

# 12. UNITED KINGDOM (UK)

#### 12.1 Energy Policies and Actions

# **Energy White Paper**

The UK government published the "Energy White Paper: Our Energy Future - Creating a Low Carbon Economy" in 2003.<sup>192</sup> In order to tackle the energy challenges, the paper sets out four energy policy goals:

- to cut carbon dioxide emissions by some 60% by about 2050 with expectations of 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 the productivity
- to ensure that every home is adequately and affordably heated. 193

In July 2006, the Government's report on the Energy Review: "The Energy Challenge" was released. Officially, the review sets out a programme of action to make further progress towards the energy policy goals to 2020 and beyond, which aims to (i) tackle climate change by reducing carbon dioxide emissions; and (ii) deliver secure, clean energy at affordable prices in view of the increasing dependence on imported energy. Unofficially, it was widely felt that the real reason behind the review was to allow nuclear power back into the energy debate, as it had been sidelined in the 2003 White Paper. 196

Until May 2007, another Energy White Paper: "Meeting the Energy Challenge" was published. It sets out the Government's international and domestic energy strategy to respond to the changing circumstances, address the long term energy challenges and deliver the four energy policy goals. It also shows how the Americans are implementing the measures set out in the Energy Review Report in 2006, as well as those announced since.<sup>197</sup>

The Energy White Paper 2007 followed a judicial review requested by Greenpeace that ruled that elements of the 2006 Energy Review were ruled 'seriously flawed', and 'not merely inadequate but also misleading. As a result, plans to build a new generation of nuclear power plants were ruled illegal.<sup>198</sup>

 $<sup>^{192}</sup>$  "Energy White Paper 2003: Our Energy Future - Creating a Low Carbon Economy" can be found from this link: http://www.berr.gov.uk/files/file10719.pdf

Referenced to the web site of the Department of Business, Enterprise and Regulatory Reforms, http://www.berr.gov.uk/energy/policy-strategy/energy-white-paper-2003/page21223.html

The full report for the Energy Review can be found from this link: http://www.dtistats.net/ereview/energy\_review\_report.pdf

Referenced to the web site of the Department of Business, Enterprise and Regulatory Reforms, http://www.dti.gov.uk/energy/review/implementation/page31829.html

<sup>196</sup> Source from: http://en.wikipedia.org/wiki/Energy\_policy\_of\_the\_United\_Kingdom#\_note-0

 $<sup>^{197}</sup>$  Referenced to the web site of the Department of Business, Enterprise and Regulatory Reforms, http://www.dti.gov.uk/energy/whitepaper/page 39534.html

<sup>198</sup> Source from: http://en.wikipedia.org/wiki/Energy\_policy\_of\_the\_United\_Kingdom#\_note-0





The 2007 White Paper outlines the Government's international and domestic strategy for responding to two main challenges:

- cutting carbon emissions to tackle global warming
- ensuring secure, clean and affordable energy as imports replace declining production from North Sea oil and gas

It seeks to do this in a way that is consistent with its four energy policy goals as mentioned above.

The paper anticipates that it will be necessary to install 30-35 GW of new electricity generation capacity within 20 years to plug the energy gap resulting from increased demand and the expected closure of existing power plants. It also states that, based on existing policies, renewable energy is likely to contribute around 5% of the UK's consumption by 2020, rather than the 20% target mentioned in the 2006 Energy Review.

The government's proposed strategy involves 6 components:

- Establishing an international framework to tackle climate change, including the stabilisation of atmospheric greenhouse gas concentrations and a stronger European Union Emissions Trading Scheme
- Providing legally binding carbon targets for the whole UK economy, reducing emissions through the implementation of the Climate Change Bill.
- Making further progress in achieving fully competitive and transparent international markets, including further liberalisation of the European Union energy market.
- Encouraging more energy saving through better information, incentives and regulation
- Providing more support for low carbon technologies, including increased international and domestic public-private sector collaboration in the areas of research, development, demonstration and deployment.

A number of practical measures was proposed in the Energy White Paper to achieve the government's aims, and are detailed in **Exhibit UK-1**.



#### Exhibit UK-1 Practical Measures of the Energy White Paper 2007

To achieve the government's aims, the White Paper proposes a number of practical measures, including:

(i) Energy conservation

#### **Businesses:**

- A new mandatory cap and trade scheme for organisations consuming more than 6,000 MWh of electricity per year, to be known as the Carbon Reduction Commitment.
- The introduction of Energy Performance Certificates for business premises.
- The extension of smart metering to most business premises within 5 years.

#### Homes:

- A requirement for all new homes to be zero-carbon buildings as soon as practically possible and preferably by 2016.
- Improving the energy efficiency of existing homes.
- Improving the efficiency of consumer electronics and domestic appliances, and the possible phase-out of inefficient light bulbs by around 2011.
- Increasing the Carbon Emission Reduction Target for the electricity and gas industries for 2008-2011.
- A requirement that new domestic electricity meters should have real time displays from 2008, and a commitment to upgrade existing domestic meters on request.

#### **Transport:**

- The introduction of a Low Carbon Transport Innovation Strategy
- Support for including aviation within the EU Emissions Trading Scheme

# (ii) Energy supply

- The introduction of a Biomass Strategy to expand the use of biomass as an energy source.
- Measures to grow distributed electricity generation and distributed heat generation alongside the centralised system.
- A reconfirmation that, under the Renewables Obligation, renewable energy should supply 10% of electricity generation by 2010, an 'aspiration' to achieve 20% by 2020, together with the introduction of bands within the Obligation to support different renewable technologies.
- The launch in November 2007 of a competition to demonstrate commercial-scale carbon capture and storage technology
- A 'preliminary view is that it is in the public interest to give the private sector the option of investing in new nuclear power stations'. A consultation on this was launched at the same time as the White Paper.
- The introduction of the Renewable Transport Fuel Obligation in 2008-2009, with a commitment that biofuels should provide 5% of transport fuel by 2010-2011.
- Measures to support the recovery of the remaining oil and gas reserves from the North Sea.
- Removing barriers to developing new energy infrastructure and power plants through reform of planning permission processes, as detailed in the 2007 Planning White Paper: Planning for a Sustainable Future.<sup>199</sup>

 $<sup>^{199}</sup>$  Source:  $http://en.wikipedia.org/wiki/Energy\_policy\_of\_the\_United\_Kingdom\#\_note-0$ 



#### UK Climate Change Programme (UKCCP)

As mentioned above, tackling climate change is one of the key components in the Energy White Paper 2007. The UK agreed to reduce its carbon dioxide emissions by 12.5%, which is its legally binding target under the Kyoto Protocol.<sup>200</sup> In 2000, the UK government launched the Climate Change Programme (CCP), which is the UK's key strategy for its work on tackling climate change. As of March 2006, the latest CCP<sup>201</sup> was launched. It sets out the policies and measures which the UK is using to cut its emissions of greenhouse gases. It also explains how the UK plans to adapt to the impacts of climate change.<sup>202</sup>

The following are among the actions taken to implement the programme:

### (i) Climate Change Bill

In March 2007, a draft Climate Change Bill was published.<sup>203</sup> It sets out a framework for moving the UK to a low-carbon economy, and aims to put in place a framework to achieve a mandatory 60% cut in the UK's carbon emissions by 2050 with an intermediate target of between 26% and 32% by 2020.204

# (ii) Climate Change Levy (CCL)

Current actions aimed at achieving CCP targets include a CCL on all non-domestic energy bills, typically raising them by 8% to 10%. Introduced in April 2001, the levy applies to all 'traditional' energy sources.

