

## 15. NORWAY

### 15.1 Water Resources Management Policies and Actions

Norway has many rivers and waterfalls. This abundance of water, suggest that supply is more than adequate for domestic, agricultural and industrial uses in almost all parts of the country and at all times. These are very important to both commercial interests and community purposes such as outdoor recreation. Use of water resources for agriculture is a central issue. Agriculture occupies a special position for the use of river systems. Important applications include irrigation and drinking water, property boundaries and natural barriers for livestock. The main policy governing the use of fresh water resources is the Water Resources Act in 2000.<sup>243</sup>

#### Water Resources Act

This Act came into effect in January 2001 and is related to river systems and ground water. The Act intends to ensure the river systems and groundwater are managed in accordance with the interests of the community. It is resource-oriented and it takes a balanced view between natural resources and users. The main objectives of the Water Resources Act are to promote sustainable development and to maintain biological diversity and natural processes in river systems.

The Act also introduces a licensing system, which is for the measures subject to the legislation on water resources. The requirement to obtain a license pursuant to this Act applies to all types of works which might cause significant damage or nuisance to community interests. Licenses were generally only needed for hydropower development. However in recent years, this requirement has been interpreted more widely, so that other works which involve possible damage or nuisance, such as major water supply, drainage projects and the abstraction of water for fish farm, have also become subject to the licensing process. To conclude, nobody can initiate works in watercourses that may cause any significant damage or inconvenience to public interests or in the sea without obtaining a license. More information can be found in section 15.3. **Exhibit NO-1** shows the procedures of licensing.

The Water Resources Act includes more comprehensive provisions on administrative procedures for license applications. It was decided that the competent authorities remained the same as before the Water Resources Act came into force, and as a result, large-scale hydropower projects would not transfer authority. However, authority to issue licenses for projects of more regional or local interest could be delegated to the county governor or local authority.<sup>244</sup>

#### Implementation of EU Water Framework Directive (WFD)

The WFD is not considered to confer any need for new or changed statutes in Norway.

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<sup>243</sup> Extracted from "Facts 2006 Energy and Water Resources in Norway",  
<http://www.regjeringen.no/upload/kilde/oed/bro/2006/0004/ddd/pdfv/287583-kap.10.pdf>, page 113-114

<sup>244</sup> Referenced to "Facts 2006 Energy and Water Resources in Norway",  
<http://www.regjeringen.no/upload/kilde/oed/bro/2006/0004/ddd/pdfv/287583-kap.10.pdf>, Pages 2-5

It places greater emphasis on biological conditions and deviations from natural states, rather than on analyses of total emissions and chemical content of water. The implementation of the WFD has been controlled by a Ministerial Group and a Directorate Group. In October 2004, the Ministry of the Environment was appointed responsibility for the overall coordination of implementation of the WFD in the country. The county administrator was appointed as coordinating authority at regional level. The proposed regulations for frameworks for management that will implement the Directive in Norwegian law were sent on 24 November 2005 to general hearing from the Norwegian Pollution Control Authority with deadline 10 March 2006. The regulation is proposed pursuant to the Planning and Building Act, the Pollution Act and the Water Resources Act.<sup>245</sup>

#### Fees in the municipal water sector

Norwegian legislation lays down that municipal water and waste water fees may not exceed the necessary costs incurred by the municipalities in these sectors. The fees must follow the principle of full costing, and must be based on estimates of the direct and indirect operating, maintenance and capital costs of water and waste water services. The annual fees must be calculated on the basis of measured or stipulated water consumption, or in two parts, one fixed and one variable. For properties where no water meter is installed, water consumption is as a general rule stipulated on the basis of the size of the buildings.<sup>246</sup>

#### Other actions or programmes related to water resources management

Protection Plan for Water Resources: For example, there is a watercourse with an estimated hydropower potential of about 35 TWh, which is about 20% of Norway's total hydropower potential, are protected against hydropower development and other works that may have a significant impact on their conservation value. The protection of river systems was codified in the Water Resources Act.

Water Resources Assessment: Water quality in rivers discharging into the sea is monitored monthly for several rivers. There is a short-term monitoring of clean up and restoration works. Both water quantity and water quality are measured according to national standards based on ISO standards.

