

## 5.5 CONCLUSIONS

In its examination, the National Planning Agency has reviewed the data submitted and made an environmental impact assessment (EIA) of the Kárahnjúkar Power Plant on the basis of the Environmental Impact Assessment Act (the EIA Act) and regulations, other relevant legislation and the assessment plan for the Kárahnjúkar Power Plant. The agency has also taken account of the EU guidelines on EIA reports.<sup>1</sup>

The Planning Agency considers that the data that have been presented are not sufficiently full regarding all the main parts of the proposed development project in connection with the Kárahnjúkar Power Plant so as to make it possible to form an idea of their extent. In addition, the Planning Agency considers there are deficiencies in the data that has been submitted regarding the development area and the impact area. The Planning Agency takes the view that this lack of information about the proposed development and the development area and impact area means that the assessment that specialists have carried out regarding the impact of the project on individual aspects of the environment could be understated, since they did not have sufficient information on the extent of the proposed development when they made their assessment. Furthermore, the Planning Agency considers that a more detailed account should have been given of the possible and proposed mitigating measures and their potential effects so as to make it possible to adopt a position on the project in the light of these measures. In this connection, the Planning Agency wishes to refer to the notes to the bill that was passed as the EIA Act, Article 1 of which states:

*“...Environmental impact assessments are regarded as an important instrument for the government to achieve its aims in environmental matters and to promote sustainable development. One of the aims of this Act is to ensure that the Planning Agency will receive sufficient information in order to take a decision on any specific project with full awareness of how likely the project is to have a substantial impact on the environment.”* In this connection, the Planning Agency also refers to Article 18 of the Regulations on the environmental impact assessment and the assessment plan for the Kárahnjúkar Power Plant.

The Planning Agency nevertheless considers that on the grounds of the data that has been submitted on the proposed development and the associated development and impact area, it is clear that the project is likely to result in substantial negative consequences for the environment. This is especially the case with the first stage of the project, in particular the Háslón reservoir and the diversion of the river Jökulsá á Dal to Jökulsá í Fljótsdal/Lagarfljót. Thus, it has been found in the Planning Agency's examination that the work in the first stage of the project is likely to have a permanent negative impact because of the soil erosion and wind-borne soil over an extensive area to the east of Jökulsá á Dal, which is of substantial importance in terms of its soil and vegetation. This impact would affect many things, e.g. the vegetation of the Vesturöræfi area, the reindeer, bird life and the landscape, in addition to which erosion would result in a dust haze in the Vesturöræfi area and down into the inhabited areas. It has also been found that the development would result in great hydrological changes, which would have an effect, for example, on the groundwater level in low-lying areas adjacent to Jökulsá í Fljótsdal and Lagarfljót, which in turn would have an impact on vegetation, birdlife and agriculture. The Háslón reservoir

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<sup>1</sup> <http://europa.eu.int/comm/environment/eia/eia/support.htm>. Environmental Resources Management: Guidance on EIA. EIS Review. June 2001.

would destroy a vegetated area with a high conservation value, one of the reasons for which is its position on one of the largest continuous vegetated areas above 500 m a.s.l. in the central highlands of Iceland. Development work on the first stage of the project would interfere with species that are rare, both in the local area and in Iceland as a whole, and would alter the conditions for life in lakes and rivers. The work could also have a substantial impact on birdlife, both through the loss of land covered by the reservoir and through the indirect effects of soil erosion and changes in hydrology. It has been revealed that work on Háslón is likely to have a permanent impact on reindeer and that effects of the project on seals in the Héraðsflói bay would be likely to be substantial. The impact due to changes in the flow of fresh water could be felt in the more southerly fjords on the east coast of Iceland. Also, it has been established that the project would have a substantial impact on geological formations and landscape that are protected and have a conservation value in a local, national and even international context. It has been established that over one hundred archaeological sites could be disturbed by the work in the first stage of the project. There is considerable uncertainty as to the impact of the project on human habitation and commercial life in the east of Iceland.

As regards the second stage of the project, the Planning Agency's examination has revealed a lack of sufficient data in order to be able to assess the impact on the main environmental aspects, i.e. vegetation, small animals and birds. Nonetheless, it is clear from the data that has been submitted that part of the work in the second stage of the Kárahnjúkar Power Plant would entail considerable impact on certain aspects of the environment, such as the landscape.