#### (iii) Renewables Obligation (RO)

Launched on 1 April 2002, the RO requires power suppliers to derive from renewables a specified proportion of the electricity they supply to their customers. It is designed to incentivise the generation of electricity from eligible renewable sources in the UK. 205 It was introduced in England and Wales and in a different form (the Renewables Obligation (Scotland)) in Scotland in April 2002 and in Northern Ireland in April 2005. The latest RO for England, Wales, Scotland and North Ireland are as follows:

- The Renewables Obligation (England and Wales) Order 2006 (Statutory Instrument (SI) 2006 No. 1004)<sup>206</sup> – introduced by the Department of Trade and Industry
- The Renewables Obligation (Scotland) Order 2006 (SI 2006 No. 173)<sup>207</sup> introduced

Extracted from the web of the Department of Environment, Food and Rural Affairs, http://www.defra.gov.uk/environment/climatechange/internat/un-kyoto.htm

<sup>&</sup>lt;sup>201</sup> Full document for the 2006 Climate Change Programme can be found from the link: http://www.defra.gov.uk/environment/climatechange/uk/ukccp/pdf/ukccp06-all.pdf

Referenced to the web site of the Department of Environment, Food and Rural Affairs, http://www.defra.gov.uk/environment/climatechange/uk/index.htm

Draft Climate Bill The Chang found from the link: http://www.official-documents.gov.uk/document/cm70/7040/7040.pdf

Referenced to the web site of the Department of Environment, Food and Rural Affairs, http://www.defra.gov.uk/news/latest/2007/climate-0313.htm

<sup>&</sup>lt;sup>205</sup> Referenced to the web site of The British Wind Energy Association, http://www.bwea.com/business/roc.html

<sup>&</sup>lt;sup>206</sup> Full document can be found from the link: http://www.opsi.gov.uk/si/si2006/uksi\_20061004\_en.pdf

<sup>&</sup>lt;sup>207</sup> Full document can be found from the link:



by the Scottish Executives

The Renewables Obligation Order (Northern Ireland) 2006 (SI 2006 No. 56)<sup>208</sup> introduced by the Department of Enterprise Trade and Investment (DETINI)<sup>209</sup>

# (iv) Other Activities

The Government commissions a wide range of scientific research on climate change and funds programmes on climate modelling and work on impacts and adaptation. It also funds a number of programmes to encourage business to reduce emissions and to find cost effective measures to tackle climate change. The Government also funds the Carbon Trust and the Energy Saving Trust, who provide advice and help for businesses and the public.<sup>210</sup>

#### Actions on Energy Efficiency

In June 2007, the UK's Energy Efficiency Action Plan 2007 was published.<sup>211</sup> This plan brings together in one document all the current and planned policies and measures the Government and the Devolved Administrations have in place to improve energy efficiency and meet the energy saving target adopted by the UK under the Energy End-Use Efficiency and Energy Services Directive. Together these measures should deliver energy savings of around 18% by 2016.<sup>212</sup>

#### Actions for "Combined Heat and Power"

Combined Heat and Power (CHP) is a fuel-efficient energy technology that, unlike conventional forms of power generation, puts to use the by-product heat that is normally wasted to the environment. CHP is an important element in the Government's new energy policy, as set down in the Energy White Paper. The CHP strategy named "Government's Strategy for Combined Heat and Power to 2010"213 was published in April 2004. The Strategy incorporates the full range of support measures to support the growth of CHP capacity needed to meet the CHP target (i.e. to achieve at least 10,000 MWe of installed Good Quality CHP capacity by 2010.), and lay the foundation for long-term growth in CHP.214

http://www.opsi.gov.uk/legislation/scotland/ssi2006/ssi\_20060173\_en.pdf

<sup>&</sup>lt;sup>208</sup> Full document can be found from the link: http://www.opsi.gov.uk/sr/sr2006/20060056.htm

<sup>&</sup>lt;sup>209</sup> Source: http://en.wikipedia.org/wiki/Renewables\_obligation\_certificates

Referenced to the web site of the Department of Environment, Food and Rural Affairs, http://www.defra.gov.uk/environment/climatechange/uk/index.htm

document can be from the link: http://www.defra.gov.uk/environment/climatechange/uk/energy/pdf/action-plan-2007.pdf

Referenced to the web site of the Department of Environment, Food and Rural Affairs, http://www.defra.gov.uk/environment/climatechange/uk/energy/efficiency.htm

document can be found the link: http://www.defra.gov.uk/environment/climatechange/uk/energy/chp/pdf/chp-strategy.pdf

Referenced to the web site of the Department of Environment, Food and Rural Affairs, http://www.defra.gov.uk/environment/climatechange/uk/energy/chp/index.htm



#### Actions for Renewable Fuels and Materials

Biomass energy sources have the potential to make a significant contribution to renewable energy and climate change targets. In May 2007, the UK government published the Biomass Strategy<sup>215</sup>, which seeks to realise a major expansion in the supply and use of biomass in the UK.

#### Climate Change Programme in Scotland

With respect to the UKCCP, the Scottish Executive published its own Scottish Climate Change Programme (SCCP) <sup>216</sup> in March 2006. This strengthens the original Programme, published in November 2000, and represents a stepping up of the Executive's ambition and action to tackle climate change. It quantifies Scotland's equitable contribution to UK climate change commitments in carbon terms - the Scottish Share. Furthermore, it sets an ambitious Scottish Target to exceed the Scottish Share by 1 million tonnes of carbon savings in 2010.<sup>217</sup>

Another main policy development identified in the SCCP 2006 in terms of energy sector is to continue progressing towards achieving the Scottish Executive's target to generate 18% of Scotland's electricity from renewable sources by 2010, rising to 40% by 2020.

The Renewables Obligation (Scotland) is the mechanism by which the Scottish Government will achieve its renewable energy targets. It places legal obligations on licensed electricity suppliers in Scotland to provide more of their electricity from renewable sources such as, wind, wave, tidal, hydro and biomass.