Water Quality and Aquatic Ecosystems: Although most freshwater is of satisfactory quality, in the last 15 years, the government has been encouraging water works to increase the proportion of groundwater as drinking water supplies, so as to reduce costs and to reduce the risk to public health from contamination.<sup>247</sup>

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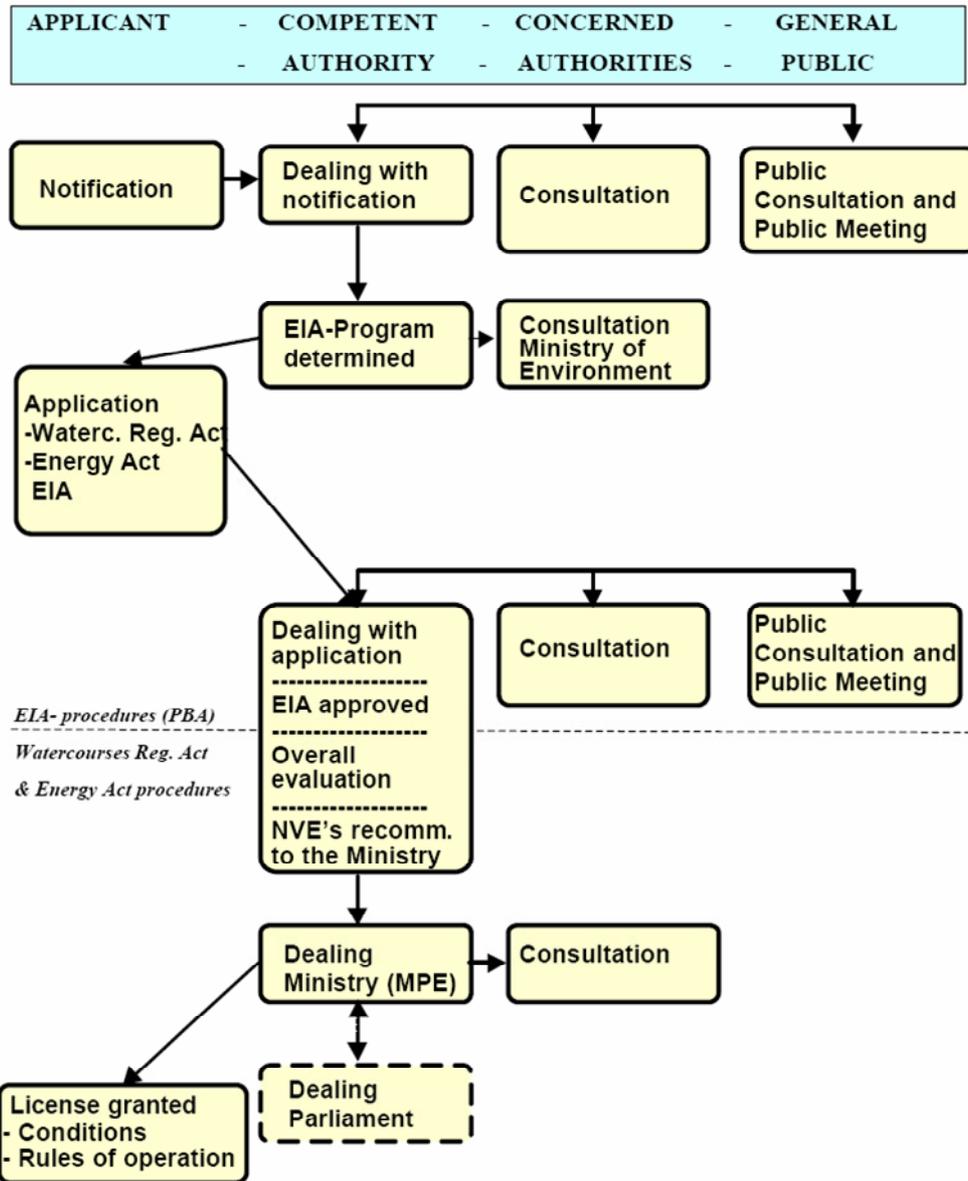
<sup>245</sup> Extracted from "Facts 2006 Energy and Water Resources in Norway",  
<http://www.regjeringen.no/upload/kilde/oed/bro/2006/0004/ddd/pdfv/287583-kap.10.pdf>, page 118

<sup>246</sup> Extracted from "Natural Resources and the Environment 2006",  
[http://www.ssb.no/english/subjects/01/sa\\_nrm/nrm2006/kap7-water.pdf](http://www.ssb.no/english/subjects/01/sa_nrm/nrm2006/kap7-water.pdf), page 133

