

Environmental Examination Report

- (1) Project Name : Export of geothermal power plant machinery
- (2) Project Site : Theistareykir, Republic of Iceland
- (3) Project Outline : Export of geothermal power plant
- (4) Category Classification : A
- (5) Reason for Classification : The project belongs to sensitive sector (Road sector) and is located in or near sensitive areas under the Guidelines.
- (6) Environmental Permits and Approvals : Pursuant to the laws and regulations of Republic of Iceland, the ESIA report for the project was prepared for submission, and the Environmental Permit was issued in November, 2010 by the Icelandic National Planning Agency.
- (7) Pollution Mitigation Measures : Concerning air quality, water quality, and noise will satisfy both the local standards and the world bank standards. Appropriate measures will be implemented for waste management.
- (8) Natural Environment : Although there are nature reserves in vicinity of the project site, the related parties will construct avoiding harm for bird and plant and the appropriate monitoring will be taken. There are also cultural heritage in vicinity of the project site, the appropriate action will be taken under the laws and regulations of Republic of Iceland.
- (9) Social Environment : Regarding groundwater withdrawal, since

drawing underground fluid will be returned into the ground, land subsidence will not be occurred.

(1 0) International Standard : World Bank-Safe Guard Policy

(1 1) Others, Monitoring : Taking the above environmental review into consideration, JBIC will monitor following items:

- progress of getting the Operation Permit to be issued by the Health Inspectorate of North East Iceland.
- compliance of conditions attached to the ESIA

Questions

Q1. Please provide the address of the project site.

Address of the project site: Theistareykir, Þingeyjarsveit, Iceland

Q2. Please provide brief explanation of the project.

Construction of a Geothermal Power Plant:

The power plant will through stages 1 and 2 provide 90MWe generated by two 45MWe turbines. Generation is expected to be about 715 GWh of renewable energy each year.

Q3. Will JBIC loan be applied to a new project or an executing project? In case of an executing project, please inform of strong claims by stakeholders such as local residents, as well as improvement guidance or cessation orders for construction work / operations, from environmental authorities.

- | | |
|---|--|
| <input checked="" type="checkbox"/> New Project | <input type="checkbox"/> Executing Project (with Claim etc.) |
| <input type="checkbox"/> Executing Project (without Claim etc.) | <input type="checkbox"/> Others (Please specify) |

Q4. In case of this project, is it necessary to execute Environmental and Social Impact Assessment (ESIA) based on the laws or regulations of the country where the project is to be implemented? If necessary, please inform the progress of ESIA.

- | | |
|---|---|
| <input checked="" type="checkbox"/> Required (completed) | <input type="checkbox"/> Required (under execution or under planning) |
| <input type="checkbox"/> Not Required | <input type="checkbox"/> Others (Please specify) |

Q5. In case that ESIA is already completed, please inform whether ESIA report is already approved based on the environmental and social impact assessment system of the country where the project is to be implemented or not. If ESIA report is already approved, please provide the date and name of authorities of the approval.

- | | |
|--|--|
| <input type="checkbox"/> Approved (without conditions) | <input checked="" type="checkbox"/> Approved (conditional) |
| <input type="checkbox"/> Under approval process | <input type="checkbox"/> Others (Please specify) |

Date of Approval : 24 November 2010

Name of Authorities : The Icelandic National Planning Agency

Q6. If environmental permit(s) other than ESIA is required, please provide the name of required permit(s). Have you obtained required permit(s)?

- | | |
|--|--|
| <input checked="" type="checkbox"/> Obtained | <input checked="" type="checkbox"/> Required, but not obtained yet |
| <input type="checkbox"/> Not required | <input type="checkbox"/> Others (Please specify) |

Utilization license for groundwater

Utilization license for geothermal heat

Power plant license

Construction license

Environmental Operation License

Q7. Will the loan be used for the undertaking that cannot specify the project at this stage (e.g. export or lease of machinery that has no relation with specific project, or Two Step Loan that cannot specify the project at the time of loan agreement)?

(Yes / ,No)

If you answered "Yes", it is not necessary to reply to the following questions.

If you answered "No", please reply to the following questions.

Q8. Are there any environmentally sensitive area shown below in and around project site?

(,Yes / No)

If you answered "Yes", please select applicable items by marking, and reply to following questions.

If you answered "No", please reply to questions 9 and after.

