

Environmental and Social Action Plan

No.	Action	Environmental & Social Risks (Liability/Benefits)	Requirement (Legislative, EBRD PR, GIIP)	Resources, Investment Needs, Responsibility	Timetable	Target and Evaluation Criteria for Successful Implementation	Status/Comment
0	Corporate Requirements						
0.1	Ensure compliance with National Laws and regulations and the EBRD Performance Requirements (2014) – the “PRs”. Inform the lenders on any relevant material regulatory changes, court cases, E&S notifications, E&S incident which adversely affects the Project. Complete additional studies specified and required by any binding decision of the administrative or judiciary authorities for the Project. Update Environmental and Social Instruments according to the completion of any judiciary or administrative process and disclose updated instruments in a timely manner.	Outstanding requirements need to be satisfied to meet Environmental and Social (E&S) assessment standards	EBRD PR1 Relevant Turkish legislation	Own resources, plus external consultants if required	Continuous until the full resolution of any binding legal or administrative proceedings relevant to the Project.	Completion of additional required studies as per any binding legal or administrative proceedings. Full resolution of any outstanding courts' proceeding. Regular informative note prepared for Lenders every three months in the course of binding legal or administrative proceedings with regards to any relevant material changes in the proceedings. Provision of any additional studies produced by the Borrower in the course of binding legal or administrative proceedings to the Lender immediately upon their completion.	
0.2	The Company shall develop and implement an Environmental and Social Risk Assessment (ESRA) for all new acquisitions /new projects in energy sector. This shall be part of the Company's corporate management systems in order to avoid and/or address project risks before acquisition/agreeing to undertake new geothermal projects.	To avoid negative public perception on Company as well as Efeler Extension Project. To satisfy banking and environmental and social standards To increase corporate capacity on implementation of Good Industry Practice (as defined under the CTA) for Environmental and Social Management	EBRD Environmental and Social Policy EBRD PR1, Good Industry Practice	Own resources, external consultants, if required	Development of ESRA approach within 6 months of Financial Closure (FC) or before the Company's acquisition/agreeing to undertake new geothermal projects, whichever is the earliest. Demonstrated adoption of ESRA to new acquisitions /new projects within 12 months from FC (if applicable) or before the Company's acquisition/agreeing to undertake new geothermal projects, whichever is the earliest. On-going implementation of ESRA to new acquisitions /new projects.	ESRA approach will be submitted to Lenders for review. ESRA implementation reported within the scope of the annual report to the Lenders for all acquisition of similar assets/development of similar projects during the reporting period.	

