or ground water (see: Water Framework Directive) • Contamination of land that may result in a significant risk to human health Operators must report to the relevant authority with information relating to the damage and threat. The relevant authority depends on the environment at risk: **Environment Agency:** Damage caused by operations regulated by the Environment Agency under EPR. **Marine and Fisheries Agency:** Damage to EU species and habitats in the sea where regulated by the Environment Agency. **CCW or Natural England:** Damage to SSSI or EU species and habitats (except where regulated EPR – see above) where operations are regulated by local authorities under EPR. **Local Authorities:** damage to land caused by operators regulated by local authorities under EPR, and to land which is not SSSI.	Operators should consider SSSI and EU habitat and species sensitivities close to proposed sites, and carefully work with relevant authorities to provide suitable pollution prevention measures.
Sixth Environmental Action Plan (EAP), 'Environment 2010: Our Future, Our Choice'	Sets out EU's environmental policy agenda until 2012: Highlights nature and biodiversity as a top priority States that responses must be found to the pressures from human activities on nature and the biodiversity it supports	Consider implications of the draft plan in relation to biodiversity.

Initiative	Main objectives/requirements	Implications
United Nations Convention on Biodiversity (the Rio Convention) Entered into force 1993 The UK Biodiversity Action Plan (and various subsidiary plans) is part of its implementation of the Convention	To promote: • The conservation of biological diversity • The sustainable use of its components • The sharing of the benefits of genetic resources. Specific programmes are required for the identification of important components of biodiversity and their understanding and protection	Consider implications of the draft plan for habitats and species.
Bern Convention on the Conservation of European Wildlife and Natural Habitats adopted 1979, coming into force in 1982. As part of the implementation of the Bern Convention, directives 79/409/EEC and 92/43/EC were adopted (see below)	To conserve wild flora and fauna and their natural habitats To promote co-operation between states To give particular emphasis to endangered and vulnerable species, including endangered and vulnerable migratory species.	As above.
Directive 79/409/EEC, on the Conservation of Wild Birds (1979)	Directive covers the protection, management and control of all species of naturally occurring birds in Member States. Key measure is the creation of Special Protection Areas (SPAs). Part of the Natura 2000 network of sites.	Requirement that the plan avoids adversely affecting the integrity of relevant European Sites. It will be necessary to undertake screening as to whether the plan should be subject to an Appropriate Assessment. In considering whether significant effects were likely to occur, the precautionary principle should be applied.

Initiative	Main objectives/requirements	Implications
Directive 92/43/EEC, on the Conservation of Natural Habitats and of Wild Fauna and Flora (1992)	Key measure is the setting up of the Natura 2000 network of Special Areas of Conservation (SACs) composed of sites hosting habitats listed in Annex I and habitats of the species listed in Annex II. Part III of the 1994 Conservation (Natural Habitats, &c.) Regulations establish a protective regime for the species of animal and plant which are listed in Annex IV of the EC Habitats Directive, namely European Protected Species (EPS). EPS are protected wherever they occur and this protection is not limited to specific, designated areas such as Natura 2000 sites.	Requirement that the plan avoids adversely affecting the integrity of relevant European Sites. It will be necessary to undertake screening as to whether the plan should be subject to an Appropriate Assessment. In considering whether significant effects were likely to occur, the precautionary principle should be applied.
Ramsar Convention on wetlands of international importance especially as waterfowl habitat (Ramsar 2.2.1971, as amended 3.12.1982)	An intergovernmental treaty which provides the framework for national action and international co-operation for the conservation and wise use of wetlands and their resources: • To stem the progressive encroachment on and loss of wetlands now and in the future • Recognition that waterfowl in their seasonal migrations may transcend frontiers and so should be regarded as an international resource • The conservation of wetlands and their flora and fauna can be ensured by combining far-sighted national policies with co-ordinated international action	Consider implications of the draft plan in terms of wetland habitats and species.
Bonn Convention on the Conservation of Migratory Species of Wild Animals, or CMS, adopted 1979, came into force 1985 (ratified by UK in the same year).	An intergovernmental treaty, concerned with the conservation of wildlife and habitats on a global scale: • Aims to conserve terrestrial, marine and avian species throughout their range through international cooperation • The UK is party to the convention and to several agreements which have been concluded to date under the auspices of the convention e.g. AEWA and EUROBATS	Consider implications of the draft plan for migratory species.

Initiative	Main objectives/requirements	Implications
"Biosphere Conference" organised by UNESCO in 1968 Only one of the eight biosphere reserves in the UK lies within the SEA area (North Norfolk Coast)	Established framework for designation of a coordinated world network of new protected areas designated as "Biosphere Reserves"	Consider implications of the draft plan for Biosphere Reserves.
Convention Concerning the Protection of the World Cultural and Natural Heritage (Paris 1972)	To encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity. Sets out framework for inclusion of sites on the World Heritage List.	Consider implications of the draft plan in relation to World Heritage Sites.
EU Floods Directive (2007/60/EC) Due to be transposed into UK (England and Wales) law by October 2009. Flood Risk Management (Scotland) Act 2009 Also see: Technical Advice Note 15: Development and Flood Risk (Wales) Planning Policy Statement 25: Development and Flood Risk (England) Scottish Planning Policy 7: Planning and Flooding	The directive seeks to manage the risks posed to human health, the environment, cultural heritage and economic activity by flooding. The programme includes the production of a Preliminary Flood Risk Assessment showing the impact of historic flooding by 2011, and the generation of flood risk maps showing a range of hazard variables (water depth, extent and probability) by 2013. By 2015, management plans should have been produced which should be coordinated with river basin management plans.	Consider flood risk in relation to potential activities.