To help Scotland achieve its renewable energy generation targets, the Forum for Renewable Energy Development in Scotland established the Marine Energy Group in October 2003 to assess the potential for developing wave and tidal energy in Scotland and to develop an action plan.<sup>218</sup>

#### Actions on Climate Change and Energy in Wales

The Environment Strategy was published in May 2006 by the Minister for Environment, Planning and Countryside of the Welsh Assembly Government. The Environment Strategy is the Assembly Government's long term strategy for the environment of Wales, setting the strategic direction for the next 20 years. One of the environmental themes is to address climate change which covers climate change mitigation and adaptation.<sup>219</sup>

EDMS (Hong Kong) Ltd 12-6

21

Full document can be found from the link: http://www.defra.gov.uk/environment/climatechange/uk/energy/renewablefuel/pdf/ukbiomassstrategy-0507.pdf

Full document can be found from the link: http://www.scotland.gov.uk/Resource/Doc/100896/0024396.pdf
 Referenced to the web site of the Scottish Executive, http://www.scotland.gov.uk/Topics/Environment/Climate-Change/16327

Referenced to the SCCP, <a href="http://www.scotland.gov.uk/Resource/Doc/100896/0024396.pdf">http://www.scotland.gov.uk/Resource/Doc/100896/0024396.pdf</a>, pages 24-25

Referenced to the web site of the Welsh Government Assembly, <a href="http://new.wales.gov.uk/topics/environmentcountryside/epq/Envstratforwales/About\_the\_strategy/?lang=en">http://new.wales.gov.uk/topics/environmentcountryside/epq/Envstratforwales/About\_the\_strategy/?lang=en</a>



Some key actions planned are summarised as follows:

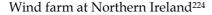
- Produce a climate change adaptation action plan, which sets of out what actions will be taken to adapt to the impacts of climate change in Wales
- Establish a cross-sector climate change group, which will advise on climate change mitigation and adaptation action for Wales
- Set out in the Energy Route map an energy mix where renewable and low carbon sources will have growing importance<sup>220</sup>

#### Actions on Climate Change and Energy in Northern Ireland

The Energy Strategy for Northern Ireland (June 2004) published a number of key strategic drivers and associated targets on energy, which complement aspects of the Sustainable Development Strategy (NISDS)<sup>221</sup> published in May 2006. Climate change and energy are the spotlight themes in the NISDS in order to meet their Kyoto Protocol targets for limiting greenhouse gas emissions. In the implementation plan for the NISD, it sets out the actions to deliver on some of the commitments and principles in the NISD.<sup>222</sup> On energy sector, some of the key actions are summarised as follows:

- Implement the Renewables Obligation in Northern Ireland from April 2005 (rising to 6.3% of consumption by 2012) with the Renewable Obligation Certificates being mutually recognised and traded freely throughout the UK
- Continue to support research on the capacity of renewable energy as a fuel for electricity generation in Northern Ireland
- Develop support mechanisms to encourage enhanced programmes of renewable energy to increase consumer choice, competition and quality in the provision of renewable energy<sup>223</sup>







Typical oil exploration platform<sup>225</sup>

Referenced to the NISD implementation plan, <a href="http://www.ofmdfmni.gov.uk/implementation\_plan\_16\_11\_\_06.pdf">http://www.ofmdfmni.gov.uk/implementation\_plan\_16\_11\_\_06.pdf</a>, pages 29-30

<sup>224</sup> Source: http://www.ofmdfmni.gov.uk/sustain-develop.pdf

Referenced to the first action plan of the Environment Strategy for Wales, http://new.wales.gov.uk/docrepos/40382/4038231121/118554/Env\_strat\_rewrite/Action\_Plan\_e.pdf?lang=en Full document can be found in this link: http://www.ofmdfmni.gov.uk/sustain-develop.pdf

The NISD implementation plan can be found from this link: http://www.ofmdfmni.gov.uk/implementation\_plan\_16\_11\_\_06.pdf

Final Report November 2007



## 12.2 Environmental Evaluation/SEA in UK

#### England, Wales and Northern Ireland

Since 20 July 2004, it is a statutory requirement for England, Wales and Northern Ireland to carry out SEA and integrate environmental considerations into the preparation and adoption of certain plans and programmes which are likely to have significant effects on the environment. The relevant regulations for the three countries are as follows:

- For England "Environmental Assessment of Plans and Programmes Regulations 2004"226
- For Wales "Environmental Assessment of Plans and Programmes Regulations (Wales) 2004"227
- For Northern Ireland "Environmental Assessment of Plans and Programmes Regulations (Northern Ireland) 2004"228

They all implemented the EU Directive 2001/42/EC (also known as SEA Directive).<sup>229</sup>

Under section 5 of the above three regulations, the responsible authority should carry out SEA during the preparation of the plan or programme which:

- is prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use;
- sets the framework for future development consent of projects; and
- is likely to have significant environmental effects.

Under section 12 of the above three regulations, where SEA is required, the responsible authority should prepare an environmental report which includes:

- the identification, description and evaluation of the likely significant effects on the environment of implementing the plan or programme;
- reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme;
- current knowledge and methods of assessment;
- the contents and level of detail in the plan or programme;
- the stage of the plan or programme in the decision-making process; and
- the extent to which certain matters are more appropriately assessed at different levels in that process in order to avoid duplication of the assessment.

<sup>225</sup> Source: http://www.rigjobs.co.uk/oil/platform.shtml											
226	More	information	about	the	regulations	can	be	found	at	the	link,
http:/	http://www.opsi.gov.uk/si/si2004/20041633.htm.										
227	More	information	about	the	regulations	can	be	found	at	the	link,
http://www.opsi.gov.uk/legislation/wales/wsi2004/20041656e.htm											
228	More	information	about	the	regulations	can	be	found	at	the	link,
http://www.opsi.gov.uk/sr/sr2004/20040280.htm											

<sup>&</sup>lt;sup>229</sup> Referenced to Strategic Environmental Assessment at the Policy Level: Recent Progress, Current Status and Future Prospects, Barry Sadler,

http://www.iaia.org/Non\_Members/Conference/SEA%20Prague/SEA%20at%20the%20Policy%20Level.pdf



The main stages for SEA in England, Wales and Northern Ireland are listed below and illustrated in **Exhibit UK-2**:

- Stage A Setting the context and objectives, establishing the baseline and deciding on the scope
- Stage B Developing and refining alternatives and assessing effects
- Stage C Preparing the Environmental Report
- Stage D Consultation on the draft plan and the Environmental Report
- Stage E Monitoring the significant effects of implementing the plan on the environment 230

While the above three regulations apply to only plans and programmes but not policies, non-statutory SEA-type processes for policy appraisal were continuously adopted in England, Wales and Northern Ireland. These processes operate independently from and are not affected by the regulations that give effect to the SEA Directive. The processes demonstrate the multi-faceted regime that is in place at the policy level, where environmental appraisal within central government has been merged into the two larger frameworks including:

- Integrated Policy Appraisal (IPA) methodology established as part of the White Paper on Modernizing Government
- Regulatory Impact Assessment (RIA) more formalised procedure which applied to major proposals as well as legislation.<sup>231</sup>

Guidance on environmental appraisal of policies is based on frameworks of IPA and RIA.

IPA framework sets out methodologies for policy appraisal in support of sustainable development covering impacts on business, the environment, health and the needs of particular groups. IPA as a useful tool applies at an early stage of the policy process and carries out as an iterative process proportional to the likely impact of a proposal.

RIA framework mainly applies to:

- all forms of regulatory proposal laws, rules, codes of practices, etc
- the full range of potential benefits and costs economic, social and environmental
- the distribution of impacts whether they affect the public, civic and private sectors<sup>232</sup>

<sup>&</sup>lt;sup>230</sup> Extracted from the "A Practical Guide to the Strategic Environmental Assessment Directive ", http://www.ehsni.gov.uk/bm\_sea\_practicalguide.pdf, page 24

<sup>&</sup>lt;sup>231</sup> Strategic Environmental Assessment at the Policy Level: Recent Progress, Current Status and Future Prospects, Barry Sadler,

 $<sup>\</sup>underline{http://www.iaia.org/Non\_Members/Conference/SEA\%20Prague/SEA\%20at\%20the\%20Policy\%20Level.pdf, pages 97-99, 109-110$ 

<sup>&</sup>lt;sup>232</sup> Strategic Environmental Assessment at the Policy Level: Recent Progress, Current Status and Future Prospects, Barry Sadler,

 $<sup>\</sup>underline{http://www.iaia.org/Non\_Members/Conference/SEA\%20Prague/SEA\%20at\%20the\%20Policy\%20Level.pdf, pages~100,~104$ 





#### Scotland

Since 20 July 2004, it is a statutory requirement under the "Environmental Assessment of Plans and Programmes (Scotland) Regulations 2004", which introduced by the Scottish Executive and implemented the SEA Directive, to carry out SEA and integrate environmental considerations into the preparation and adoption of certain plans and programmes which are likely to have significant effects on the environment.

