

環境チェックレポート

(1) プロジェクト名

地熱発電機器輸出プロジェクト

(2) 実施場所

アイスランド共和国 フィスタレイキャ

(3) プロジェクト概要

地熱発電機器の輸出

(4) カテゴリ分類

カテゴリ A

(5) カテゴリ分類の根拠

本事業は、環境ガイドラインに掲げる影響を受けやすいセクター（道路セクター）に該当し、影響を受けやすい地域あるいはその近傍に立地するため。

(6) 環境許認可

同国制度に基づき ESIA が作成され、2010 年 11 月に国家計画庁より承認を取得済である。

(7) 汚染対策

大気質、水質、騒音・振動については、現地基準を満たすと共に、世銀基準を満たす見込みである。廃棄物について、適切な処理が行われる計画である。

(8) 自然環境面

プロジェクトサイト及びその周辺地域は保護区に該当するが、事業者及び関係者は保護種の営巣地を避けて建設を実施し、鳥類及び植物への影響を継続的にモニタリングする計画。

またプロジェクトサイト及びその周辺地域は文化遺産が存在するが、同国規制に従い、当局と協議の上、適切な措置が講じられている。

(9) 社会配慮面

地下水揚水については、汲み上げた地熱流体は全量地下に還元されることから、地盤沈下は予見されない。

(10) 適用国際基準

世界銀行・セーフガードポリシー

(11) その他・モニタリング

上述の環境レビューを踏まえ、以下の項目のモニタリングを行う。

- ・ 操業許認可（地熱発電）の取得状況
- ・ ESIA 報告書の許認可に係る付帯条件の遵守状況

以 上

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.