Initiative	Main objectives/requirements	Implications
Relevant National Strategies Policies, Plans, Programmes and Other Initiatives		
Securing the Future – UK Government sustainable development strategy (2005) See also One future – different paths (the UK's shared framework for sustainable development March 2005) agreed by the UK Government and the Administrations in Scotland, Wales and Northern Ireland, to provide a consistent approach and focus across the UK: • Choosing Our Future: Scotland's Sustainable Development Strategy • The Sustainable Development Scheme and Sustainable Development Action Plan Wales • First Steps – towards sustainability. A sustainable development strategy for Northern Ireland	Principles for sustainable development and shared priorities agreed across the UK, including the Devolved Administrations. Strategy contains: • An integrated vision building on the 1999 strategy – with stronger international and societal dimensions • Five principles – with a more explicit focus on environmental limits • Four agreed priorities – sustainable consumption and production, climate change, natural resource protection and sustainable communities • An outcome focused indicator set and commitments to look at new indicators such as on wellbeing	To support the UK Government Sustainable Development Strategy there are 68 national sustainable development indicators including 20 UK Framework Indicators, which are shared by the UK Government and the Devolved Administrations in Scotland, Wales and Northern Ireland.
One future – different paths The UK's shared framework for sustainable development March 2005	UK strategic framework for sustainable development to 2020, agreed by the UK Government and the administrations in Scotland, Wales and Northern Ireland, to provide a consistent approach and focus across the UK.	As above.
The UK Climate Change Programme (2006) Annual reports available for 2007 & 2008 See also: Climate Change and Sustainable Energy Act 2006 and subsequent amendments in the Climate Change Act 2008	Sets out how to tackle climate change domestically and to secure agreement on action to reduce global greenhouse gas emissions. Programme expected to reduce the UK's emissions of greenhouse gases to 23-25% below base year levels and reduce the UK's carbon dioxide emissions to 15-18% below 1990 levels by 2010. Reduce carbon emissions by some 7-12Mt by 2010.	Consider contributions to greenhouse gas emissions as a result of licensing. Greenhouse gas emissions associated with combustion of hydrocarbons produced as a result of proposed activities are outside the scope of this assessment.

Initiative	Main objectives/requirements	Implications
Energy White Paper: Our energy future - creating a low carbon economy February 2003	Addresses issues of climate change and securing energy supplies. Set out four headline goals: • to mitigate climate change • to strengthen energy security • to eliminate fuel poverty • to improve economic competitiveness • Reiterates UK Government policy that 10% of UK electricity needs should be met from renewable sources by 2010.	Consider the implications of the draft plan in terms of maintaining security of supply and climate change.
Our Energy Challenge Securing clean, affordable energy for the long-term. 2006	UK Energy Review report published in 2006 with a view to stimulating wide ranging debate of the Government's four goals for the country's energy policy set in 2003: • To put ourselves on a path to cut the UK's CO2 emissions by some 60% by about 2050,with real progress by 2020 • To maintain the reliability of energy supplies • To promote competitive markets in the UK and beyond, helping to raise the rate of sustainable economic growth and to improve productivity • To ensure that every home is adequately and affordably heated	As above.
The Energy White Paper: Meeting the Energy Challenge (May 2007)	Sets out the UK Government's international and domestic energy strategy to deliver energy policy goals: • To cut UK carbon dioxide emissions by some 60% by about 2050, with 26-32% by 2020 (against a 1990 baseline) • To maintain the reliability of energy supplies • To promote competitive markets in the UK and beyond, helping to raise the rate of sustainable economic growth and to improve UK productivity • To ensure that every home is adequately and affordably heated	Consider contributions to greenhouse gas emissions and reliability of energy supplies as a result of licensing.

Initiative	Main objectives/requirements	Implications
The UK Low Carbon Transition Plan (July 2009) See: Energy Act 2008, 2010 and the current Energy Bill	Sets out the latest government policy on greenhouse gas (specifically CO_2) emissions for each sector. The broad principles are in line with those of the 2007 White Paper (see above). Includes the Framework for the Development of Clean Coal (FDCC) which promotes CCS demonstrator projects on coal power stations in order to speed up the rate at which CCS becomes economically and technically proven.	Consider contributions to greenhouse gas emissions and reliability of energy supplies as a result of licensing.
The UK Renewable Energy Strategy (July 2009)	Sets out the actions that the Government and others will take to increase the share of renewable energy almost seven fold. The policy framework is made up of three key components: greater financial support, swifter delivery and new resources and technologies. It is hoped that the outcome of the strategy will be that by 2020 15% of the UK's energy will be delivered from renewable sources.	Despite an increase in renewables uptake, fossil fuels will continue to provide the main source of the UK's energy for decades to come – consider the contribution of the licensing programme to maintaining a diverse and reliable supply.
National Air Quality Strategy for England, Wales, Scotland and Northern Ireland 2007 Air Pollution: Action in a Changing Climate (Defra 20100029	• Aims to provide the best practicable protection to human health by setting health-based objectives for eight main air pollutants • Sets objectives for two pollutants (NO_2 and SO_2) to protect vegetation and ecosystems • Describes the current and likely future levels of air pollution in the UK • Provides a framework to help everyone identify what they can do to improve air quality	As above.
Regional Waste Plans	The EU Waste Framework Directive requires planning authorities to provide policies in their development plans for suitable waste disposal sites or installations.	Consider potential contributions to waste production resulting from licensing.

Initiative	Main objectives/requirements	Implications
The Planning Act 2008 Draft National Policy Statements (EN1-6)	The Act establishes the Infrastructure Planning Commission and makes provisions about its functions concerned with the authorisation of nationally important infrastructure. The Act also deals with the development of a single consent regime for projects. The Act considers a range of issues (e.g. transport, water, waste, waste water), but with specific reference to energy, considers; generating stations, electric lines, underground gas storage facilities, LNG facilities, gas reception facilities, gas transporter pipelines and other pipelines. This Act makes changes to certain existing planning regimes including the Town and Country Planning (EIA) Act 1990.	Provides legislative context for UK planning, including onshore energy developments and associated infrastructure.
UK Biodiversity Action Plan (UK's response to the Convention on Biological Diversity, 1992) Scotland's Biodiversity: It's In Your Hands Working with the grain of nature: a biodiversity strategy for England Wales Biodiversity Framework	A strategy for the conservation and enhancement of biodiversity in the UK. Includes an agreement to promote awareness of biodiversity and encourage public involvement. Habitat and species action plans have been produced to protect some of our most threatened species of plants and animals. • Scotland and England have published national biodiversity strategies • In Wales the focus for action will be through the preparation and implementation of local plans in partnerships See Local Biodiversity Action Plans for region specific information.	Avoid significant impacts on habitats and species through assessment of especially vulnerable areas and potentially damaging activities.
National Parks	To conserve and enhance the natural and cultural heritage; to promote sustainable use of natural resources; to promote understanding and enjoyment; and to promote sustainable economic and social development	Avoid significant impacts to areas of cultural and/or natural heritage value through assessment of vulnerable areas and potentially damaging activities.