Afterwards, this regulation was replaced by the "Environmental Assessment Act (Scotland) 2005"233, which came into force on 20 February 2006, to conduct SEA for the plans and programmes, including strategies.<sup>234</sup>

After screening, if the responsible authority is of the opinion that the proposed strategy, plan or programme will have (a) no effect, or (b) minimal effect, in relation to the environment, SEA is then not required to conduct.<sup>235</sup>

The process of assessing environmental impacts should be fully integrated with the development of the proposal and should therefore be applied at the strategic level, during option formulation and appraisal, and at the detailed project level. Early consideration of environmental issues should result in the development of proposals that avoid environmental constraints, or result in a reduced environmental impact and a lesser need for mitigation measures and their associated costs. It should also inform the consideration of alternatives and the choice between them.<sup>236</sup>

Stages of SEA process in Scotland are illustrated in **Exhibit UK-2** and listed as follows:

- Screening to determine whether the proposed plan/programme is likely to have significant environmental effects and whether an SEA is required.
- Scoping this enables the coverage and level of detail of the Environmental Report to be determined in conjunction with the statutory consultees: the Scottish Environment Protection Agency (SEPA), Scottish Natural Heritage (SNH) and Scottish Ministers (Historic Scotland (HS))
- Environmental Report it details the anticipated environmental impacts of the plan/programme and any proposed amendments to the plan/programme; and the proposals for monitoring the environmental impacts of the plan/programme
- Monitoring a stage being undertaken during implementation of the plan/programme and serves to identify the level of monitoring required and, should adverse impacts be identified, any remediation proposals.<sup>237</sup>

<sup>&</sup>lt;sup>233</sup> More information about the Environmental Assessment Act (Scotland) 2005 can be found at the link, http://www.opsi.gov.uk/legislation/scotland/acts2005/20050015.htm

<sup>&</sup>lt;sup>234</sup> Refer section 4 of the Environmental Assessment Act (Scotland) 2005

More about the Act (Section 7) link, information be found the can in http://www.opsi.gov.uk/legislation/scotland/acts2005/20050015.htm, originated from the web site of the Office of **Public Sector Information** 

Referenced to the "Scottish Transport Appraisal Guidance (STAG)", Chapter 6 Environment, http://www.transportscotland.gov.uk/defaultpage1221cde0.aspx?pageID=255&ChptId=236#61

<sup>&</sup>lt;sup>237</sup> Referenced to the "Scotland Rural Development Programme 2007-2013: Strategic Environmental Assessment -Environmental Report" by Scottish Executive, http://www.scotland.gov.uk/Publications/2006/05/17102624/3



Under sections 1 and 5 of the Act, it applies only for those qualified policies, plans and programmes which:

- is prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use;
- sets the framework for future development consent of projects listed in schedule 1 of the Act.<sup>238</sup>

According to section 7 of the Act, if the responsible authority is of the opinion that the policy, plan or programme will have (a) no effect, (b) minimal effect, in relation to the environment, then it can be exempted from this Act provided that:

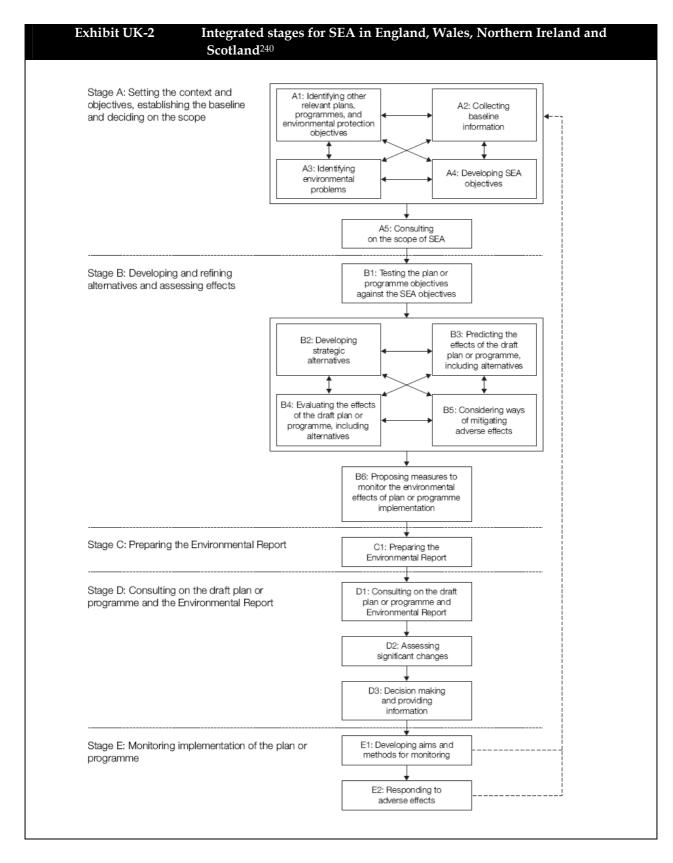
- the responsible authority has considered and applied the criteria specified in schedule 2 of the Act - Criteria for determining the likely significance of effects on the Environment
- the consultation authorities (including the Scottish Ministers, the Scottish Environment Protection Agency and Scottish Natural Heritage) and the public were notified

"Environmental assessment" under this Act defines SEA which includes the preparation of an environmental report, the carrying out of consultations, and the taking into account of the environmental report and the result of the consultations in decision-making.<sup>239</sup>

<sup>&</sup>lt;sup>238</sup> Originated from the web site of the Office of Public Sector Information, <a href="http://www.opsi.gov.uk/legislation/scotland/acts2005/20050015.htm">http://www.opsi.gov.uk/legislation/scotland/acts2005/20050015.htm</a>
<sup>239</sup> Refer section 1 of the Act



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<sup>&</sup>lt;sup>240</sup> Extracted from the "A Practical Guide to the Strategic Environmental Assessment Directive ", http://www.scotland.gov.uk/Resource/Doc/921/0018361.pdf, page 25

12.3

November 2007 **Final Report** 

Environmental Evaluation/SEA for Energy Policies and Actions in UK



# **Regulatory Context**

Energy-related plans or programmes in England, Wales and North Ireland follow the requirements of the Environmental Assessment of Plans and Programmes Regulations 2004, the Environmental Assessment of Plans and Programmes Regulations (Wales) 2004 and the Environmental Assessment of Plans and Programmes Regulations (Northern Ireland) 2004 respectively, as such SEA should be carried out to integrate environmental considerations into the preparation and adoption of certain policy, plan or programme which is likely to have significant effects on the environment. This can be verified from Section 5 of the three regulations which states that the Act applies for those qualified policies, plans and programmes which are prepared for energy sector.