The conclusion of the National Power Company's EIA report is that the environmental impact would be within acceptable limits in terms of the economic benefits that the proposed power plant would bring to the nation and the economic development associated with the sale of energy. The Planning Agency's view is that it has not been demonstrated that the gains resulting from the proposed development of the Kárahnjúkar Power Plant would be such as to compensate for the substantial, irreversible negative impact that the project would foreseeably have on the natural environment and the utilisation of land. The University of Iceland's Institute of Economic Studies has pointed out that the long-term effects of the project for the nation depend on its profitability, and also on its impacts, both positive and negative, on the environment and the community. In the materials presented by the National Power Company when the project was submitted for examination by the Planning Agency, it was stated that the developer chose to regard the total foundation cost of the power plant as a confidential matter. In the supplementary materials submitted by the National Power Company, on the other hand, the estimated cost of the Kárahnjúkar Power Plant project was stated, and reference data were given in connection with the profitability requirements regarding the project. On the other hand, nothing is stated concerning the price of energy to be sold to the aluminium smelter in Reyðarfjörður, even though the National Power Company states that the project would be profitable. Similarly, no information has been submitted concerning the profitability of the power plant project and its effect on the economy and the community if the energy were to be sold for other purposes: as is stated in the National Power Company's impact assessment, the power plant project was submitted for an EIA without regard to the marketing of the energy and thus irrespective of

whether or not the plans for building an aluminium smelter in Reyðarfjörður will be realised.

In comments and criticisms on this case, repeated calls have been made for an economic evaluation of the natural environment as part of the EIA of the Kárahnjúkar Power Plant. The University of Iceland's Institute of Economic Studies has pointed out that it could be of great value to have a method of assessing the negative impact on the environment in monetary terms. Furthermore, the Economics Institute has cited the contingent evaluations that have been carried out in many places abroad as by far the most widely-practised method used in EIAs, as these have become well-established in this context. The assessment plan for the Kárahnjúkar Power Plant states that the Planning Agency considers it "... *natural that ... [an economic evaluation of the value of the areas, and of the impact on them] be used as the basis of the economic assessment of the effect of the project in the EIA report*". The National Power Company has not complied with this recommendation. Furthermore, the Planning Agency considers that its examination revealed, to a degree far greater than might have been expected when the decision was taken last summer on an assessment plan on the project, that the value of the natural features in the impact area of the project is high, and that the impact of the project would in many cases be substantial and irreversible. The Planning Agency therefore considers that there is an even greater need than was previously realised for the use of a financial evaluation of the natural assets that would be disturbed or destroyed by the project as a basis for an assessment of the macroeconomic effect of the project.

The assessment plan for the Kárahnjúkar Power Plant states that the Planning Agency "... *stresses the importance of a comparison of the environmental aspects of various types of utilisation in the region, including the zero-option, and on the importance of the discussion of other possible means of obtaining energy for use in an aluminium smelter in Reyðarfjörður, in the EIA report on the Kárahnjúkar Power Plant.*" It also states that the Planning Agency stresses that a clear comparison of the impact of various options on individual aspects of the environment, e.g. natural features such as landscape entities, agricultural areas and protected natural monuments, and habitational and human factors such as population centres and commercial activities, farming, recreation and tourism, should be presented in the EIA report. The Planning Agency regards the discussion of the zero-option as unsatisfactory. The Planning Agency points out that a discussion of the zero-option in an EIA must of necessity take into account the likely or possible development of the area concerned, and not merely its present condition. The discussion of the zero-option in the EIA report, however, appears to be based first and foremost on the area in its present condition. This is the case, for example, in the assessment in the EIA report of the impact of the zero-option on national production and communications. In its EIA report, the National Power Company submits a comparative assessment based on two power development options on the northern side of the Vatnajökull glacier and also discusses briefly other methods of obtaining power. The conclusion of the EIA report is that the Kárahnjúkar Power Plant, with a supply from Jökulsá River í Fljótsdal, is the most efficient of the available options in terms of environmental impact, cost and the energy requirements which it is intended to meet. The Planning Agency agrees with what has been stated in the criticisms to the effect that it would have been desirable, as a basis for a comparison with other power development options in terms of environmental impact, to have had available the conclusions of the Framework Plan

on the Utilisation of Hydropower and Geothermal Power. Furthermore, the Planning Agency refers to what is stated in the specialist opinion by the University of Iceland's Institute of Economic Studies to the effect that it is impossible to judge on economic premises the National Power Company's conclusions regarding a comparison with other power development options since little or no information is supplied on the costs of the individual options. Thus, the Planning Agency considers that insufficient comparison of realistic options has been presented with regard to the acquisition of energy that could result in a smaller environmental impact than that which it has been established that the development of the Kárahnjúkar Power Plant would have.

Under paragraph 2 of Article 11 of the EIA Act, the Planning Agency is to take into account in its ruling whether it approves the proposed development, with or without conditions, or whether it opposes the proposed development on the grounds of substantial environmental impact. According to the Act, environmental impact is regarded as considerable when it involves *"...Substantial irreversible environmental impact or substantial spoliation of the environment that can not be prevented or remedied by mitigating measures"*. The Planning Agency takes the view that if the agency's examination reveals that the project would result in substantial environmental impact, and if it is not demonstrated in the course of the agency's examination that other gains are such as to offset the negative effects to an acceptable degree, then the agency is obliged to oppose the project concerned in its ruling.