Initiative	Main objectives/requirements	Implications
Environmental Permitting (England and Wales) Regulations 2007 *Replaces Pollution Prevention and Control Regulations 2000 from 6th April 2008. The new regulations, as before, are made under the Pollution Prevention and Control Act 1999.*	Streamlines and combines separate waste and pollution control (including PPC), replacing over 40 pieces of legislation. Regulations identify what needs an environmental permit: installations (carrying out activities in energy, metals, minerals, chemicals and waste sectors); a waste operation (disposal or recovery of waste); a mobile plant. The operator of a new facility needs to obtain a permit before they are able to lawfully operate.	Ensure awareness of any changes/new requirements under these regulations.

Initiative	Main objectives/requirements	Implications
The Environmental Damage (Prevention and Remediation) Regulations 2009. These regulations are presently only relevant to England. Separate regulations for Wales, Scotland and Northern Ireland are due to be completed in 2009. Also see: Environmental Permitting (England and Wales) Regulations 2007 Environmental Liability Directive (2004/35/EC)	This legislation is base on the 'polluter pays principle' so those responsible prevent and remedy environmental damage they have generated, rather than the liability being inherited by the taxpayer. The emphasis should be on prevention through PPC (see EPR above). 'Environmental Damage' refers to: • Adverse effects on the integrity of a SSSI or the conservation status of species and habitats protected by EU legislation • Adverse effects on surface or ground water (see: Water Framework Directive) • Contamination of land that may result in a significant risk to human health Operators must report to the relevant authority with information relating to the damage and threat. The relevant authority depends on the environment at risk: **Environment Agency:** Damage caused by operations regulated by the Environment Agency under EPR. **Marine and Fisheries Agency:** Damage to EU species and habitats in the sea where regulated by the Environment Agency. **CCW or Natural England:** Damage to SSSI or EU species and habitats (except where regulated EPR – see above) where operations are regulated by local authorities under EPR. **Local Authorities:** damage to land caused by operators regulated by local authorities under EPR, and to land which is not SSSI.	Operators should consider SSSI and EU habitat and species sensitivities close to proposed sites, and carefully work with relevant authorities to provide suitable pollution prevention measures.

Initiative	Main objectives/requirements	Implications
Natural Environment & Rural Communities Act 2006	Implements key aspects of the Government's Rural Strategy published in July 2004. The Act has a number of key elements which, amongst others, includes: • The establishment of Natural England as a single organisation with the responsibility of enhancing biodiversity and landscape while also promoting public access. • The establishment of the Commission for Rural Communities as an independent body for rural communities, particularly in tackling social and economic exclusion. • Curtails the use of inappropriate vehicles on byways • Gives powers to the Secretary of State to fund activities in Defra's remit	Ensure awareness of any responsibilities arising from the Act and the role of relevant organisations.
Countryside Rights of Way (CRoW) Act 2000 Consultation on proposals to amend the Countryside and Rights of Way (CROW) Act 2000 for coastal land	CRoW covers access rights to the countryside on foot (there are general restrictions such as horse riding, driving a vehicle) which includes walking, bird watching, picnicking, climbing and running on land which has been qualified and mapped by the Countryside Agency, and includes common land. Exemptions include 13 land classes which have a specific purpose (excepted land), which includes land used for agriculture, that within 20m of a dwelling, quarrying and railway land, military training grounds. The act is part of a current consultation to make amendments which will allow the progression of the coastal access elements of the Marine and Coastal Access Act 2009.	Operators should be aware of public rights of way and access issues, and how these differ between England and the devolved governments.

Initiative	Main objectives/requirements	Implications
The Wildlife and Countryside Act 1981 (as amended). The Wildlife and Countryside Act 1981 (Amendment) (Scotland) Regulations 2001 Wildlife and Countryside (Service of Notices) Act 1985 Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)	Consolidated and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive) in Great Britain. The Act makes it an offence to: • intentionally kill, injure, or take any wild bird or their eggs or nests (with exception to species listed in Schedule 2), and prohibits certain methods of killing and trapping. • intentionally kill, injure, or take, possess, or trade in any wild animal listed in Schedule 5 (subject to exceptions), and prohibits interference with places used for shelter or protection, or intentionally disturbing animals occupying such places • pick, uproot, trade in, or possess (for the purposes of trade) any wild plant listed in Schedule 8 (subject to exceptions), and prohibits the unauthorised intentional uprooting of such plants The Act also contains measures for preventing the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9	Operators should be aware of species and habitats which are covered by this and associated legislation and/or protected sites.
Habitats Directive Review of Consents (Environment Agency 2000-2010)	Reviewed permissions granted before the Habitats Regulations came into force.	Secured improvements to protected sites in England and Wales.

Initiative	Main objectives/requirements	Implications
Draft Overarching National Policy Statement for Energy (EN-1) Draft National Policy Statements for: • Fossil Fuels (EN-2) • Renewables (EN-3) • Gas supply infrastructure and oil and gas pipelines (EN-4) • Electricity networks (EN-5) • Nuclear energy (EN-6)	This Overarching National Policy Statement for Energy (EN-1) is part of a suite of NPSs issued by the Secretary of State for Energy and Climate Change. It sets out the Government's policy for delivery of major energy infrastructure projects, implementing the requirements of the Planning Act 2008 for nationally significant energy infrastructure projects. These include: • Electricity generating stations generating more than 50 megawatts onshore and 100 megawatts offshore. This includes generation from fossil fuels, wind, biomass, waste and nuclear. For these types of infrastructure, the Overarching NPS (EN-1) in conjunction with the relevant technology-specific NPSs, as appropriate, will be the primary basis for decision making • Electricity lines at or above 132kV. For this infrastructure, EN-1 in conjunction with the Electricity Networks NPS (EN-5) will be the primary basis for decision making • Large gas reception and liquefied natural gas (LNG) facilities and underground gas storage facilities (meeting the thresholds set out in the Planning Act, and explained in detail in Section 1.7 of the gas supply infrastructure and pipelines NPS (EN-4)). For this infrastructure EN-1 in conjunction with EN-4 will be the primary basis for decision making • Cross country gas and oil pipelines and Gas Transporter pipelines (meeting the thresholds and conditions set out in the Planning Act and Section 1.7 of EN-4). For this infrastructure EN-1 in conjunction with EN-4 will be the primary basis for decision making	Provides policy framework for nationally significant energy infrastructure. Ensure awareness of thresholds in relation to what is considered nationally significant.
Draft National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)	Provides policy framework for applications for nationally significant energy infrastructure for gas supply infrastructure and gas and oil pipelines. Relevant facilities are covered in sections 17-21 of the Planning Act 2008, and are indicated above in relation to EN-1.	Provides policy framework for nationally significant energy infrastructure. Ensure awareness of thresholds in relation to what is considered nationally significant.