For those energy-related policies in England, Wales and North Ireland, the implementation of SEA is non-statutorily required, where environmental appraisal is governed by two frameworks: IPA and RIA.

Energy-related policy, plan or programme in Scotland follows the requirements of Environmental Assessment Act (Scotland) 2005 as such SEA should be carried out to integrate environmental considerations into the preparation and adoption of certain policy, plan or programme which is likely to have significant effects on the environment. This can be verified from Section 1 and 5 of the Act which states that the Act applies for those qualified policies, plans and programmes which are prepared for energy sector.

All details can be referred to the Section 12.2.

#### Other SEA Guidance

In view of a required part of SEA being the public consultation, there is a public consultation web site for SEA prior to any marine oil and gas activities such as the licensing for offshore energy in the UK.241 The Department of Trade and Industry (DTI), as the principal regulator of the offshore oil and gas industry, has taken a proactive stance on the use of SEA as a means of striking a balance between promoting economic development of the UK's offshore oil and gas resources and effective environmental protection.

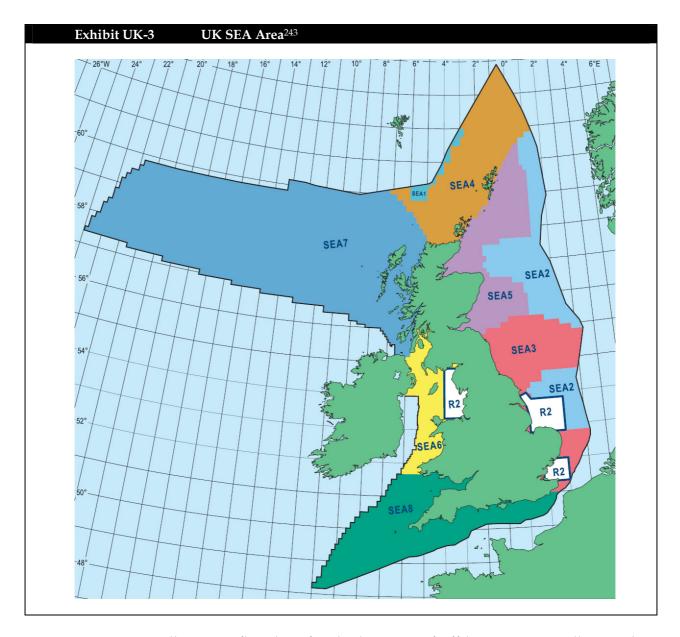
The DTI began a sequence of sectoral SEAs of the implications of further licensing of the UK Continental Shelf (UKCS) for oil and gas exploration and production in 1999. For this purpose the UKCS has been subdivided into 8 areas (see Exhibit UK-3). The SEA's must consider the whole of the marine environment despite the fact that some areas may not attract much attention from the offshore energy industries. Besides, the SEA must consider inshore areas, bays and inlets even though they are not currently available for licensing.

The DTI has been guided by the Offshore Energy SEA Steering Group, composed of departmental representatives and independent experts, to conduct SEA for the licensing

Referenced to the Environment UK, Agency http://www.environment-agency.gov.uk/aboutus/512398/1504325/1504417/830878/?version=1&lang=\_e



for offshore energy and offshore wind farm development.<sup>242</sup>

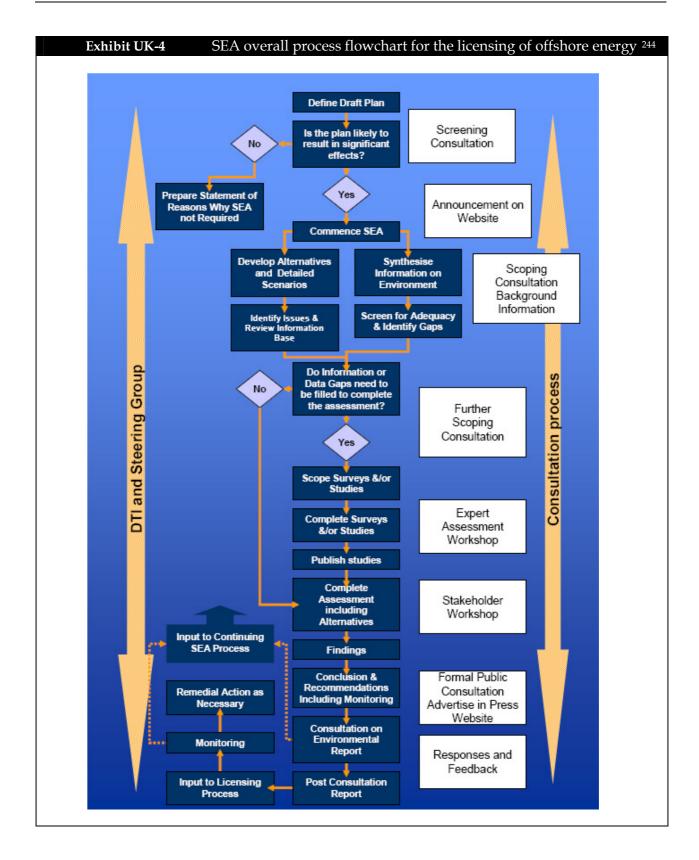


A SEA overall process flowchart for the licensing of offshore energy is illustrated in **Exhibit UK-4**.

<sup>243</sup> Source from the DTI SEA Consultation web site, http://www.offshore-sea.org.uk/site/scripts/sea\_archive.php

 $<sup>\</sup>begin{tabular}{llll} $^{242}$ & Referenced & to & the & DTI & SEA & Consultation & web & site, \\ $http://www.offshore-sea.org.uk/site/scripts/documents_info.php?categoryID=39\&documentID=5 \\ \end{tabular}$ 





 $<sup>^{244}\</sup> Source\ from\ SEA_6, http://www.offshore-sea.org.uk/consultations/SEA_6/SEA_6\_Section\_2\_web.pdf$ 

November 2007



A summary table for the energy policies and actions and SEA status in England, Wales and North Ireland is presented in Exhibit UK-6.

Enhibit IIV 2 Com	norm of Engage Policies and Astions and CEA status in HV				
Exhibit UK-2 Summary of Energy Policies and Actions and SEA status in UK (1) England					
(a) Energy Policies and Actions					
<b>Energy Policies and</b>	Policies:				
Actions	Energy White Paper: "Meeting the Energy Challenge"				
	Biomass Strategy				
	Actions:				
	UK Climate Change Programme (UKCCP)				
	Carbon Trust and the Energy Saving Trust				
	Energy Efficiency Action Plan 2007				
Guidance/Legislations	Renewables Obligation (England and Wales) Order 2006				
for Energy	(=-6				
	ental Evaluations / SEA Status in Energy Policies and Actions				
Type of Assessment	Strategic Environmental Assessment				
Requirement	Statutory				
Mechanisms					
Legislation for	Environmental Assessment of Plans and Programmes Regulations 2004				
Environmental					
Evaluation / SEA					
Applications	Plans and Programmes				
(2) Wales					
	licies and Actions				
<b>Energy Policies and</b>	Policies:				
Actions	<ul> <li>Energy White Paper: "Meeting the Energy Challenge"</li> </ul>				
	Biomass Strategy				
	Environment Strategy				
	Actions:				
	UK Climate Change Programme (UKCCP)				
	Carbon Trust and the Energy Saving Trust				
	Energy Efficiency Action Plan 2007				
Guidance/Legislations	Renewables Obligation (England and Wales) Order 2006				
in Energy	Reflewables Obligation (England and Wales) Order 2000				
	ental Evaluations / SEA Status in Energy Policies and Actions				
Type of Assessment	Strategic Environmental Assessment				
Requirement	Statutory				
Mechanisms	Statutory				
Legislation for	Environmental Assessment of Plans and Programmes Regulations (Wales)				
Environmental	2004				
Evaluation / SEA	2004				
Applications	Plans and Programmes				
(3) Northern Irela					
	licies and Actions				
Energy Policies and	Policies:				
Actions	Energy White Paper: "Meeting the Energy Challenge"				
	Biomass Strategy				
	<ul> <li>Energy Strategy for Northern Ireland</li> </ul>				
	Actions:				
	UK Climate Change Programme (UKCCP)				
	Carbon Trust and the Energy Saving Trust				
	Energy Efficiency Action Plan 2007				
	Energy Efficiency rection Flant 2007				
1					