In the course of its examination of the Kárahnjúkar Power Plant under the EIA Act, the Planning Agency has twice stated reservations about processing the matter in view of its scope, the data submitted and the time limits set out in the act. Thus, the Planning Agency's conclusions regarding the assessment plan for the Kárahnjúkar Power Plant state: *"...The Kárahnjúkar Power Plant is an extensive project involving many separate parts, each of which is subject to an assessment requirement and is regarded as possibly having substantial environmental impact according to the EIA Act. This applies, amongst other things, to all reservoirs larger than 3 km<sup>2</sup>, all quarry sites larger than 50,000 m<sup>2</sup> and 150,000 m<sup>3</sup> and all roads that are 10 km or longer. Other individual parts of the Kárahnjúkar Power Plant come under either Article 6 and Appendix 2 of the EIA Act regarding projects subject to notification requirements, and may therefore in each individual case result in considerable environmental impact. It is therefore clear that an assessment of the environmental impact of the Kárahnjúkar Power Plant must of necessity be a very large undertaking. In the National Power Company's proposal on an assessment plan, the procedure, gathering of information and the EIA are described in rather general terms. Thus, for example, it does not include information on all the main parts of the project. In addition, rather general statements are made regarding how the EIAs of individual parts of the project are to be carried out. Thus, it is not stated in all cases how the assessment is to be carried out, e.g. regarding the gathering of data, the season and duration of the studies, methods of assessing impacts and how it is proposed to present the findings of the studies in the EIA report. Overall, however, the general description given in the developer's proposal covers all the main aspects that need to be addressed in an EIA. The Planning Agency therefore approves the developer's proposal for an assessment plan with reservations regarding the further examination of individual aspects of the assessment, either when notification of the project is made for investigation under Article 10 of the EIA Act, and, as appropriate, further information is called for under paragraph 4 of Article 8 of the EIA Act, or*

*when more detailed proposals are submitted on schedules for the project as a whole, or for individual parts thereof.”* In addition, the Planning Agency informed the National Power Company, when it accepted the proposal on project for examination under Article 10 of the EIA Act, that “... *in view of the short time allowed under the Act to the Planning Agency to examine the EIA reports and because of the large scale of the Kárahnjúkar Power Plant project, the Planning Agency has not been able to make an exhaustive examination of whether the EIA report meets the requirements of the assessment plan and the regulations concerning all parts of the project.*” In the light of the materials submitted by the developer, the agency’s treatment of the matter and the comments and criticisms that have been expressed, the Planning Agency considers it clear that it is difficult to subject a project of such a large scale to treatment under the EIA Act. The Planning Agency considers that the periods allowed under the act for consultation and a decision on the EIA report and assessment plan are not of such a nature as to guarantee satisfactory consultation and discussion among the institutions, the public and non-governmental organisations in terms of the purpose of the act regarding a project proposal of the scale of the one under discussion in this instance.

The Planning Agency refers to the purpose of the EIA Act and what was stated in the parliamentary report by the Committee on Environmental Affairs regarding the act when it was submitted to the Althing as a bill concerning the considerations to be borne in mind when applying the act, i.e. that natural resources should be utilised cautiously and rationally. Furthermore, the Planning Agency points out that in the notes presented with the bill before it became the EIA Act, it was stated that the bill was based on the general principles underlying the ideology of sustainable development, including the principle that all individuals have the right to an environment that promotes health and well-being, and the right of each individual concerning decisions affecting his immediate environment and the “polluter pays” principle.

In the light of the foregoing, the Planning Agency’s conclusion is that taking into account the materials that have been presented for examination by the agency, the Kárahnjúkar Power Plant with a capacity of up to 750 MW, as proposed in two phases and four components, would entail considerable impact on the environment, and that it has not been demonstrated that other advantages produced by the proposed project would be such as to offset the substantial, irreversible negative environmental impact that the project would foreseeably have. Furthermore, the agency considers that information is lacking on individual aspects of the project and its consequences for the environment. Thus, with reference to section *b* of paragraph 2 of Article 11 of the EIA Act, the agency opposes the project.

## **6. RULING**

In accordance with Article 11 of the EIA Act, No. 106/2000, the Planning Agency has examined the materials submitted by the National Power Company when notification of the proposed project was made under Article 10 of the same act, and also specialist opinions, comments, criticisms and replies to these made by the National Power Company.

With reference to the Planning Agency's conclusions, which are presented in Section 5 of this Ruling, the agency opposes the Kárahnjúkar Power Plant of a capacity of up to 750 MW, as proposed in two stages and four sub-projects, on grounds of its considerable impact on the environment and the unsatisfactory information presented regarding individual parts of the project and its consequences for the environment.

## **7. DEADLINE FOR APPEAL**

Under Article 12 of the EIA Act, No. 106/2000, an appeal may be lodged with the Minister for the Environment against rulings by the Planning Agency. The deadline for submitting an appeal is 5<sup>th</sup> September 2001.

Reykjavík, 1<sup>st</sup> August 2001.

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