Initiative	Main objectives/requirements	Implications
National Policy Statements for: • Waste Water • Hazardous Waste • Water Supply Planning Act 2008	Due for consultation in 2010 and completion in 2011, these statements will set out the national infrastructure needed for Water Supply, Hazardous Waste and Waste Water Treatment. These are due to be prepared by Defra.	Will provide the policy framework for waste water, hazardous waste and water supply infrastructure.
Invasive non-native species framework strategy for Great Britain (2008)	Intended to provide a strategic framework within which the actions of government departments, their related bodies and key stakeholders can be better coordinated. Aim is to minimise the risks posed, and reduce the negative impacts caused, by invasive non-native species in Great Britain.	Operators should be aware of the risks posed by non-native species and how they are spread.
Geological Conservation Review (GCR)	Identifies and describes the most important (nationally and internationally) geological sites in Britain. The full geological chronology from the Cambrian period to the Quaternary is covered in 3,000 sites spanning 100 categories (or "blocks"). The GCR series of sites are chosen such that they satisfy the legal requirements of SSSI designations for geology and physiography and many coincide with SSSI designations.	Operators should be aware of the proximity and possible influence on GCR sites of any given development.
Catchment Abstraction Management Strategies	Enables water resource management at the catchment scale and at the individual surface and groundwater scale. These will in future be linked to those waterbodies considered under the WFD.	Operators should be aware of any relevant abstraction pressures.
Water Resource Management Plans (WRMPs)	Sets out how water companies plan to match water resource supplies with demand in the context of demographic and climatic change. Previously voluntary, these plans are now a statutory requirement of water suppliers, with a review period of 5 years. The latest plans (2010-2035) are in progress, with 10 being published, and a further 11 requiring additional work.	Consider impacts of draft plan/programme on water resource use.

Initiative	Main objectives/requirements	Implications
Water for People and the Environment: Water Resources Strategy for England and Wales (Environment Agency 2009) Water Resources Strategy for Wales Water Resources Strategy Regional Action Plans	A strategy to ensure secure water supplies for people and at a level which maintains or restores areas for water dependent habitats and species. The four main aims of the strategy are: • Adapting to and mitigating climate change – The Environment Agency is able to manage water resources and protect the water environment in the face of climate change. • A better water environment – Species and habitats that depend on water are restored, protected, improved and valued. • Sustainable planning and management of water resources – Good water management contributes to sustainable development by supporting people and the economy in an improved environment. • Water and the water environment are valued – People value water and enjoy their water environment and understand how it contributes to their quality of life.	As above.
Shoreline Management Plans (SMPs) and forthcoming Shoreline Management Plans 2	Currently under revision by Coastal Groups and the Environment Agency, these plans assess the risks to people, development, and the natural and historic environment, from coastal processes. These plans will provide a route map for local authorities for the time period of the next 20 years, and leading up to the next 50-100 years. The plans will include an action plan of what is required to manage coastal processes and where, and will form the basis of decision making for such works.	Consider implications of draft plan/programme with regard to shoreline management.

Initiative	Main objectives/requirements	Implications
Relevant Strategies Policies, Plans, Programmes and Other Initiatives – England		
Sustainable Development Action Plan 2007-08 Securing the Future: the UK Government's sustainable development strategy 2005	This document sets out: • What sustainable development means to Communities and Local Government, a department with a leading role in promoting the social dimensions of sustainable development • The actions that we will take in 2007-08 to promote sustainable development and to integrate sustainable development principles throughout our policies, operations, procurement and people • The contribution of our Executive Agencies and Non-Departmental Public Bodies to sustainable development and the role of the Government Offices in supporting our work on sustainable development	The potential for impact of plan alternatives on a range of indicators of sustainable development.
Working with the grain of nature: a biodiversity strategy for England See also Biodiversity: UK Action Plan	The Strategy seeks to ensure biodiversity considerations become embedded in all main sectors of public policy and sets out a programme for the next five years to make the changes necessary to conserve, enhance and work with the grain of nature and ecosystems rather than against them.	Avoid significant impacts on habitats and species through assessment of especially vulnerable areas and potentially damaging activities.
Minerals Policy Statement (MPS) 1	Issued in November 2006 – sets out the Government's key overarching policies and principles for all minerals planning in England.	Minerals Policy Statements (MPSs) set out the Government's national planning policies for minerals planning in England.
MPS 1 Annexes	Sets out Government planning policy on planning control of land-based exploration, appraisal, development and extraction of oil and gas (including gas from coal) resources in England. It also refers to underground storage of natural gas.	As above.
MPS 2	Covers the principles to be followed in consideration of the environmental effects of mineral working (MPS 2 came into force in 2005 and supersedes Minerals Planning Guidance Note (MPG) 11)	As above.

Initiative	Main objectives/requirements	Implications
MPS 2 Annexes	The MPS 2 Annexes cover the control of dust and noise. Further annexes dealing with blasting, transport, mine waste and the impacts on the water environment are to follow.	As above.
MPS 3	Will update the present MPG 7: The Reclamation of Mineral Workings, covering matters related to site restoration and management. This will not be prepared until after the draft Directive on the Management of Waste from the Extractive Industries has completed its passage through EU's legislative processes.	As above.
Remaining Minerals Planning Guidance Notes (MPGs)	The remaining MPGs deal with mainly procedural matters such as setting and reviewing planning conditions and statutory orders, which are not appropriate for a policy statement. It is proposed in due course to consolidate this material as a single minerals procedural guide. Meanwhile they remain in force. There are no current plans to revise and replace MPG5: Stability in Surface Mineral Workings and Tips.	As above.
Planning Policy Statement 5: Planning for the Historic Environment	Sets out policies that will enable the implementation of the Government's Statement on the Historic Environment for England 2010 (see below) through the planning system. The overarching aim is that the historic environment should be conserved and enjoyed for the quality of life they bring to this and future generations. To achieve this, the Government's objectives are: • to deliver sustainable development by ensuring that policies and decisions concerning the historic environment • to conserve England's heritage assets in a manner appropriate to their significance • to contribute to our knowledge and understanding of our past by ensuring that opportunities are taken to capture evidence from the historic environment and to make this publicly available, particularly where a heritage asset is to be lost	Sets out policy to be regarded as a material consideration in planning, relating to the historic environment in England.