<sup>247</sup> Extracted from "Freshwater Country Profile Norway",  
<http://www.un.org/esa/agenda21/natinfo/countr/norway/waterNorway04f.pdf>, pages 3-4

**Exhibit NO-1 Licensing Procedures<sup>248</sup>**

**LICENSING PROCEDURES - THE PLANNING AND BUILDING ACT  
THE WATERCOURSES REGULATION ACT**



<sup>248</sup> Extracted from [http://webb2.nve.no/modules/module\\_109/publisher\\_view\\_product.asp?iEntityId=3554&noscript=](http://webb2.nve.no/modules/module_109/publisher_view_product.asp?iEntityId=3554&noscript=)

## 15.2 Environmental Evaluation/SEA in Norway

In Norway, it is a statutory requirement under the Planning and Building Act that environmental assessment is required for certain plans and programmes. Besides, environmental assessment for policies is governed by the "Instructions for consequence assessment, submission and review procedures in connection with official studies, regulations, positions and reports to the Storting". Details are discussed as follows:

### SEA for plans and programmes

The Norwegian Parliament adopted the first general legislation on environmental impact assessment in 1990, as part of the Planning and Building Act. Since the Norwegian provisions has put stronger emphasis on the participation of the public and authorities concerned in the early stages of the procedures, it has been planned to include provisions on SEA in the Planning and Building Act and other relevant legislation, based on the SEA Directive (2001/42/EU) on Environmental Assessment of Certain Plans or Programmes and the UN ECE Protocol on Strategic Environmental Assessment.<sup>249</sup> Since 1 April 2005, the SEA Directive has been implemented in Norway by the amendment of the Planning and Building Act.<sup>250</sup>

There are some criteria for assessing significant effects on the environment. For plans that are subject to assessment, they should:

- be located in or are in conflict with areas with particularly valuable landscapes, natural environments, cultural monuments or cultural environments that are protected or preserved;
- be located in or are not in conflict with important natural areas on which there has been no encroachment, or pose a threat to directly endangered or vulnerable species and their habitats or to other areas of particular importance for biological diversity;
- result in a significant increase in the number of persons who are exposed to high levels of air pollution or noise, or may lead to significant pollution of soil, water and sediments, or entail a risk of serious accidents, radiation, landslides and flooding.

Zoning plans (like roads, railway lines, tram and underground lines, cable cars for the carriage of persons, landing places, ports and harbour installations and inland waterways) would be an example for plans that are subject to assessment.<sup>251</sup>

*Assessment processes for SEA for plans and programmes:*

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<sup>249</sup> Referenced to the "Environmental Cooperation - Environmental Impact Assessment" by the Norwegian Ministry of the Environment, 2003,

[http://www.regjeringen.no/upload/kilde/md/bro/2003/0001/ddd/pdfv/182783-t-1428\\_e.pdf](http://www.regjeringen.no/upload/kilde/md/bro/2003/0001/ddd/pdfv/182783-t-1428_e.pdf), pages 2-3

<sup>250</sup> The latest Planning and Building Act can be found in the link,

<http://www.ub.uio.no/ujur/ulovdata/lov-19850614-077-eng.pdf>, originated from the web site of the Norwegian Ministry of the Environment.

<sup>251</sup> Extracted from a document titled "Regulations of 1 April 2005 on Environmental Impact Assessment", originated from the web site of the Norwegian Government,

<http://www.regjeringen.no/en/dep/md/Documents-and-publications/Acts-and-regulations/Regulations/Regulations-on-Environmental-Impact-Asse.html?id=213266>

## (i) Prepare the planning programme

In case for any proposed plans are subject to assessment, the proposed person for the plan shall as early as possible in the preparation of the plan draw up a proposal for a planning programme. It shall form the basis for the preparation of a proposed plan with an environmental impact assessment.

The programme shall describe which physical development strategies and alternatives will be considered and which issues are likely to be elucidated.

## (ii) Consultation

Proposed planning programmes shall be circulated to the authorities concerned and special interest organizations for consultation and made available for public inspection.

(iii) Submission of programmes<sup>252</sup>SEA for policies

There has been a formal provision for the Norwegian system for environmental assessment of official studies, regulations, propositions and reports to Parliament (the Storting), which is made by the 'Instructions for consequence assessment, submission and review procedures in connection with official studies, regulations, positions and reports to the Storting'. It describes the arrangements and procedures that are in place for this purpose and summarises recent experience with their implementation. SEA at this level forms part of a larger process of assessment of policy and legislation, which has been applied in Norway for several years. The Instructions has been laid down by Royal Decree of 18 February 2000 and came into force on 1 March 2000. The Ministry of Environment has issued a 'Guideline on Environmental Assessment in Accordance with the Instructions for Official Studies and Reports'.