November 2007

Guidance/Legislations	Renewables Obligation Order (Northern Ireland)			
for Energy				
(b) Environmental Evaluations / SEA Status in Energy Policies and Actions				
Type of Assessment	Strategic Environmental Assessment			
Requirement	Statutory			
Mechanisms				
Legislation for	Environmental Assessment of Plans and Programmes Regulations (Northern			
Environmental	Ireland) 2004			
Evaluation / SEA				
Applications	Plans and Programmes			

A summary table for the energy policies and actions and SEA status in Scotland is presented in Exhibit UK-7.

Exhibit UK-7 Summary of Energy Policies and Actions and SEA Status in Scotland (a) Energy Policies and Actions				
<b>Energy Policies and</b>	Policies:			
Actions	Energy White Paper: "Meeting the Energy Challenge"			
	Biomass Strategy			
	Actions:			
	Scottish Climate Change Programme (SCCP)			
Guidance/Legislations	Renewables Obligation (Scotland) Order 2006			
for Energy				
(b) Environmenta	al Evaluations / SEA Status in Energy Policies and Actions			
Type of Assessment	Strategic Environmental Assessment			
Requirement	Statutory			
Mechanisms				
Legislation for	Environmental Assessment Act (Scotland) 2005			
Environmental				
Evaluation / SEA				
Applications	Polices, Plans and Programmes			

Final Report November 2007



#### 12.4 Analysis and Conclusions

In the UK, the government published the "Energy White Paper" mainly to deal with energy challenges like cutting down carbon dioxide emissions and maintaining the reliability of energy supplies. Practical measures such as the extension of smart metering to most business premises and the improvement of the efficiency of consumer electronics and domestic appliances at home are included, in order to achieve the government's aims in energy section. Another important component in the "Energy White Paper" is to tackle climate change. The government launches the Climate Change Programme that sets out policies and measures to cut the emissions of greenhouse gases in the UK. It also explains how the UK plans to adapt to the impacts of climate change.

In Hong Kong, there has been the discussion on the need of the development of a comprehensive energy policy for Hong Kong since 2005. The objectives of the existing energy policy in Hong Kong is to ensure that the energy needs of the community are met safely, efficiently and at reasonable prices; and to minimize the environmental impact of energy production and use and promote the efficient use and conservation of energy. In view that Hong Kong is such a small place but with high population density, it would be beneficial for Hong Kong to continuously formulating energy policies on a secure energy supply and sustainable energy use in Hong Kong. While the UK government puts great efforts to tackle climate change, some of the measures would be feasible for the Hong Kong government to make reference, e.g. energy performance certificates for business premises, promotion of zero-carbon buildings and low carbon transport, etc. According to the Policy Address 2007-2008, the Hong Kong government plans to consult the public on the proposed mandatory implementation of the Building Energy Codes by means of legislation. Besides, the government will start planning for the second phase of the Energy Efficiency Labelling Scheme for household electrical appliances.

Regarding the requirements on the Environmental Evaluation/SEA in the UK, it is a statutory requirement for England, Wales and Northern Ireland to carry out SEA for certain plans and programmes which are likely to have significant effects on the environment since July 2004. The relevant regulations for the three countries are the Environmental Assessment of Plans and Programmes Regulations 2004, the Environmental Assessment of Plans and Programmes Regulations (Wales) 2004 and the Environmental Assessment of Plans and Programmes Regulations (Northern Ireland) 2004 respectively. According to Section 5 of the above three regulations, it is stated that the Act applies for those qualified policies, plans and programmes which are prepared for energy sector.

For the SEA of policies in England, Wales and North Ireland, the implementation of SEA is non-statutorily required, where environmental appraisal is governed by two frameworks: IPA and RIA.

In Scotland, the statutory requirement for the implementation of SEA is governed by the Environmental Assessment Act (Scotland) 2005 which came into force on 20 February 2006. It applies to the SEA for the plans and programmes, including strategies. According to Section 1 and 5 of the Act, it is stated that the Act applies for those





qualified policies, plans and programmes which are prepared for energy sector.

As public consultation is a key part in the UK SEA process, the DTI manages a SEA web site which details all the SEA issues for the marine oil and gas activities such as the licensing for offshore energy in the UK.

In Hong Kong, such practice of public consultation through the Internet is extensively adopted by the government for the presentation of the proposal details and for the collection of public opinions. Using the Internet for public consultation facilitates participation in active policy development as it makes it possible for citizens to be involved in the successive steps of the process, and not just the information gathering phase. It also provides an opportunity to give feedback to the stakeholders about their input.



# 12.5 Examples of Energy Policies/Actions or their Environmental Evaluation/SEA

Example UK-1	Offshore Wind Energy Strategic Environmental Assessment 245
Type of Study	Strategic Environmental Assessment (The report was prepared in line with the requirement of the SEA Directive (27 June 2001). Although this Directive is not in effect in 2003 in UK, the Department of Trade and Industry (DTI) aims to follow its requirements in this exercise.)
Description of Study	The development of wind energy generation mainly leads to the requirement of reducing emissions of greenhouse gases. This SEA was undertaken for the proposed development of offshore windfarms in three Strategic Areas. The time scale under the assessment is from 2003 to 2020. Conclusions were drawn with respect to (i) the overall capacity of the three Strategic Areas to accommodate the windfarm development programme and the favorable scales of the windfarm development; (ii) Strategic Area capacity to accommodate the development scenarios and how best to achieve them with respect to particular scales of windfarm development.
Summary of	Two development scenarios including the 'most likely' and 'maximum credible'
Alternatives	development scenarios (differ in the number of turbines and power output) plus the 'no development' scenario were considered and their potential impacts were assessed by comparative analysis.
Scope of	The evaluation parameters considered in the study include:
Assessment/	Coastal and offshore process
Study	<ul> <li>Benthic environment</li> <li>Fishery resource impacts</li> <li>Noise and vibration impacts</li> <li>Electric field impacts</li> <li>Landfall impacts</li> <li>Regional, national and international scale impacts</li> <li>Impacts on conservation designations</li> <li>Seascape/landscape issues</li> <li>Socio-economic issues</li> <li>Birds</li> </ul>
Environmental Measures	<ul> <li>Mitigation measures can be divided broadly into the following main types:</li> <li>Preventing or minimising impacts before they occur by limiting the extent or timing of an action and its implementation</li> <li>Eliminating or reducing an actual impact over time by maintenance or contingency planning operations during the life of the project</li> <li>Rectifying an impact by repairing, rehabilitating or restoring the affected environment</li> <li>Compensating for an impact by replacing or providing substitute resources or environments</li> <li>Maximising beneficial impacts through specific additional actions</li> </ul>
Outcome of Study	<ul> <li>The 'most likely' development scenario, to 2010, is achievable for each Strategic Area without coming into significant conflict with the main significant impact risks.</li> <li>The 2020 'most likely' development scenario and the 2010 'maximum credible' scenario would only be achievable subject to resolving the uncertainties</li> </ul>