Initiative	Main objectives/requirements	Implications
The Government's Statement on the Historic Environment for England 2010	Sets out a number of strategic aims which broadly look to ensure that relevant policy and guidance is in place to protect England's heritage, to encourage skills in this sector so that there is capacity to execute suitable alterations to heritage assets, to promote public use the local historic environment, provide standards of care for those assets in private ownership and promote the role of heritage of in UK Government's response to climate change.	Sets out the long term Government priorities for the historic environment.
Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment. April 2008 Draft Heritage Protection Bill (on hold) PPS1: Delivering Sustainable Development PPS5: Planning for the Historic Environment Circular 07/09: Protection of World Heritage Sites Minerals Policy Statement (MPS) 2: Controlling and Mitigating the Environmental Effects of Minerals Extraction in England	Intended to help English Heritage to ensure consistency of approach in carrying out their role as the Government's statutory advisor on the historic environment in England, though the guidance could also be read by local authorities, property owners, developers, and their advisers. Makes a contribution to addressing the challenges of modernising heritage protection by proposing an integrated approach to making decisions, based on a common process.	Sets out an integrated approach to decision making regarding the historic environment.
Planning for a Sustainable Future: White Paper	The Planning White Paper sets out detailed proposals for reform of the planning system, proposing reforms on how we take decisions on nationally significant infrastructure projects – including energy, waste, waste-water and transport – responding to the challenges of economic globalisation and climate change. It also proposes further reforms to the Town and Country Planning system, building on the recent improvements to make it more efficient and more responsive.	Sets out proposals and context for the spatial planning strategies listed below.

Initiative	Main objectives/requirements	Implications
Regional Spatial Strategies (RSS) RSS replaced Regional Planning Guidance (RPG) following the commencement of the Planning and Compulsory Purchase Act 2004. PPS1: Delivering Sustainable Development	Prepared by Regional Planning Bodies (with the exception of the London Plan which is prepared by the Mayor of London) the strategies set out a broad spatial planning strategy for 15-20 years. There are nine regional planning bodies in England, and the following plans have been produced: • North East RSS • North West RSS • Yorkshire and the Humber RSS • West Midlands RSS • East Midlands RSS • East of England RSS • South East RSS • South West RSS • London Plan	Establishes the main planning and spatial controls with regard to oil and gas exploration and developments.
Regional Economic Strategies (RES)	RESs are prepared by Regional Planning Bodies in order to formulate clear priorities for seeking to improve regional economic performance, and to identify strategies for achieving them. Regional bodies are obliged to review their strategies every three years.	Establishes strategies for regional economic development.

Initiative	Main objectives/requirements	Implications
Local Development Frameworks (LDF) Planning Policy Statement 12: Local Spatial Planning sets out the Government's policy on local spatial planning.	The LDF will be a folder of local development documents prepared by district councils, unitary authorities or national park authorities that outline the spatial planning strategy for the local area. LDFs comprise of: Development Plan Documents; Supplementary Planning Documents; A Statement of Community Involvement; the Local Development Scheme and the Annual Monitoring Reports. Together these documents provide the framework for delivering the spatial planning strategy for a local authority area. In some areas the portfolio of documents, which deliver the spatial strategy for minerals and waste in the County, are known as the 'Minerals and Waste Development Framework' (MWDF) (these are prepared by the relevant Mineral Planning Authority (MPA), which in a two-tiered system is the County Council).	As above.
Open Spaces Strategies PPG17: Planning for Open Space, Sport and Recreation	Sets out policies to help ensure effective planning for open space, sport and recreation by Local Authorities in England, which also includes areas of open space that particularly benefit wildlife and biodiversity.	Establishes local planning policy guidance relating to open space.
Minerals and Waste Development Frameworks (MWDFs)	In general, mineral plans are currently set out in the 'old' Structure Plans or Local Mineral Plans. Within the new framework, minerals (and waste) planning will be set out in a local development framework known as Minerals and Waste Development Frameworks (MWDFs). These take the same format as the LDFs as described above and also form the second part of the overall development plan (i.e. an RSS and a MWDF). Until the plans are implemented, the existing 'Structure Plans' and 'Local Minerals Plans' will retain development status – though timescales vary from county to county and council websites should be referred to for guidance.	As above.

Initiative	Main objectives/requirements	Implications
A Strategy for Hazardous Waste Management in England (Defra 2010)	Underpins the application of the revised Waste Framework Directive (2008/98/EC) and requirements that apply to hazardous waste in relation to the waste hierarchy, the treatment of hazardous waste, and the provision of infrastructure. The strategy incorporates: • Six high level principles for the management of hazardous waste. • A set of outline decision trees to assist waste producers and waste managers to make the right decisions about the management of their waste and the investment in infrastructure to help move hazardous waste management up the waste hierarchy. • A timeline of action on issues relating to the introduction and implementation of the strategy. • A list of guidance relating to the treatment of hazardous waste. • An updated summary of facility need.	Sets out the Government's vision for improved hazardous waste treatment in England.
Safeguarding our Soils: A Strategy for England (2009) – (see DEFRA 2009g)	Presents a framework through which it is hoped that all soils in England should be managed sustainably and degradation threats tackled successfully by 2030. The strategy identifies many of the key problems currently affecting soils in England (though which are more generally soil problems of the UK as a whole) including loss of organic matter, compaction, erosion, contamination (new and those of historic legacy) and soil sealing.	Sets out the means by which good soil protection and enhanced condition can be achieved in England.

