

## 18. GERMANY

### 18.1 Energy Policies and Actions

Since 2002, Germany has maintained its commitment to the “3 Es” of good energy policy, including energy security, economic efficiency and environmental sustainability. Germany has continued to reform its electricity and natural gas markets, and set a timetable to phase out coal subsidies, in order to meet key climate and environmental targets.

The three key policy challenges are the phase-out of nuclear power, energy market reform and climate change policy.

#### Nuclear phase-out

Under an agreement negotiated between the government and the utilities in 2000, nuclear power stations will be progressively shut down as they age – with complete shut-down of all plants estimated to occur by 2022. Regardless of how nuclear power is replaced, the early shut-down of these plants comes at a cost to energy security, economic efficiency and environmental sustainability, the tenets of Germany’s energy policy. In the context of Germany’s ambitious targets to reduce the negative environmental impacts of energy production, the shut-down of nuclear power plants might have the biggest effect on its environmental goals.

#### Energy market reform

To enhance economic efficiency, Germany installed an energy market regulator in 2005 to make significant progress to reform its pivotal electricity and natural gas markets. It aims to increase the regulator’s power so that it can ensure open access for new entrants and create robust and competitive energy markets. In addition, the government also works to effectively watch over the market so as to make sure market participants are behaving fairly. A government agreement has also been reached to complete the phase out of hard coal subsidies by 2018, but necessary task as sustaining uneconomic hard coal production distorts the coal market and diverts economic resources better used elsewhere to the benefit of the German economy.

#### Climate change policy

Germany is working to meet many targets and objectives that will lower the negative environmental impacts of energy use, especially its contribution to climate change. The country is well on its way to achieve its Kyoto Protocol target of a 21% reduction in greenhouse gas emissions in 2012 compared to 1990. In addition to this international target, the country took on the European Union target to have renewables provide 4.2% of primary energy supply by 2010, which it surpassed in 2006.

Growth of renewables has been rapid and biofuels are reducing the country’s reliance on imported oil. The government has set ambitious energy efficiency targets and research funding for renewables and efficiency. Linking economic efficiency and environmental sustainability, Germany is giving the private sector the ability to meet its

greenhouse gas commitments at a lower cost by starting to expand the use of international purchases, at the same time helping to drive the international market for carbon reductions.

The country is also on track to meet its domestic goal of producing 12.5% of electricity from renewable sources by 2010. Finally, the government has set an ambitious domestic target to double energy productivity – a measure of economic output per unit of energy – between 1990 and 2020. Taken together, these targets and the impressive progress towards adhering to them underscore the importance of environmental sustainability to Germany.<sup>329</sup>

In the sustainable energy policy for the next 25 years, the Federal Environment Agency of Germany has a long term climate protection policy, introducing the measures on how 40% (by 2020) and then 50% (by 2030) of greenhouse gas emissions in Germany can be prevented. The need for actions are in the areas of energy saving, energy production, renewable energies, transport, and agriculture.<sup>330</sup>

### Renewable energy policy

According to the German Sustainability Report from 2004, renewable energies should account for 4.2% of the primary energy consumption by 2010, 10% by 2020 and 50% by 2050. A range of instruments is used by the federal government to support the deployment of renewable energy sources. These instruments include investment aids, soft loans, tax allowances and the renewable legislative framework.

- (i) Investment aids and soft loans  
The “100,000-roof photovoltaics programme” was aimed at installing 300 MWp of photovoltaic systems on the roofs of Germany. Besides, the “market incentive programme” focused on the promotion of the utilisation of renewable energy sources for heat generation and combined heat and power generation, as well as the re-activation of hydro power plants.
- (ii) Tax allowances  
Although electricity produced from RES is subject to full taxation, no mineral oil tax is levied on biodiesel.
- (iii) Renewable legislative framework  
The Renewable Energy Sources Act was first passed in 2000 and aimed at promoting renewable energy technologies, and grants fixed tariffs for electricity that was produced exclusively from renewable energy sources.<sup>331</sup>

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<sup>329</sup> Referenced to “Energy Policies in IEA Countries – Germany”,  
<http://www.iea.org/textbase/npsum/Germany2007sum.pdf> (from  
[http://www.iea.org/Textbase/publications/free\\_new\\_Desc.asp?PUBS\\_ID=1922](http://www.iea.org/Textbase/publications/free_new_Desc.asp?PUBS_ID=1922))

<sup>330</sup> Referenced to the web site of German Federal Environment Agency,  
<http://www.umweltbundesamt.de/energy/index.htm>

<sup>331</sup> Source: Recommendation on a future harmonization of Renewable energy policy in the European Community,  
[http://board.erm.tu-cottbus.de/index.php?id=151&no\\_cache=1&file=207&uid=207](http://board.erm.tu-cottbus.de/index.php?id=151&no_cache=1&file=207&uid=207)

## 18.2 Environmental Evaluation/SEA in Germany

In Germany, the EU Directive 2001/42/EC (also known as SEA Directive) was implemented by two legal acts into the German federal laws:

- concerning specific provisions on urban land use planning, regional and spatial planning by law of the 24 June 2004 that inter alia amended the Federal Building Code and entered into force on the 20 July 2004;
- concerning the implementation of the SEA Directive 2001/42 in general by law of the 25 June 2005, that inter alia amended the Federal EIA Act<sup>332</sup> and entered into force on the 29 June 2005.<sup>333</sup>

The above two legal acts in the German federal law provide statutory requirement that SEA has to be implemented for plans and programmes, but excluding policies.