- (1) National parks, protected areas designated by government (coastal areas, wetlands, habitats of minorities or indigenous populations, heritage sites, etc.)
- (2) Ecologically critical forests areas (including primeval forests and tropical natural forests)
- (3) Ecologically critical natural habitats (including coral reefs, mangrove, tidal flats, etc.)
- (4) Habitats of endangered species of which protection is required under local laws and international agreements.
- (5) Areas that have risks of large scale increase in soil salinity or soil erosion
- (6) Desertification areas
- (7) Areas with special values from archaeological, historical and/or cultural viewpoints
- (8) Habitats of minorities, indigenous populations, nomadic people with traditional lifestyle (including areas used for cultural and/or spiritual purposes), or areas with special social value

Q9. Does the project involve following characteristics?

(,Yes / No)

If you answered "Yes", please describe the scale of applicable characteristics, and reply to the questions 10 and after.

If you answered "No", please reply to questions 11 and after.

- (1) Involuntary resettlement and/or loss of means of livelihood (Number of affected people:)
- (2) Pumping of groundwater (Scale:2,995,920m3/year)
- (3) Land reclamation, development and/or clearing (Scale: ha)
- (4) Deforestation (Scale: ha)

Q10. Under the environmental and social impact assessment system of the country where the project is to be implemented, do the applicable characteristics from (1) – (4) above and their scale serve as basis for executing an ESIA for the project?

- They do
- They do not
- Others (Please specify)

Q11. Will JBIC share in the project be equal or less than 5% of the total project cost, or the total amount of

JBIC loan equal or less than SDR 10 million? (In the case of additional support for a past project, this shall be the accumulated total amount)

(Yes / ,No)

If you answered "Yes", it is not necessary to reply to the following questions.
If you answered "No", please reply to questions 12 and after.

Q12. Does the project belong to either of the sectors that impacts on the environment and the society is deemed immaterial or is not anticipated under normal conditions (e.g. maintenance of the existing facilities, non-expansionary renovation project, acquisition of rights and interests without additional capital investment)?

(Yes / ,No)

If you answered "Yes", it is not necessary to reply to following questions.
If you answered "No", please reply to the questions 13 and after.

Q13. Does the project belong to the following sectors?

(,Yes / No)

If you answered "Yes", please specify the sector by marking, and reply to questions 14 and after.
If you answered "No", it is not necessary to reply to the following questions.

- (1) Mining
- (2) Oil and natural gas development
- (3) Pipelines
- (4) Iron and steel (projects that include large furnaces)
- (5) Non-ferrous metals smelting and refining
- (6) Petrochemicals (manufacture of raw materials; including complexes)
- (7) Petroleum refining
- (8) Oil, gas and chemical terminals
- (9) Paper and pulp
- (10) Cement plants (including a greenfield quarry)
- (11) Manufacture and transport of toxic or poisonous substances regulated by international treaties, etc.
- (12) Thermal power
- (13) Nuclear power
- (14) Hydropower, dams and reservoirs
- (15) Power transmission and distribution lines involving large-scale involuntary resettlement, large-scale logging or submarine electrical cables
- (16) Roads, railways and bridges
- (17) Airports
- (18) Ports and harbors
- (19) Sewage and wastewater treatment having sensitive characteristics or located in sensitive areas or their vicinity
- (20) Waste management and disposal
- (21) Agriculture involving large-scale land-clearing or irrigation

- (22) Forestry
- (23) Tourism (construction of hotels, etc.)

Comments regarding marked items in Q13:

(16) Roads, railways and bridges
 Access road length 27 km

Q14. Please provide information on the scale of the project (project area, area of plants and buildings, production capacity, amounts of power generation, etc.) Further, please explain whether an execution of ESIA is required on account of the large scale of the project in the country where the project is implemented.

Please find attached an overview of the Theistareykir Geothermal Power Plant Project site.

Scale of the project:

Project area:	30 km ² (construction area according to site plan)
Area of buildings:	8641 m ² (total size of all floors/levels)
Size of buildings:	68,774 m ³
Production capacity:	90 MWe (2x45 MWe)
Power generation:	715 GWh per year
Geothermal production wells:	First stage: 9
	Second stage: 7
Re-injection wells:	First stage: 2
	Second stage: 1
Pipeline: Steam supply system:	5 km
Pipeline: Water supply system:	4 km
Roads: Access road	27 km

Regarding execution of EIA see answer to question Q4.