<sup>&</sup>lt;sup>245</sup> SEA web site: <a href="http://www.og.dti.gov.uk/offshore-wind-sea/index.htm">http://www.og.dti.gov.uk/offshore-wind-sea/index.htm</a> The texts in the table were referenced to the document "Offshore Wind Energy Generation: Phase 1 Proposals and Environmental Report (2003)", <a href="http://www.og.dti.gov.uk/offshore-wind-sea/process/phase1\_env\_report.pdf">http://www.og.dti.gov.uk/offshore-wind-sea/process/phase1\_env\_report.pdf</a>, pages 1-1, 5-1 to 5-5, 5-12, 9-1 to 9-5, 9-62 to 9-64, 10-15, 12-3, 13-1 to 13-2

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Concerning impacts on physical processes, birds, elasmobranchs and cetaceans.
 Fewer large windfarms located offshore are generally preferred against several small-scale developments, though the latter would be preferable for development closer to the coast.

Example UK-2	Scottish Marine Renewables: Strategic Environmental Assessment 246
Type of Study	Strategic Environmental Assessment (Required statutorily under Environmental
Type of Study	Assessment Act (Scotland) 2005)
Description of	This SEA was undertaken for the Scottish Executive to examine the potential
Study	<ul> <li>environmental effects of developing wave and tidal devices off the west and north coasts of Scotland. The main objectives of the SEA are:</li> <li>To assess the potential environmental effects for establishing 1,300MW of marine renewable energy capacity around Scotland by 2020;</li> </ul>
	<ul> <li>To advise and support the Scottish Executive in the development and implementation of its strategy for marine renewable energy and informing future development of planning guidance for marine developers;</li> <li>To inform the project-level decision-making process for all stakeholders,</li> </ul>
	regulators and developers; and  To facilitate focused investment into the marine renewable energy sector in Scotland.
	The SEA considered the wave and tidal technologies including shoreline wave,
Summary of	nearshore and offshore wave, and tidal stream.
Alternatives	No alternatives were considered in the study.
Scope of	The evaluation parameters considered in the study include:
Assessment/	Marine Birds – including marine noise
Study	Marine Mammals – including marine noise
	Benthic Ecology
	Fish and Shellfish – including marine noise
	Commercial Fisheries
	Shipping and Navigation
	Seascape
	Recreation and Tourism
	Marine and Coastal Historic Environment
	Onshore Grid Connections
	Protected Sites and Species
	Geology and Energy Extraction (Metocean Processes)
	Seabed Contamination and Water Quality
	Disposal areas
	Cables and Pipelines
	Military Exercise Areas
	Electric and Magnetic Fields

The whole Environmental Report can be found from the link: <a href="http://www.seaenergyscotland.net/SEA\_Public\_Environmental\_Report.htm">http://www.seaenergyscotland.net/SEA\_Public\_Environmental\_Report.htm</a> The texts in the table were referenced to <a href="http://www.seaenergyscotland.net/public\_docs/ER\_SECTION\_A\_&\_FrontCover\_MAR07.pdf">http://www.seaenergyscotland.net/public\_docs/ER\_SECTION\_A\_&\_FrontCover\_MAR07.pdf</a>, page 22, and <a href="http://www.seaenergyscotland.net/public\_docs/ER\_NTS\_FINAL\_MAR07.pdf">http://www.seaenergyscotland.net/public\_docs/ER\_NTS\_FINAL\_MAR07.pdf</a>, pages 4-8



#### Example UK-2 Scottish Marine Renewables: Strategic Environmental Assessment 246

# **Environmental Measures**

Some of the mitigation measures are presented as follows:

- Avoid sensitive sites/species/periods to reduce effects of disturbance, smothering, substratum loss, decrease in water flow and decrease in wave exposure.
- Minimise depth of piling, use cable and device installation methods that minimise sediment re-suspension.
- Minimise the use of high noise emission activities such as impact piling to reduce the marine noise effect
- Use of acoustic deterrent devices and protective netting or grids to reduce the effect of collision risk.

Detailed mitigation measures for impacts are listed in Sections C2.8, C4.6, C5.5 C6.6, C7.7, C8.6, C9.6, C10.7, C11.7, C12.7, C13.7, C14.6, C15.5, C16.7, C17.9, C18.8, C19.5, C20.9 and C21.7 of the report.

# Outcome of Study

The SEA showed that it may be possible to meet the proposed target of 1,300MW of marine renewable energy generating capacity with minor effects on the environment, although there are notable gaps in the knowledge. Furthermore, the likelihood of the more significant effects is very dependent on the particular characteristics of the projects being developed (including the effective use of mitigation measures), in combination with the locations where they are being deployed.

A key issue for the future development of marine renewable energy is, therefore, how to promote individual projects while minimising their environmental effects. Based on the results of this SEA, the key issues for consideration are (i) site location, (ii) site specific surveys and studies, (iii) device characteristics, (iv) the need for monitoring of the projects, (v) mitigation measures, and (vi) current licensing.

The SEA has identified a number potential environmental effects associated with marine energy developments. These effects were identified for individual marine energy devices and device arrays as well as the potential cumulative effects of developing a number of arrays within the SEA study area as part of the growth of the marine energy industry.

There are two key areas where increased understanding would improve the accuracy and confidence of the assessment of effects. These include filling the gaps in the baseline data and improving our understanding on how marine devices interact with the environment.