Initiative	Main objectives/requirements	Implications
Noise Policy Statement for England (NPSE) (Defra 2010)	To take into account all noise except that of occupational noise, at an early stage in the course of a policy, development or other activity. The NPSE has a vision based around: • Health and quality of life • Promote good health and good quality of life • Effective management of noise • Within the context of Government policy on sustainable development The policy statement has 3 aims: Avoid significant adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development. Mitigate and minimise adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development. Where possible, contribute to the improvement of health and quality of life through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.	Consider noise implications of activities likely to arise from the draft plan/programme.
Flooding in England: a national assessment of flood risk (Environment Agency 2009)	Sets out the present risk of flooding from riverine sources and the sea, and how these risks are to be managed by the Environment Agency. The report includes: • The main findings of the 2008 National Assessment of Flood Risk (NaFRA) • The causes of flooding in England and the range of activities underway to manage flood risk • An overview of the Environment Agency's strategy and policy framework and the key organisations that we work with to protect people and property from flooding.	Presents flood risk issues of relevance to areas considered by the plan/programme.

Initiative	Main objectives/requirements	Implications
Relevant Strategies Policies, Plans, Programmes and Other Initiatives – Wales		
Wales: A Vibrant Economy. The Welsh Assembly Government's Strategic Framework for Economic Development. Consultation document November 2005	Sets out the challenges facing the Welsh economy and the progress made in addressing them. Provides a vision for a vibrant Welsh economy delivering strong and sustainable economic growth and presents a strategic framework for achieving this.	The potential for impact of plan alternatives on a range of indicators of sustainable development.
Starting To Live Differently: The Sustainable Development Scheme of the National Assembly for Wales, 2004	The National Assembly's overarching framework setting out a sustainable future for Wales, incorporating economic, social and environmental improvement. This document works alongside other initiatives including: • The Sustainable Development Action Plan • Wales: A Better Country • The Wales Spatial Plan	As above.
Sustainable Development Action Plan 2004-2007 (Welsh Assembly)	Assesses the effectiveness of current measures; includes exploring ways of moving towards a low carbon or hydrogen economy. Indicates how the 'Starting to Live Differently' scheme will be implemented.	As above.

Initiative	Main objectives/requirements	Implications
One Wales: One Planet. The Sustainable Development Scheme of the Welsh Assembly Government. May 2009. One Wales Delivery Plan 2007-2011: sets out 228 specific commitments and provides straightforward information about how each commitment will be delivered and when they are expected to come on stream, including key delivery milestones. Last updated 30th June 2009 (at time of print).	The document sets out the scheme for sustainable development in Wales, which aims to improve the well-being of the people of Wales and move to using only a fair share of the earth's finite resources, in line with the overarching principles of the UK shared sustainable development framework. The document sets out 5 key headline indicators of sustainable development: • **Sustainable resource use:** Where Wales lives within its environmental limits, using only its fair share of the earth's resources so that our ecological footprint is reduced to the global average availability of resources, and we are resilient to the impacts of climate change; • **Sustaining the environment:** Where Wales has healthy, biologically diverse and productive ecosystems that are managed sustainably • **A sustainable economy:** Where Wales has a resilient and sustainable economy that is able to develop whilst stabilising, then reducing, its use of natural resources and reducing its contribution to climate change • **A sustainable society:** Where Wales has communities which are safe, sustainable, and attractive places for people to live and work, where people have access to services, and enjoy good health • **Wellbeing:** Where Wales is a fair, just and bilingual nation, in which citizens of all ages and backgrounds are empowered to determine their own lives, shape their communities and achieve their full potential	As above.
Climate Change Strategy, Wales	Consultation on this strategy is due to end in early 2009. Explains the Assembly Government's policy on climate change and expands on the One Wales commitments.	Consider the implications of the draft plan in terms of climate change.

Initiative	Main objectives/requirements	Implications
People, Places, Futures The Wales Spatial Plan November 2004, updated July 2008	The Planning and Compulsory Purchase Act 2004 (section 60) placed a duty on the National Assembly for Wales to prepare a spatial plan. The Government of Wales Act 2006 further embeds the Wales Spatial Plan as a policy the Welsh Ministers must now agree and keep under review. For the purposes of the 2004 Act, the 2008 update constitutes the Wales Spatial Plan. This update brings the Wales Spatial Plan into line with *One Wales* (see above), with the broad 20 year agenda covering the following principles: • Making sure that decisions are taken with regard to their impact beyond the immediate sectoral or administrative boundaries and that the core values of sustainable development govern everything we do • Setting the context for local and community planning • Influencing where money is spent by the Welsh Assembly Government through an understanding of the roles of and interactions between places • Providing a clear evidence base for the public, private and third sectors to develop policy and action	Describes the main planning controls and regulation.
Environment Strategy for Wales 2006 Environmental Strategy Action Plan 2008-2011. Focuses on ten themes, with a number of actions under each theme to set out what will be done to achieve real progress towards the Environment Strategy's outcomes.	Long term strategy for the environment of Wales, setting the strategic direction for the next 20 years. The Strategy has five main environmental themes: • Addressing climate change – climate change mitigation and adaptation • Sustainable resource use • Distinctive biodiversity, landscapes and seascapes • Our local environment • Environmental hazards	The potential for impact of plan alternatives on a range of indicators of sustainable development.

Initiative	Main objectives/requirements	Implications
Wales Biodiversity Framework Updated 2008 Wales Biodiversity Partnership	Sets out the roles and responsibilities of the Wales Biodiversity Partnership, the key framework outcomes, issues relating to monitoring and reporting, and priority actions relating to biodiversity in Wales. Should be read in conjunction with should be read in combination with the Wales Environment Strategy – *Distinctive biodiversity, landscapes and seascapes*. The framework document is continually being updated as a result of feedback from the Wales Biodiversity Partnership.	Avoid significant impacts on habitats and species through assessment of especially vulnerable areas and potentially damaging activities.
Energy Wales: Route Map to a Clean, Low Carbon and more Competitive Energy Future for Wales Consultation document 2005	Sets out a vision for Wales to become a global showcase for clean energy production and energy efficiency.	The implications of draft plan/programme on sustainability and maintaining security of supply.
Renewable Energy Route Map for Wales – 2008 consultation on way forward to a leaner, greener and cleaner Wales. Strategy due for release in 2009.	The Renewable Energy Route Map for Wales sets out potential actions to achieve objectives on self-sufficiency in renewable electricity, use of biomass resources for significant renewable heat production, and energy efficiency and small-scale micro-generation.	As above.
Wise about Waste: The National Waste Strategy for Wales 2002, updated 2006 Wales Waste Strategy 2006: updates members of the Partnership Council on the progress of local authorities in meeting targets set in Wise about Waste.	Outlines the measures and targets necessary to enable Wales to move towards achieving sustainable waste management.	Consider potential contributions to waste production resulting from licensing.

