

INTEGRATED SAFEGUARDS DATA SHEET CONCEPT STAGE

Report No.: ISDSC1058

Date ISDS Prepared/Updated: 08-Jan-2015

Date ISDS Approved/Disclosed: 09-Jan-2015

I. BASIC INFORMATION

A. Basic Project Data

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| Country: | Turkey | Project ID: | P151739 |
| Project Name: | Turkey Geothermal Development Project (P151739) | | |
| Task Team Leader(s): | Shinya Nishimura | | |
| Estimated Appraisal Date: | 12-May-2015 | Estimated Board Date: | 24-Jul-2015 |
| Managing Unit: | GEEDR | Lending Instrument: | Investment Project Financing |
| Sector(s): | Other Renewable Energy (80%), General energy sector (20%) | | |
| Theme(s): | Climate change (50%), Infrastructure services for private sector development (50%) | | |
| Financing (In USD Million) | | | |
| Total Project Cost: | 356.00 | Total Bank Financing: | 250.00 |
| Financing Gap: | 0.00 | | |
| Financing Source | | | Amount |
| Borrower | | | 66.00 |
| International Bank for Reconstruction and Development | | | 250.00 |
| Clean Technology Fund | | | 40.00 |
| Total | | | 356.00 |
| Environmental Category: | F - Financial Intermediary Assessment | | |
| Is this a Repeater project? | No | | |

B. Project Objectives

The Project Development Objective is to scale up private sector investment in geothermal energy development in Turkey. This will be achieved by reducing the risks taken on by the private sector in the exploratory phases, and by providing access to long-term financing for resource development phases.

C. Project Description

The project proposes to achieve the Objective by providing support to overcome the barriers, as per following; (i) Risk sharing mechanism to stimulate investment in early stage geothermal exploratory drilling activity, and (ii) Loan facility with Industrial Development Bank of Turkey (TSKB) to support the capacity drilling and construction stages of geothermal development.

Component 1: Risk Sharing Mechanism for Resource Validation (USD 40 million, CTF grant)

The Directorate General for Mineral Research and Exploration (MTA) has been responsible for the exploration and mapping of geothermal resources in Turkey. It has traditionally been the main institution advancing the development of geothermal utilization by carrying out surface exploration and exploration drilling in fields believed to be suitable for power generation, significantly reducing the risk to private developers that would then acquire concessions to those fields. As MTA's mandate has changed, it currently has very limited additional geothermal exploration activities planned, the entire exploration risks have now to be taken on fully by the private sector investors. These investors often have limited financial (equity) and technical capacity for the lengthy and costly resource exploration, which has resulted in a slowdown in geothermal drilling activity in the country as just a limited number of these potential new sites have been developed beyond the very early exploration phases.

The risk sharing mechanism to be supported under this component is expected to be capitalized by a \$40 million CTF grant. The mechanism will rely upon a clear set of criteria for success/failure in drilling an exploration well based upon the level of geothermal resource found that needs to be pre-defined. The risk of failure will be shared among two parties: the Risk Sharing/ Grant Facility and the concession holder. In the case the resource is not found at an expected level pre-defined contractually, the Mechanism would cover part of the concession holder's drilling expenditures. In the case of success, the concession holder may be required to transfer to the Mechanism a premium, in addition to paying the drilling company for its services. The design of the mechanism will be refined during project preparation.

The Directorate General of Renewable Energy of the Ministry of Energy and Natural Resources (MENR) has been identified as the most likely administrator for the risk sharing mechanism. MENR would be fiduciary responsible for the Facility and it would hire a consultant to establish and operate the Mechanism.

Component 2: Loan Facility for Resource Development (US\$ 250 million, IBRD loan)

This component aims to address the financing gap that the project sponsors face today for resource development phases of the geothermal project, specifically during the capacity drilling phase, by providing concessional financing. Commercial banks in Turkey currently finance geothermal projects only after commissioning has been completed, or more often, after operations have begun and production of electricity has been verified. This financing gap is a barrier to scaling up geothermal development, which is commonly seen in other countries as well. The Project proposes to capitalize a credit line to a Financial Intermediary, TSKB, with a \$250 million IBRD loan. TSKB would on-lend at market rates to project developers starting at the capacity drilling stage. To ensure buy-in, TSKB will provide co-financing to the loan facility from its own resources, for an amount yet to be decided. Eligible sub-borrowers will use the Bank financing through the FI for drilling of geothermal deep wells. For drilling of the wells, the sub-borrowers will contract a drilling service

provider using their commercial practice. The loan facility will be open to any geothermal development that has reached the capacity drilling stage, regardless of whether it benefited or not from the risk sharing mechanism under Component 1.

Specific technical, financial and corporate eligibility criteria will also be developed for this component. Technical criteria will be developed in consultation with various stakeholders and will also include environmental and social requirements in accordance with TSKB Environmental Risk Mitigation Tool, IFC's EHS for Geothermal Power Generation, and World Bank safeguards. All the applicable criteria and requirements will be described in the Operations Manual to be prepared for this component.

D. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

Exact location of the sub-projects to be supported under both components is currently unknown.

E. Borrowers Institutional Capacity for Safeguard Policies

The main counterpart for the first component will be MENR, which will hire an expert consultant to establish and operate the risk sharing mechanism. This consultant would be a firm with adequate skills to manage application rounds; to screen applicants according to pre-established financial and technical criteria, including environmental and social; to prepare legal agreements between the Mechanism and the applicants; to review claims of a failed well by applicants, and to recommend the execution of payments to the DGRE. The Operations Manual for the Mechanism will outline all the procedures to be followed by DGRE and by the consultant. The institutional capacity of DGRE and their consultants to implement WB's safeguard policies as well as the actual implementation of the EMF will be monitored by the WB team during project preparation and implementation phases.

TSKB will be the FI bank for the second component. TSKB has significant experience regarding implementing national and WB policies in environmental and social safeguards.

F. Environmental and Social Safeguards Specialists on the Team

Esra Arikan (GENDR)

Zeynep Durnev Darendeliler (GSURR)

II. SAFEGUARD POLICIES THAT MIGHT APPLY

| Safeguard Policies | Triggered? | Explanation (Optional) |
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| Environmental Assessment OP/BP 4.01 | Yes | The project has been assigned Category 'FI' in accordance with World Bank safeguard policy OP/BP/GP 4.01 (Environmental Assessment), this has been confirmed by the Quality unit as well. Under the first component there will be exploration-drilling activities, which will be conducted by 3-4 drilling companies. Under the second component private companies will borrow from TSKB (FI of the project) for capacity drilling activities. It is estimated that both the exploration and capacity drilling phases of the project could be categorized as 'B' under OP 4.01, as the types of potential impacts are expected to |

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| | | <p>be limited and be relatively easy to assess and mitigate through careful siting and good drilling practices. Sub-projects (exploration and development) in critical or sensitive natural habitats will be excluded, and the details about screening projects accordingly will be explained in the environmental framework document.</p> <p>Main environmental issues related to exploration and capacity drilling phases will be: site preparation, topsoil management and prevention of soil contamination, storage and disposal of drill muds, managing the prevention of contamination of aquifers, monitoring of gas emissions (CO₂, H₂S, etc.) from the wells, management and monitoring of geothermal water discharges (during exploration - Component 1 and capacity drilling - Component 2) and monitoring of water quality in the vicinity of drilling area, monitoring noise during drilling works, construction of access roads, closure of wells/ rehabilitation of areas if the wells are identified to be unsuccessful, etc. It is not possible to assess the potential risk of ground water contamination by geothermal activities in advance of the project as the implementation sites have not yet been determined. However, a mapping exercise utilizing currently available resource maps would enable the Team to identify areas where geothermal potential coincides with important ground water resources.</p> <p>The direct environmental impacts of exploratory drilling (Component 1) are expected to be minimal, although the predictable drilling expansion and power plant development following successful exploration must be regarded as a linked (induced) impact. The EMF for Component 1 shall outline the best practices in exploration, drilling and well management to be followed by the sub-borrower and the monitoring protocols to be followed for adequate supervision. For sub-projects that did not benefit from the risk sharing mechanism under Component 1 but are applying for capacity drilling financing under Component 2, the EMF will provide guidance for TSKB to carry out a simple “due diligence” audit to confirm that the exploratory phase was carried out in an acceptable manner, consistent with national laws and the principles of the WB Safeguard Policies.</p> |
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| | | <p>The gaps between national environmental screening and assessment procedures and WB safeguard policies will be detailed in the EMF to be prepared for Component 2, and the EMF will specify that where there are differences the more stringent requirements will apply. The EMF will also provide guidance on risk screening of proposed sub-projects (including assessment of potential cumulative impacts), mitigation measures to reduce/manage potential adverse impacts, and recommendations for “best practice” technologies such as re-using CO2 and excess heat for productive purposes.</p> <p>The locations and the scope of sub-projects will be identified during the project implementation and relevant environmental assessment documents will be prepared according to sub-project categorization. As it will be detailed in the EMF, it is expected that for component 2 sub-projects will be reviewed by TSKB for having national environmental clearances and then necessary environmental assessment documentation in line with OP 4.01 requirements will be completed by the sub-borrower. Sub-project partial EAs/EMPs will be submitted to WB for prior review and after getting no-objections these will be disclosed in client's/sub-borrower's websites and will be included in the corresponding bidding documents and/or contracts of the investment projects. It is planned to have environmental management framework (EMF) which will be prepared by the client and disclosed in country and in Infoshop before appraisal.</p> <p>The TA component of the project will also need to comply with OP 4.01 and therefore it will be ensured that the TORs for the consultants to be hired for TA studies covers the safeguard issues related to OP 4.01.</p> |
| Natural Habitats OP/BP 4.04 | Yes | <p>The exploration and capacity drilling activities (component 1 and 2) may take place in rural areas which are potential natural habitats. Therefore, the policy is considered to be triggered to be on the safe side. According to this policy, the projects which do not create any significant adverse impacts on natural habitats and that are not placed in critical natural habitats will be eligible for financing. Issues related to natural habitats will be detailed in the EAs and</p> |