Under German federal law:

- (i) SEA is required in each case for:
  - transport plans at federal level;
  - “extension plans for airports”;
  - flood protection plans;
  - programs of measures according to the Water Framework Directive;
  - spatial planning and regional planning;
  - federal Spatial plans for the German exclusive economic zones of the North Sea and the Baltic Sea;
  - determination of special suitable areas for offshore wind farms;
  - urban land use plans (preparatory land use plans and legally binding land use plans); and
  - landscape plans.
- (ii) SEA is required for the following plans or programmes if they set the framework for future development consent for projects listed in Annexes I and II to Directive 85/337/EEC<sup>334</sup>:
  - noise action plans;
  - air quality improvement plans;
  - waste management concepts prepared by authorities; and
  - waste management plans.
- (iii) SEA is also required for plans and programmes according to Article 3 para. 2 of

<sup>332</sup> EIA Act, <http://www.bmu.de/files/pdfs/allgemein/application/pdf/uvpg.pdf>, originated from the web site of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

<sup>333</sup> Extracted from the proceedings of the 4<sup>th</sup> seminar of the PlanNet Europe network on SEA of urbanism plans and programs, by the Ministry of the Brussels-Capital-Region North Communication Centre (CCN) Brussels, [http://plannet.difu.de/2005/proceedings/2005\\_plannet-proceedings.pdf](http://plannet.difu.de/2005/proceedings/2005_plannet-proceedings.pdf), page 317 (Annex 4E – Germany)

<sup>334</sup> Annexes I and II to Directive 85/337/EEC (on the assessment of the effects of certain public and private projects on the environment as amended by Council Directive 97/11/EC) can be found at the link: <http://www.lemma.ulg.ac.be/research/suit/ConsolDir.pdf>

the SEA Directive.<sup>335</sup>

According to the Federal Building Code, urban land use plans are exempted of SEA only if:

- amendments of these plans have no influence on the principal features of the existing plan or if:
- building schemes only describe the status quo of existing land use patterns.

The general steps in practice to implement SEA are:

- Screening;
- Scoping;
- Preparing the environmental report;
- Consultations;
- Revision of the environmental report;
- Decision making (taking into account the environmental report, and the opinions expressed during consultations including transboundary consultations);
- Information of the authorities involved and the public according to Article 9 of Directive 2001/42/EC;
- Monitoring.<sup>336</sup>

The 16 Länder in Germany had to implement SEA through their own laws, since the federal acts only constituted a framework. There were bills in most of the Länder. Draft guidelines have been released for transport planning. For spatial/land use planning, guidance includes:

- Guidance on how to adapt the Federal Construction Act with new EU Directives
- Recommendations of the Federal Ministry for the Environment, Nature Protection and Nuclear Safety for direct implementation of the SEA Directive through the Länder
- The Environmental Report in Practice covering statutory local land use plans and master plans<sup>337</sup>

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<sup>335</sup> SEA Directive Article 3 para. 2 can be referred to the link,

<http://www.environ.ie/en/Publications/Environment/Miscellaneous/FileDownload,1805,en.pdf>, page 9

<sup>336</sup> Extracted from the proceedings of the 4<sup>th</sup> seminar of the PlanNet Europe network on SEA of urbanism plans and programs, by the Ministry of the Brussels-Capital-Region North Communication Centre (CCN) Brussels, [http://plannet.difu.de/2005/proceedings/2005\\_plannet-proceedings.pdf](http://plannet.difu.de/2005/proceedings/2005_plannet-proceedings.pdf), page 320 (Annex 4E - Germany)

<sup>337</sup> <http://www.laum.uni-hannover.de/uvp/aktuell/SEAINMS2006.pdf>, page 5

### 18.3 Environmental Evaluation/SEA on Energy Policies and Actions in Germany

In Germany, the SEA Directive was implemented by two legal acts into the German federal laws. It is a statutory requirement that SEA has to be implemented for plans and programmes including energy sector.

Details of the requirements should refer to section 18.2.

Under German federal law, SEA is required in each case for determination of special suitable areas for offshore wind farms, which is related to energy policy proposals.

There was development of recommendations for the implementation of SEAs for offshore wind farms and in the North and Baltic Seas. The basis for these SEAs is the EU SEA Directive which had been implemented into the German federal law since 2004. The SEAs include the assessment of the ecological impacts on relevant species and natural habitats resulting from wind power development. In addition, various alternatives for the development of wind farms in the North and Baltic Seas were looked at comprehensively and at an early stage in the SEA.<sup>338</sup>

A summary table for the energy policies and actions and SEA status in Germany is presented in **Exhibit GM-1**.