Initiative	Main objectives/requirements	Implications
Minerals Planning Policy Wales (MPPW), 2001 Minerals Planning Policy Wales (2000) is supplemented by topic based Minerals Technical Advice Notes (MTAN's). To date MTAN 1: Aggregates and MTAN 2: Coal, are available.	Sets out the land use planning policy guidance of the National Assembly for Wales in relation to mineral extraction and related development in Wales, which includes all minerals and substances in, on or under land extracted either by underground or surface working. Sustainable mineral extraction should be achieved by adhering to 5 key principles: • provide mineral resources to meet society's needs and to safeguard resources from sterilisation • protect areas of importance to natural or built heritage • limit the environmental impact of mineral extraction • achieve high standard restoration and beneficial after-use • encourage efficient and appropriate use of minerals and the re-use and recycling of suitable materials	Describes the main planning controls and regulations.
Planning Policy Wales Edition 2, (2010) Supplemented by 21 topic based Technical Advice Notes (Wales) and procedural advice which is given in Welsh Office Circulars. Town and Country Planning Act 1990 Planning (Listed Buildings and Conservation Areas) Act 1990 Planning (Hazardous Substances) Act 1990	Planning Policy Wales (PPW) presents the WAG's national planning policy which will be material in the consideration of individual planning applications, and be considered in 'called-in' applications and appeals. This second edition of PPW incorporates updates to the 2002 edition including Ministerial interim Planning Policy Statements, policy changes resulting from the *Planning for Climate Change* consultations and other changes to facts, law and policies in other documents referred to in the original PPW. This Policy is separate to the Minerals Planning Policy Wales (above).	As above.
Environmental Permitting (England and Wales) Regulations 2007 *Replaces Pollution Prevention and Control Regulations 2000 from 6th April 2008. The new regulations, as before, are made under the Pollution Prevention and Control Act 1999.*	Streamlines and combines separate waste and pollution control (including PPC), replacing over 40 pieces of legislation. Regulations identify what needs an environmental permit: installations (carrying out activities in energy, metals, minerals, chemicals and waste sectors); a waste operation (disposal or recovery of waste); a mobile plant. The operator of a new facility needs to obtain a permit before they are able to lawfully operate.	Ensure awareness of any changes/new requirements under these regulations.

Initiative	Main objectives/requirements	Implications
Conservation Principles, Policies and Guidance for the sustainable management of the historic environment in Wales: Consultation July 2009 Welsh Office Circular 60/91: Planning and the Historic Environment: Archaeology Welsh Office Circular 61/91: Planning and the Historic Environment: Historic Buildings and Conservation Areas Welsh Office Circular 1/98: Planning and the Historic Environment: Directions by the Secretary of State for Wales	The document outlines the main conservation principles, policies and guidance of Cadw and the WAG in relation to the historic environment, largely based around the English Heritage document of the same name released in 2008 after extensive consultation. The document outlines a number of principles which Cadw intend to apply to sites in their care, and in cases where applications which involve the historic environment come before them for consideration.	Outlines the main policies concerning planning and the historic environment in Wales.
Flooding in Wales: a national assessment of flood risk (Environment Agency 2009)	Sets out the present risk of flooding from riverine sources and the sea, and how these risks are to be managed by the Environment Agency. The report includes: • The main findings of the 2008 National Assessment of Flood Risk (NaFRA) • The causes of flooding in England and the range of activities underway to manage flood risk • An overview of the Environment Agency's strategy and policy framework and the key organisations that we work with to protect people and property from flooding.	Presents flood risk issues of relevance to areas considered by the plan/programme.

Initiative	Main objectives/requirements	Implications
Relevant Strategies Policies, Plans, Programmes and Other Initiatives – Scotland		
Choosing Our Future: Scotland's Sustainable Development Strategy December 2005	Documents actions to take in Scotland to turn the shared priorities set out in the UK Framework for sustainable development into action.	The potential for impact of plan alternatives on a range of sustainable development indicators.

Initiative	Main objectives/requirements	Implications
Sustainable Development in Scotland Scottish Sustainable Communities Initiative (SSCI) 2008: a planning-led initiative aimed at influencing future development to be economically and socially sustainable. Sustainable Development Commission Scotland.	Sustainable development is reflected in the 'Scottish Government's Purpose' and five strategic 'objectives': • Wealthier and Fairer • Healthier • Safer and Stronger • Smarter • Greener Work on sustainable development is led by the Greener Scotland Programme Board and Greener Scotland Division.	As above.
Scotland's Biodiversity: It's In Your Hands – A strategy for the conservation and enhancement of biodiversity in Scotland 2004 See also Biodiversity: UK Action Plan and relevant LBAPs. The Scottish Biodiversity Forum.	Building on earlier documents of the Scottish Biodiversity Forum, the Scottish Biodiversity Strategy represents Scotland's response to its obligations under the Convention on Biological Diversity, the European Union's 6th Environmental Action Programme and the UK Biodiversity Action Plan. The strategy presents a 25 year view based around five objectives encompassing: • Species & Habitats: To halt the loss of biodiversity and continue to reverse previous losses through targeted action for species and habitats • People: To increase awareness, understanding and enjoyment of biodiversity, and engage many more people in conservation and enhancement • Landscapes & Ecosystems: To restore and enhance biodiversity in all our urban, rural and marine environments through better planning, design and practice • Integration & Co-ordination: To develop an effective management framework that ensures biodiversity is taken into account in all decision making • Knowledge: To ensure that the best new and existing knowledge on biodiversity is available to all policy makers and practitioners	Avoid significant impacts on habitats and species through assessment of especially vulnerable areas and potentially damaging activities.