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| | | EMPs that will be prepared for the sub-projects under Component 1 and 2. |
| Forests OP/BP 4.36 | No | |
| Pest Management OP 4.09 | No | |
| Physical Cultural Resources OP/BP 4.11 | No | Sub-projects will not be conducted in culturally sensitive areas. But in any case, whether or not they are in historic areas, any sub-project EMPs/partial EAs will include procedures and responsibilities for managing accidentally discovered or chance find cultural artifacts. Consideration of such concerns is provided in the works contracts that will include requirements that the contractor is obliged to look for chance finds and immediately stop work at the contested location and alert responsible authorities in case of chance finds, and only continue works after official approvals from the responsible authorities are secured. Since the national regulations on the conservation of cultural properties are strict, it is not anticipated that any additional requirements would arise from the World Bank safeguard policies. |
| Indigenous Peoples OP/BP 4.10 | No | |
| Involuntary Resettlement OP/BP 4.12 | Yes | Under the Component 1 there will be exploration drilling activities carried out by drilling companies. Under the Component 2 private companies will borrow from TSKB (FI of the project) for capacity drilling activities. Upon obtaining the initial license, drilling companies often try to buy the land from the land owners without state involvement for the sake of expediency (under OP 4.12 this is not technically a "voluntary" sale, because if the land owner refuses to sell, the drilling company can still apply for the land to be expropriated). If such a sale cannot be completed, drilling companies contact EMRA, the energy regulatory authority, for EMRA to carry out expropriation of the lands necessary for drilling. According to Turkish regulation and discussions with above counterparts, all involuntary land acquisition will generally be completed prior to World Bank financing of above components. The counterparts were informed however that even if the land acquisition is completed prior to World Bank financing, OP 4.12 applies if land was acquired in anticipation of or in preparation for a project shortly |

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| | | <p>before initial discussions with the Bank and the land is directly linked to the World Bank project. In such cases, the counterparts, in coordination with the sub-borrowers will need to conduct social audits to ensure that the land acquisition was completed in accordance with the objectives of OP 4.12, and in cases when necessary, develop a corrective action plan to bridge significant gaps.</p> <p>In cases where additional involuntary land acquisition will be necessary, the counterparts will be responsible in preparing Resettlement Action Plans prior to such land acquisition.</p> <p>Temporary social impacts during drilling activities, such as disturbances to the local population, may also occur during the project. The need to avoid or mitigate such impacts was also discussed with counterparts.</p> <p>As specific sub-projects are not identified at this point, all of the potential social impacts and the procedures to manage these social impacts will be covered in a Resettlement Policy Framework (RPF). In some cases investors will already have acquired needed land prior to approaching the risk sharing Facility for exploration. Therefore, the RPF will set out measures for carrying out “Resettlement/Land Acquisition Audits” in case of land already acquired as well as Resettlement/Land Acquisition Action Plans for any land acquisition that would be required after project funds are sought. The RPF will specify that, wherever possible, remedial measures called for in the Audit will be implemented prior to proceeding with the subproject activities. Where subproject activities are already ongoing at the time Project funds are sought, remedial measures should be implemented as soon as possible.</p> <p>The RPF will be prepared by the client and disclosed in country and in Infoshop before appraisal.</p> |
| Safety of Dams OP/BP 4.37 | No | |
| Projects on International Waterways OP/BP 7.50 | No | <p>During sub-project applications the nature of the groundwater reservoirs, being in national or international waterways, will be assessed from the applicants. The major geothermal potential in turkey is concentrated in Aegean and West Mediterranean regions so an international waterway is not expected</p> |

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| | | to be an issue. Still, the EMF will provide guidance on this aspect. |
| Projects in Disputed Areas OP/ BP 7.60 | No | |

III. SAFEGUARD PREPARATION PLAN

A. Tentative target date for preparing the PAD Stage ISDS: 31-Mar-2015

B. Time frame for launching and completing the safeguard-related studies that may be needed.

The specific studies and their timing¹ should be specified in the PAD-stage ISDS:

Prior to Appraisal, an Environmental and Social Management Framework will be prepared for the project which will define the review and assessment process by MENR, TSKB and WB for the sub-projects. Similarly, land acquisition framework will be prepared and disclosed before appraisal stage.

IV. APPROVALS

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| Task Team Leader(s): | Name: Shinya Nishimura | |
| <i>Approved By:</i> | | |
| Regional Safeguards Coordinator: | Name: Agnes I. Kiss (RSA) | Date: 08-Jan-2015 |
| Practice Manager/ Manager: | Name: Ranjit J. Lamech (PMGR) | Date: 09-Jan-2015 |

¹ Reminder: The Bank's Disclosure Policy requires that safeguard-related documents be disclosed before appraisal (i) at the InfoShop and (ii) in country, at publicly accessible locations and in a form and language that are accessible to potentially affected persons.