Exhibit GM-1 Summary of Energy Policies and Actions and SEA Status in Germany	
<b>(a) Energy Policies/ Actions</b>	
<b>Energy Policies and Actions</b>	Policies: <ul style="list-style-type: none"> <li>● Nuclear phase-out</li> <li>● Energy market reform</li> <li>● Climate change policy</li> <li>● Renewable energy policy</li> </ul> Actions: <ul style="list-style-type: none"> <li>● 100,000-roof photovoltaics programme</li> <li>● market incentive programme</li> </ul>
<b>Guidance/Legislations in Energy</b>	Renewable Energy Sources Act
<b>(b) Environmental Evaluations / SEA Status in Energy Policies and Actions</b>	
<b>Type of Assessment</b>	Strategic Environmental Assessment
<b>Requirement Mechanisms</b>	Statutory
<b>Legislation for Environmental Evaluation / SEA</b>	<ul style="list-style-type: none"> <li>● Federal Building Code (2004)</li> <li>● Federal EIA Act (2005)</li> </ul>
<b>Applications</b>	Plans and Programmes

<sup>338</sup> Referenced to the web site of Germany Environmental Consultant , BioConsult, [http://www.bioconsult-sh.de/en/projekte/e\\_sup.html](http://www.bioconsult-sh.de/en/projekte/e_sup.html)

## 18.4 Analysis and Conclusions

The Germany government has maintained a good energy policy and continued to reform its electricity and natural gas markets, and set a timetable to phase out coal subsidies, in order to meet key climate and environmental targets. There are three key policy challenges: phase-out of nuclear power, energy market reform and climate change policy. The climate change policy has been implemented mainly due to the Kyoto Protocol targets of reducing greenhouse gas emissions. The federal government also supports the deployment of renewable energy sources by using investment aids, soft loans, tax allowances and the renewable legislative framework.

While Germany has put great efforts on tackling the global problem of climate change, the Hong Kong government has also addressed the promotion and development of renewable energy which can prevent the production of carbon dioxide and other greenhouse gases. In particular, the government has approved funding to undertake a comprehensive study to investigate the viability of using renewable energy technologies in Hong Kong.

With regard to the requirements of the Environmental Evaluation/SEA in Germany, the SEA Directive was implemented by two legal acts in the German federal law, including Federal Building Code and Federal EIA Act, that SEA has to be implemented for plans and programmes statutorily.

While the two SEA acts in Germany are legally binding, there are also two systems for SEA in Hong Kong, including an administrative requirement and a statutory requirement under Schedule 3 of the EIA Ordinance. In view that Hong Kong has an increasing evolvement of policies, plans and programmes in different sectors, it would be a good chance for Hong Kong to extent the application of SEA by enhancing its SEA system and providing specific guidelines referenced to other countries.



Germany is fostering a boom in the solar technology market<sup>339</sup>



Wind farm in North Germany<sup>340</sup>

<sup>339</sup> Source: <http://www.min-economia.pt/innerPage.aspx?idCat=51&idMasterCat=13&idLang=1>

<sup>340</sup> Source: <http://commons.wikimedia.org/wiki/Image:Windfarm.jpg>

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

<b>Example GM-1 Plan of the German Government on the Use of Off-shore Wind Energy 2002 <sup>341</sup></b>	
<b>Description of the Plan</b>	<p>The State Secretary Committee for Sustainable Development commissioned the Federal Ministry of Environment to develop and implement this plan in order to solve existing conflicts between the protection and use of energy resources and to speed up the licensing procedures. This plan also aims at establishing the frame conditions for making use of off-shore wind energy as soon as possible; as the German government assumes that renewable energies will be competitive in the long-run without needing subsidies.</p> <p>The potentially suitable areas for offshore wind energy proposal include North Sea and Baltic Sea. In these regions, a total capacity of 3,425 MW to 6,650 MW can be reached by 2010 on the basis of the present conditions.</p>
<b>Mechanism of the Plan</b>	<p>The German Government's Investment Programme for the Future has initiated research and development of environmentally sound energy sources in the field of non-nuclear energy use with a focus on using offshore wind energy.</p> <p>The plan will also be introduced to the public in a marketing campaign and discussed with different interested parties. The latest findings of the research project shall be continuously forwarded to the discussion process. Thus the introduction of offshore wind energy as part of the energy supply in Germany can be put on a sound basis and existing barriers overcome.</p>
<b>Expected Outcome of the Plan</b>	<p>Through this plan, the German Government hopes to double the share of renewable energies by the year 2010. With 2000 as the base year, this means that by 2010 renewable energies will make up 12.5 % of the total future energy generation.</p>

<sup>341</sup> Extracted from "Strategy of the German Government on the use of off-shore wind energy", <http://www.bmu.de/files/pdfs/allgemein/application/pdf/offshore.pdf>, Pages 1, 15-19, 22, 26