Example UK-3	SEA5 - Offshore Oil and Gas Licensing, 2004 247
Type of Study	Strategic Environmental Assessment (Required statutorily under SEA Directive)
Description of Study	In 1999, the UK Department of Trade and Industry (DTI) began a sequence of sectoral SEAs considering the implications of further licensing of the United Kingdom Continental Shelf (UKCS) for oil and gas exploration and production. The purpose of this SEA is to integrate environmental considerations into the DTI's draft plan to offer for offshore oil and gas licensing, areas to the east of the Scottish mainland, Orkney and Shetland. The draft plan proposed by the DTI is to invite applications for and to offer Production Licenses for hydrocarbon exploration and production in the marine areas of SEA 5 in a 23rd round of UKCS licensing.
Summary of	The alternatives considered in the study include:
Alternatives	Not to offer any blocks for Production License award
	To proceed with the licensing programme as proposed  To proceed with the area licensed to proposed.
Scope of	To restrict the area licensed temporally or spatially  The avaluation parameters considered in the study include:
Scope of Assessment/	The evaluation parameters considered in the study include:  • Geology & substrates
Study	Climate & meteorology
Study	Oceanography & hydrography
	Plankton
	Benthos
	Cephalopods
	Marine reptiles
	Fish and shellfish
	Seabirds & coastal waterbirds
	Seals & cetaceans
	Potential offshore conservation sites
	Noise
Environmental	Mitigation measures during seismic survey:
Measures	• Strictly follows relevant regulations for offshore petroleum activities such that oil and gas activities shall not deliberately disturb any creature nor cause
	deterioration or destruction of breeding sites or resting places.
	<ul> <li>Strictly follows relevant guidelines for minimising acoustic disturbance to</li> </ul>
	marine mammals from seismic surveys.
	Mitigation measures to minimise effects on shipping and fisheries:
	• Strictly follows the statutory requirements to obtain consents to locate rigs
	and other facilities from regulatory agencies, advisers and national fisheries
	representative bodies.
	To establish guidelines for fisheries liaison and implement compensation
	mechanisms for gear damage.
	• In order to reduce the risk of fishery interactions, pipeline routes, locations of
	surface installations and subsea structures will be notified to fishermen and
	other mariners through direct liaison at national and local levels and the
	established mechanisms

<sup>&</sup>lt;sup>247</sup> The whole document can be found from this link:

http://www.offshore-sea.org.uk/site/scripts/book\_info.php?consultationID=5&bookI=6 The texts in the table were referenced to <a href="http://www.offshore-sea.org.uk/consultations/SEA\_5/SEA5\_Nontechnical\_Summary.pdf">http://www.offshore-sea.org.uk/consultations/SEA\_5/SEA5\_Nontechnical\_Summary.pdf</a>, pages 1, 2, 20, <a href="http://www.offshore-sea.org.uk/consultations/SEA\_5/SEA5\_Section\_1.pdf">http://www.offshore-sea.org.uk/consultations/SEA\_5/SEA5\_Section\_1.pdf</a>, pages 1-2,

http://www.offshore-sea.org.uk/consultations/SEA\_5/SEA5\_Section\_2.pdf, page 7-8 & 12,

http://www.offshore-sea.org.uk/consultations/SEA\_5/SEA5\_Section\_4.pdf, pages 25-26,

http://www.offshore-sea.org.uk/consultations/SEA\_5/SEA5\_Section\_10.pdf, pages 171-172, 179, 183, 186, 189, 205, 208-215, and http://www.offshore-sea.org.uk/consultations/SEA\_5/SEA5\_Section\_12.pdf, pages 225-259, 262



Example UK-3	SEA5 - Offshore Oil and Gas Licensing, 2004 247
	Mitigation measures for oil spill:
	• The required measures include spill prevention, containment measures, risk assessment and contingency planning.
	Risk assessment for specific activities should take particular note of seasonal variations in seabird vulnerability and seal moulting/pupping periods
Outcome of	The overall conclusion of the SEA is that there are no overriding reasons to
Study	preclude the consideration of further oil and gas licensing within the SEA5 area or of blocks within areas covered by previous oil and gas SEAs.
	After consideration of the nature of the area and the potential effects and benefits
	of 23rd round licensing both in isolation and in the context of existing activities in the adjacent area, Alternative 3 is considered as the preferred option such that the
	DTI will proceed with licensing by restricting the area licensed temporally or spatially.

Example UK-4	SEA6 - Strategic Environmental Assessment of Draft Plan for A 24th Seaward			
_	round of offshore oil and Gas Licensing 248			
Type of Study	Strategic Environmental Assessment (Required statutorily under SEA Directive)			
Description of	Department of Trade and Industry (DTI) is responsible for licensing exploration			
Study	and regulating developments in UK's oil and gas resources. In 1999, it			
	commenced an SEA process for off-shore energy with a sequence of sectoral SEAs			
	(SEA1 to SEA8) of the implications of further licensing for oil and gas exploration			
	and production. This SEA6 focuses on the effects of licensing on the environment			
	for the oil and gas exploration and production activities within the SEA6 area.			
	This SEA considers the environmental implications of the potential exploration,			
	development and production activities which could result from its			
	implementation.			
	This SEA 6 is the consideration of DTI's draft plan for a 24th offshore oil and gas			
	licensing round to offer blocks for oil and gas licensing in parts of the Irish Sea.			
	The SEA 6 proposed re-offer during the same licensing round, of currently			
	unlicensed blocks in the areas covered by earlier offshore oil and gas SEAs.			
Summary of	The alternatives considered in the study include:			
Alternatives	Not to offer any blocks for Production Licence award			
	To proceed with the licensing programme as proposed  To proceed with the proceed to proceed to the proceed			
C	To restrict the area licensed temporally or spatially  The restrict transport of the standard for the s			
Scope of Assessment/	The evaluation parameters considered in the study include:			
Study	Geology, substrates and shoreline types			
Study	Climate and meteorology     Occapagraphy and by drography			
	<ul> <li>Oceanography and hydrography</li> <li>Contamination of water and sediments</li> </ul>			
	Regional overview			
	Regional overview     Plankton			
	Benthos			
	• Dentitos			

 $<sup>^{248}\,</sup>$  Full report can be found in this link,

http://www.offshore-sea.org.uk/site/scripts/book\_info.php?consultationID=6&bookID=7 The texts in the table were referenced to http://www.offshore-sea.org.uk/consultations/SEA\_6/SEA\_6\_Section\_1\_web.pdf, Pages 2 & 3, http://www.offshore-sea.org.uk/consultations/SEA\_6/SEA\_6\_Section\_4\_web.pdf, Page 2, http://www.offshore-sea.org.uk/consultations/SEA\_6/SEA\_6\_Section\_9\_web.pdf, Page 14, and http://www.offshore-sea.org.uk/consultations/SEA\_6/SEA\_6\_Section\_11\_web.pdf, Pages 1 & 2



Example UK-4	SEA6 - Strategic Environmental Assessment of Draft Plan for A 24th Seaward round of offshore oil and Gas Licensing 248
	<ul> <li>Cephalopods</li> <li>Fish</li> <li>Marine reptiles</li> <li>Seabirds and coastal water birds</li> <li>Marine mammals</li> </ul>
Environmental Measures	Mitigation measures for marine noise include strictly following the relevant guidelines for minimising acoustic disturbance to marine mammals from seismic surveys, using passive acoustic monitoring prior to seismic testing to determine if animals are in the vicinity, using the consent procedure to manage cumulative effects, and providing some degree of protection from acute effects.  Mitigation measures for wastes to shore include using environmental management for the treatment and disposal during cuttings for both onshore and offshore, and using cuttings cleaning technologies to reduce oil on cuttings
Outcome of Study	The overall conclusion of SEA 6 is that there are no overriding reasons why the DTI should not adopt the plan to hold this round of offshore oil and gas licensing, subject to effective mitigation being implemented for the sensitive habitats or species.  It is recommended that the DTI proceed with licensing under Alternative 3. Within the SEA6 area, although the importance of various populations and features is recognised, no specific areas have been identified for exclusion since individual project consenting is regarded as able to deliver adequate mitigation through spatial, temporal and operational controls. However, previous SEAs had identified a few areas recommended for exclusion from licensing on environmental grounds or until better information becomes available. These recommended exclusions remain valid for the consideration of the blocks to be included in the 24th licensing round.