Initiative	Main objectives/requirements	Implications
The Nature of Scotland – a Policy Statement 2001 Addresses the Nature Conservation (Scotland) Act 2004 and was a precursor to Scotland's Biodiversity: It's In Your Hands 2004	Sets out the Scottish Executives proposals for a modernised system of nature conservation in Scotland.	As above.
Changing our Ways Scotland's Climate Change Programme 2006 The latest annual report was released May 2008	Quantifies Scotland's contribution to UK commitments on climate change, including the Kyoto target and more ambitious domestic goal on CO_2 emissions. Sets a Scottish Target to exceed Scotland's fair share in devolved policy areas by an additional 1 million tonnes of carbon (MtC) savings in 2010.	Consider contributions to greenhouse gas emissions as a result of licensing. Greenhouse gas emissions associated with combustion of hydrocarbons produced as a result of proposed activities are outside the scope of this assessment.
Scotland's Climate Change Adaptation Framework Consultation Document: Adapting Our Ways: Managing Scotland's Climate Risk: Consultation to inform Scotland's Climate Change Adaptation Framework. The plan is also the subject of a forthcoming Strategic Environmental Assessment. See also the Climate Change (Scotland) Act 2009.	Currently undergoing a second round of consultation, the framework seeks to identify the roles and responsibilities for key decision makers in Scotland and identifies priority actions to be taken. The first consultation proposed the following strategic principles: • Adaptation should be through actions that build resilience • Adaptation should be continuous and responsive to new information • Adaptation should be integrated into normal development and implementation practices • Adaptation should be integrated at an appropriate scale and involve relevant levels of decision making • Adaptation must be addressed alongside actions to reduce emissions • Adaptation by one sector should not restrict adaptation by other sectors	Consider potential impact of draft plan on climate change.

Initiative	Main objectives/requirements	Implications
Scotland's National Waste Strategy, 1999 and the National Waste Plan 2003 (Scotland) The National Waste Management Plan for Scotland Regulations 2007 Scotland's Area Waste Plans	Outlines programmes for those involved in waste planning and management to put in place the policies needed to achieve sustainable waste management The National Waste Plan, 2003, sets out a framework for Scotland to reduce the amount of waste produced and deal with wastes in a more sustainable way. The National Waste Plan brings together Area Waste Plans for the different Waste Strategy Areas, which provide specific regional guidance. A 'zero waste' think tank was established in early 2008 as part of the strategy in order to discuss and advise on matters towards reducing the unnecessary use of raw materials, re-using products where possible and recovering value from products when they reach the end of their lives either through recycling, composting or energy recovery.	Consider the potential contributions to waste production resulting from licensing.
Scottish Planning Policy (2010) Scottish National Planning Framework (2010) Scottish Government Planning Circulars	The Scottish Government's planning policies are set out in the National Planning Framework, the SPP, Designing Places, Designing Streets and Circulars. The SPP is a statement of Scottish Government policy on land use planning and contains: • the Scottish Government's view of the purpose of planning, • the core principles for the operation of the system and the objectives for key parts of the system, • statutory guidance on sustainable development and planning under Section 3E of the Planning etc. (Scotland) Act 2006, • concise subject planning policies, including the implications for development planning and development management, and • the Scottish Government's expectations of the intended outcomes of the planning system. The policies expressed in the SPP should inform the content of development plans, should be a consideration in decisions on planning applications and should be used to inform development proposals from initial concept to implementation.	Describes the main planning controls and regulations in Scotland for nationally important land use planning.

Initiative	Main objectives/requirements	Implications
Scottish National Planning Framework (NPF2) (2010)	building on the first national planning framework, NPF2 identifies key issues and drivers of change, sets out a vision to 2030, and identifies priorities and opportunities for each part of the country in spatial perspectives for the Central Belt, the East Coast, the Highlands and Islands, Ayrshire and the South-West and the South of Scotland.	Describes the Scottish Government's strategy for Scotland's long term spatial development.
Scottish Planning Circular 1/09: Development Planning The Town and Country Planning (Development Planning) (Scotland) Regulations 2008 The Town and Country Planning (Grounds for declining to follow recommendations) (Scotland) Regulations 2009 The Planning etc. (Scotland) Act 2006 (Development Planning) (Saving, Transitional and Consequential Provisions) Order 2008.	Covers the Scottish Governments policy on the implementation of The Town and Country Planning (Development Planning) (Scotland) Regulations 2008, The Town and Country Planning (Grounds for declining to follow recommendations) (Scotland) Regulations 2009 and The Planning etc. (Scotland) Act 2006 (Development Planning) (Saving, Transitional and Consequential Provisions) Order 2008.	Consider implications of relevant regulation for likely activities.

Initiative	Main objectives/requirements	Implications
Structure Plans	Prepared by individual councils or groups of councils, structure plans take a long-term view of development, considering its general scale and broadly where it should be located – there are 13 structure plans in operation within the onshore SEA Scottish oil and gas area (as follows): • Edinburgh and Lothians Structure Plan 2015 • Glasgow and the Clyde Valley Joint Structure Plan 2000 • Dundee City and Angus Councils 2001-2016 • Aberdeen and Aberdeenshire Structure Plan 2001-2016 • Fife Structure Plan 2006-2026 (consultative draft 2005) • Perth and Kinross Structure Plan • Clackmannanshire and Stirling Structure Plan 2002 • Falkirk Council Structure Plan • Lomond and Trossachs Draft National Park Plan 2005 • Ayrshire Joint Structure Plan • Argyll and Bute Structure Plan 2002 • Dumfries and Galloway Structure Plan • Scottish Borders Structure Plan	Describes the main planning and spatial controls.
Local Plans	Often for smaller areas, local plans are prepared by local councils and set out more detailed policies and proposals to guide development (must be in-line with the overarching Structure Plan).	As above.

Initiative	Main objectives/requirements	Implications
Nature Conservation (Scotland) Act 2004	• The Act places a duty on every public body to further the conservation of biodiversity consistent with the proper exercise of their functions. It requires Scottish Ministers to designate one or more strategies for the conservation of biodiversity as the Scottish Biodiversity Strategy, and to publish lists of species of flora and fauna and habitats of principal importance. • Supersedes SSSI provisions of the WCA 1981, providing for enhanced protection and management of SSSIs. • Enables Scottish Ministers to make a Nature Conservation Order to protect a nature conservation feature which is of special interest, or which is contiguous with land containing such a feature, to ensure its protection. • Provides for Scottish Ministers to make a Land Management Order to require operations to be carried out on land in or contiguous with, a SSSI where this is necessary to conserve, restore or enhance a natural feature specified in the SSSI notification. An appeal process is introduced in relation to the making of such Orders. • Makes amendments to the WCA 1981, strengthening the legal protection for threatened species. • Act requires Scottish Natural Heritage to prepare and issue a Scottish Fossil Code	Operators should be aware of species and habitats which are covered by this and associated legislation and/or protected sites.