Environmental assessment is most likely to be needed within defined policy areas, such as energy, transport, agriculture and fisheries.<sup>253</sup>

*Assessment processes for SEA for policies:*

## (i) Evaluating the need for environmental assessment (preliminary assessment)

(ii) The Ministry of the Environment recommends that a checklist for responsible body to evaluate the need to study the environmental consequences of the matter.

(iii) Submission of the preliminary assessment to the Ministry of the Environment before the study is initiated

(iv) Submission to the Ministry of the Environment after a study has been completed but before circulation for general review

(v) General review<sup>254</sup>

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<sup>252</sup> Detailed procedures should refer to the document titled "Regulations of 1 April 2005 on Environmental Impact Assessment", originated from the web site of the Norwegian Government, <http://www.regjeringen.no/en/dep/md/Documents-and-publications/Acts-and-regulations/Regulations/Regulations-on-Environmental-Impact-Asse.html?id=213266>

<sup>253</sup> Extracted from the "Strategic Environmental Assessment at the Policy Level: Recent Progress, Current Status and Future Prospects" by Barry Sadler, 2005, [http://www.iaia.org/Non\\_Members/Conference/SEA%20Prague/SEA%20at%20the%20Policy%20Level.pdf](http://www.iaia.org/Non_Members/Conference/SEA%20Prague/SEA%20at%20the%20Policy%20Level.pdf), pages .88, 93

<sup>254</sup> Detailed procedures should refer to the "Strategic Environmental Assessment at the Policy Level: Recent

### 15.3 Environmental Evaluation/SEA on Water Resources Management in Norway

In Norway, it is statutorily required to conduct environmental assessment for policies, plans and programmes related to water resources management.

A master plan for various measures within a single river system should preferably be drawn up pursuant to the rules in the Planning and Building Act. Measures in a river system subject to a licensing requirement must have a license pursuant to the Water Resources Act, and legally binding plans pursuant to the Planning and Building Act may not substitute for a license.

An application for a license must provide the necessary information about the planned measures and the advantages and disadvantages connected therewith and about the relationship to legally binding plans pursuant to the Planning and Building Act. The water authorities may require further information from the applicant and may decide that the applicant must undertake or defray the cost of studies or reports required to ascertain the advantages or disadvantages of the measures. For measures that fall under the rules relating to environmental impact in the Planning and Building Act, these rules apply instead.

If measures in a river system can cause substantial damage or nuisances, the impact assessment must consider relevant alternatives such as a different siting, different technical solutions or a different design. If the measures will have an impact on the use of the river system in other respects, the assessment must clarify such impacts.

Public notice of the application must be made at the applicant's expense according to the rules in section 27-1, no.2 of the Planning and Building Act. The water authorities may exempt the applicant from the public notice requirement if

- the matter can be completely notified in some other way
- it is evident that consideration must be postponed pursuant to section 22; or
- it is evident that application must be rejected<sup>255</sup>

Information of the process and requirements on SEA can be referred to section 15.2.

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Progress, Current Status and Future Prospects" by Barry Sadler, 2005,  
[http://www.iaia.org/Non\\_Members/Conference/SEA%20Prague/SEA%20at%20the%20Policy%20Level.pdf](http://www.iaia.org/Non_Members/Conference/SEA%20Prague/SEA%20at%20the%20Policy%20Level.pdf),  
page.94-96

<sup>255</sup> <http://www.nve.no/admin/FileArchive/379/Water%20Resources%20Act.pdf>, page 8-9

A summary table for both the water resources management policies and actions and SEA status in Norway is presented in **Exhibit NO-2**:

<b>Exhibit NO-2 Summary of Water Resources Management (WRM) Policies and Actions and SEA status in Norway</b>	
<b>(a) WRM Policies and Actions</b>	
<b>WRM Policies and Actions</b>	Policies <ul style="list-style-type: none"> <li>● Implementation of EU Water Framework Directive</li> <li>● Fees in the municipal water sector</li> </ul> Actions <ul style="list-style-type: none"> <li>● Protection Plan for Water Resources</li> <li>● Water Resources Assessment</li> <li>● Water Quality and Aquatic Ecosystems</li> </ul>
<b>Guidance/Legislations in WRM</b>	Water Resources Act
<b>(b) Environmental Evaluations / SEA Status in WRM Policies and Actions</b>	
<b>Type of Assessment</b>	<ul style="list-style-type: none"> <li>● It is required to conduct "Environmental Assessment (EA)" for policies</li> <li>● It is required to conduct "Strategic Environmental Assessment (SEA)" for plans and programmes</li> </ul>
<b>Requirement Mechanisms</b>	Statutory for both EA and SEA
<b>Legislation for Environmental Evaluation / SEA</b>	<ul style="list-style-type: none"> <li>● Regarding EA for policies, it is required under "Instructions for consequence assessment, submission and review procedures in connection with official studies, regulations, positions and reports to the Storting"</li> <li>● Regarding SEA for plans and programmes, it is required under the Planning and Building Act</li> </ul>
<b>Applications</b>	<ul style="list-style-type: none"> <li>● For EA, it is required for policies</li> <li>● For SEA, it is required for plans and programmes</li> </ul>

## 15.4 Analysis and Conclusions

### *WRM Policies*

In Norway, the main policy governing the use of fresh water resources is the Water Resources Act in 2000. The main objectives of the Act are to promote sustainable development and to maintain biological diversity and natural processes in river systems. The Act also introduces a licensing system, which is required to obtain a license applying to all types of works which might cause significant damage or nuisance to community interests or other works which involve possible damage or nuisance, such as major water supply, drainage projects and the abstraction of water for fish farm. Besides, it is also required for Norway to implement the EU Water Framework Directive (WFD). Other policies include charging the municipal water sector for water and waste water fees.

Compared to Norway, Hong Kong is not within the EU Directive regime and the scope of water resources need to be managed is restrained to the two main sources of water – rainfall from natural catchment and supply from Guangdong. It is Water Supplies Department's (WSD) scope of work to cover the whole process from the collection of natural yield from rainfall, the reception of raw water from Guangdong to the provision of a supply with a quality of accepted international standards to the users' taps. WSD also supplies sea water for flushing purposes to over 80% of the population. For protection against flooding, sewage collection, treatment and disposal, it is under Drainage Services Department's (DSD) jurisdiction.

For the sustainable development of Hong Kong, WSD has initiated a *Total Water Management programme* comprising key elements of new water resources, water reclamation, water conservation and water resources protection and management was initiated for better utilization of the different water resources.

### *EE/SEA*

As an EU Member State, France is obliged to adopt the requirements of the EU Directive 2001/42/EC by bringing into force the laws, regulations and administrative provisions necessary to comply with the Directive. In this connection, the Planning and Building Act has been amended, and SEA has become a statutory requirement for WRM plans and programmes (e.g. A master plan for various measures within a single river system).

Norway has also built a statutory SEA-like instrument for policy level. The formal provision for this environmental assessment of official studies, regulations, propositions and reports to Parliament (the Storting), which is made by the 'Instructions for consequence assessment, submission and review procedures in connection with official studies, regulations, positions and reports to the Storting'. It describes the arrangements and procedures that are in place for this purpose and summarises recent experience with their implementation. SEA at this level forms part of a larger process of assessment of policy and legislation.

Hong Kong is not an EU Member. Hong Kong's SEA/EE is under Environmental

Protection Department's (EPD) jurisdiction. Similar to the EU Member counterparts, there are both statutory and administrative systems for PPP projects in Hong Kong. While the statutory requirements govern primarily large scale development projects (i.e. over 20 ha of area or population over 100,000), the administrative counterpart has been applied to land use planning, transportation and sectoral PPP.

In most EU Member States' practices, a statutory system is put in operation for WRM related plans and programmes. Hong Kong may adopt a similar approach by expanding the scope of the current statutory system to cover other sectors such as WRM.

Also, the SEA Directive sets out the requirements for undertaking environmental assessments for plans and programmes in various sectors, namely, agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use, etc. A similar scope or categorisation of sectors is recommended for setting up within Hong Kong's next generation SEA management framework.

Tajikistan<sup>256</sup>Lake Piuray, Chinchero Urubamba<sup>257</sup>

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<sup>256</sup> Source: <http://enrin.grida.no/htmls/tadjik/soe2/eng/htm/water/resp.htm>

<sup>257</sup> Source: <http://www.sami.uit.no/ozarapport/rosa.html>

## **15.5 Examples of Water Resources Management Policies / Actions or their Environmental Evaluation/SEA**

Owing to limited information available from the internet, there are no suitable examples for Norway.