

INTEGRATED SAFEGUARDS DATA SHEET

CONCEPT STAGE

Report No.: ISDSC1024

Date ISDS Prepared/Updated: 25-Aug-2014

Date ISDS Approved/Disclosed: 06-Dec-2014

I. BASIC INFORMATION

A. Basic Project Data

Country:	Armenia	Project ID:	P152039
Project Name:	Geothermal Exploratory Drilling Project (P152039)		
Task Team Leader:	Artur Kochnakyan		
Estimated Appraisal Date:		Estimated Board Date:	01-May-2015
Managing Unit:	GEEDR	Lending Instrument:	Investment Project Financing
Sector(s):	Other Renewable Energy (100%)		
Theme(s):	Infrastructure services for private sector development (90%), Climate change (10%)		
Financing (In USD Million)			
Total Project Cost:	11.60	Total Bank Financing:	0.00
Financing Gap:	0.00		
Financing Source			Amount
Borrower			2.90
Strategic Climate Fund Grant			8.70
Total			11.60
Environmental Category:	B - Partial Assessment		
Is this a Repeater project?	No		

B. Project Objectives

The proposed Project Development Objective is to confirm whether the Karkar geothermal site contains commercially exploitable geothermal resources suitable for power generation.

C. Project Description

The project development objective is to confirm whether Karkar geothermal site contains commercially exploitable geothermal resource suitable for power generation.

The project will have the following two components:

Component 1: Exploratory drilling and associated civil works (US\$9.6 million). This component will finance:

- Construction of an access road to the drilling site;
- Construction of water supply infrastructure to ensure uninterrupted supply of water for drilling needs. The water will most likely be taken from the nearby springs, and may require construction of a small reservoir to ensure required water flow intensity to the site;
- Construction of a rig pad (a smooth surface to accommodate the rig pad and the supporting containers);
- Exploratory drilling of one or two test wells to the depth of 1500-1800 m.

Component 2: Technical Assistance (US\$2 million). This component will finance consultant services and non-consultant services required under the project and will include:

- Well logging and mud logging. This will include analyses of the cuttings from the borehole, hole temperature and pressure measurements and gathering of essential data;
- Flow testing, chemical sampling and analysis: This will include an assessment of: (a) the possible power output of the well, the ratio between brine and steam, and (b) enthalpy;
- Technical supervision: This will include hiring of a technical expert to be on site during the entire duration of the drilling to collaborating on daily basis on the site to ensure adherence of the drilling contractor to the requirements of the contract.

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

The Karkar site is situated in the Syunik province (marz) at an elevation of around 3,500 m above sea level. The site is located far from human settlements and the project is not expected to require physical relocation. Private land acquisition is not expected, but will be confirmed prior to appraisal. The drilling site and the area nearby are not used for agricultural or any other economic activity. Vegetation on the site is represented mostly by low-growing shrubs and a grass cover. Small scale grass harvesting by rural residents occurs at lower elevations in the project area. The project site is not part of any designated protected area.

E. Borrowers Institutional Capacity for Safeguard Policies

The project will be implemented by the Renewable Resources and Energy Efficiency Fund (R2E2 Fund), which is implementing an ongoing Energy Efficiency Project, which is financed from the GEF and administered by the Bank, and has implemented a number of Bank-financed projects (Urban Heating Project, Renewable Energy Project). It has an adequate institutional capacity for dealing with safeguard issues. Specifically, the R2E2 Fund has a safeguards consultant familiar with the Bank's safeguards policies, currently supervising safeguards compliance of the ongoing GEF Energy Efficiency Project. Safeguards performance under the Energy Efficiency Project has been satisfactory from its start date till present.

F. Environmental and Social Safeguards Specialists on the Team

Darejan Kapanadze (GENDR)

Sarah G. Michael (GSURR)

II. SAFEGUARD POLICIES THAT MIGHT APPLY

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/ BP 4.01	Yes	<p>Exploratory drilling at Karkar site will comprise of physical works such as construction of access road, provision of a water supply system, arrangement of a rig pad, and drilling for extraction of geothermal water samples.</p> <p>Although the project site is in the area with poor vegetation and modest wildlife, lies away from human settlements, and does not carry any natural resources currently used by communities or businesses, the planned works still carry moderate environmental and social risks. Therefore, the project triggers OP/BP 4.01 and is classified as environmental Category B. Potential adverse environmental impacts to be examined through the Environmental and Social Impact Assessment (ESIA) are related to the extraction of water from natural sources available nearby and its delivery to the project site, generation of access material from drilling and other earth works, generation of waste water and possibly some small amount of hazardous waste (i.e. solid materials used and discarded while drilling, toxic materials injected during the drilling and contained in the extracted samples, and those mixed with waste water generated while drilling and/or exhausted with emissions). Likelihood and exact nature of these potential risks will be studied during ESIA and mitigation measures will be provided in the environmental mitigation and monitoring plans.</p>
Natural Habitats OP/BP 4.04	TBD	<p>ESIA will examine terrestrial ecosystem around the project site to identify occurring plant and animal species and assess what importance has the study area for their habitation. Natural water sources intended for water abstraction will also be explored to describe the aquatic life, weight ecological impacts of potential water abstraction and suggest acceptable volumes of intake.</p>
Forests OP/BP 4.36	No	
Pest Management OP 4.09	No	
Physical Cultural Resources OP/ BP 4.11	No	

Indigenous Peoples OP/BP 4.10	No	
Involuntary Resettlement OP/BP 4.12	Yes	Land acquisition may be required for construction of the access road and/or water source for the facility. As the type and scale of land acquisition is not yet known, OP 4.12 has been triggered as a precaution. A Resettlement Policy Framework will be prepared for the Project. Should it be clear by Project Appraisal that any land acquisition will be entirely on state or municipal lands, the triggering of this safeguard will be revisited at that time.
Safety of Dams OP/BP 4.37	No	
Projects on International Waterways OP/BP 7.50	No	
Projects in Disputed Areas OP/BP 7.60	No	

III. SAFEGUARD PREPARATION PLAN

A. Tentative target date for preparing the PAD Stage ISDS: 15-Dec-2014

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:

The ESIA report, including the site-specific EMP, will be prepared, disclosed, consulted with stakeholders and finalized before appraisal planned for January 15, 2015. TOR for the ESIA will include a requirement to provide a general outline and assessment of the environmental and social risks that are likely to be associated with future development of the Karkar geothermal site so that this information, along with the technical outcomes of experimental drilling, may be integrated into the comprehensive decision-making on future investments in Karkar. A Resettlement Policy Framework, if required, will also be prepared, disclosed, consulted with stakeholders and finalized prior to appraisal.

IV. APPROVALS

Task Team Leader:	Name: Artur Kochnakyan	
Approved By:		
Regional Safeguards Coordinator:	Name: Nina Chee (RSA)	Date: 20-Nov-2014
Practice Manager/Manager:	Name: Ranjit J. Lamech (PMGR)	Date: 06-Dec-2014

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.