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PR1	Assessment and Management of Environmental and Social Impacts and Issues						
1.1	Integrate Lenders' requirements (ESAPs, SEPs, and ESMMP) with Company's existing Environmental, Health & Safety (EHS) Management System, and expand into an Environmental, Health & Safety and Social Management System (EHSSMS) to include management of Social aspects. Establish measurable objectives and KPIs for all aspects of EHSSMS in line with the regulatory and Lenders' requirement(s). EHSSMS shall include construction and operation phase management plans/ procedures implemented across all Project facilities. EHSSMS implementation shall be monitored on a regular basis, reported to Company Management and Lender at agreed intervals, and continuously improved.	Continuous challenge in meeting the Lender's requirements contained herein. Optimization of environmental and social management through a formalized system. Implementation of project standards commitments given In the ESA/ESIA Addendums, ESAPs and relevant plans such as ESMMP, SEP etc. Provide resources for training and monitoring of emissions	EBRD PR1 Voluntary and Good Industry Practice	Own resources, plus external consultants if required	Integrate PRs and Good Industry Practice related requirements and commitments (from ESA/ESIA Addendums/ESMMP, ESAPs) into the ESHSMS within 6 months from CTA signing. Demonstrate their integration in Contractors' contracts and their E&S reporting to Company prior to Construction's mid-point. Report for internal purposes only on monthly basis on EHSSMS progress Report on a semi-annual basis to Lenders on implementation of consolidated EHSSMS throughout construction. Report on E&S performance against expanded ESHSMS on a yearly basis throughout operation phase on the agreed Annual E&S Report (AESR) format.	ESAP, SEP, ESMMP and other relevant plans and procedures are included in the EHSSMS and related plans/procedures implemented by Company, and EPC Contractor. EHSSMS implementation progress reported within the scope of the semi-annual E&S Report during construction and AESR to the Lenders.	
1.2	Collaborate with Geothermal Association (JESDER) and other stakeholders for on-going Cumulative Environmental and Social Impact Assessment (CIA) Study which is performed by Ministry of Environment and Urbanization (MoEU) and EBRD, covering the operation of existing and reasonably foreseeable future GPP projects in the region. Implement outputs and mitigations issuing from the CIA that are required by national legislation, through updating the EHSSMS.	Company may be affected by reputational issues and public perception risks extending to the geothermal industry in Turkey. Company can become a sustainability leader in the geothermal industry due to its E&S, technical (and other) performance.	PR1 Good industry practice	Internal or external if needed	2019-2022 for preparation of CIA. On-going implementation of ensuing requirements of national legislation.	Progress reported in the AESR to the Lenders. Company will promote transparency, engagement and disclosure of E&S performance as part of industry-wide initiatives through implantation of PR10	
1.3	Prepare a contractor/sub-contractor management plan referring to Project requirements. Continue implement management measures and conduct monitoring as per the ESMMP.	Non-compliance, incident or accident induced by contractor/sub-contractor may impact the Project's receptors, damage Company's reputation.	EBRD PR1	Own resources, and external consultants if required	Assess Contractor's institutional capacity to implement requirements and commence implementation of required measures for adoption of E&S requirements and commitments by EPC Contractor immediately. EPC Contract to comprise EHSS clauses within 3 m of FC. Continue throughout construction and operation	EHSS requirements integrated to all existing and future contracts. Contractor's reporting to Company on a regular basis on EHSS performance (at least monthly). Results evaluated and reported within the scope of the annual report to the Lenders. Progress reported within the scope of the annual report to the Lenders.	
1.4	Hire and maintain suitable resources to develop and implement the EHSSMS at all time – including a suitably experienced and qualified social specialist.		EBRD PR1	Own resources, and external consultants, if required	Commitment is given to enhance Company's Community Relations' team. Identify and hire relevant specialists by the end of 2019. Continuously engage with stakeholders in a gender and culturally appropriate manner throughout construction and operation	Revision of Organization Chart, Roles & Responsibilities definitions Detailed records of stakeholder engagement activities and representative participations by all stakeholders' groups – in particular women and vulnerable groups.	
1.5	Seek specialized training on EBRD's sustainability framework, Good Industry Practice and their applicability to the Project to support the integration of the Lenders-driven requirements into the Company's EHSSMS.	Optimization of environmental and social management through training and monitoring.	EBRD PR1	External trainer(s), EBRD's staff to help the Company for the subject training free of charge	In parallel with the development of the integrated EHSSMS (Item 1.1 above).	Training materials and records. Progress reported within the scope of the AESR to the Lenders.	

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1.6	Establish a semi-annual (during construction) and annual monitoring schedule and reporting format Report to Lenders on EHSS performance and commitments on a semi-annual basis during construction, and thereafter on an annual basis on the agreed AESR template. Provide information to the Lenders on any material EHSS incidents affecting the Project.	Traceability of progress in implementing E&S requirements. Continuous improvement.	EBRD PR1	Internal resources	Prepare monitoring plan (for the first 3 years) and reporting templates within 6 months from FC.	Monitoring plan/schedule and reporting template(s) to be prepared with the guidance of Lenders. Monitoring and reporting conducted with Good Industry Practice and up to the agreed frequency throughout the course of the Project.	
PR2	Labour and Working Conditions						
2.1	Ensure Human Resources (HR) Policy, employee manual and relevant procedures are developed and include equal opportunity and gender rights provisions as per the applicable standards Ensure the provision of relevant HR documents to all personnel and conduct related training. HR Policy and HR Management System (including internal Grievance Redress Mechanism (GRM)) should cover all Project Workers¹. The Policy to provide for oversight of contractor policies/ procedures. Consider SA 8000 Certification to formalize the HR management system.	To ensure fair management of workforce in line with EBRD PR2 and related local regulations requirements including prevention of child labor, forced labor, retrenchment principles and encouragement of non-discrimination.	EBRD PR2, Relevant Turkish Regulations	Own resources	Commence implementation immediately Complete HR management system as part of EHSSMS within 6 months from CTA signing (see 1.1 above).	Progress reported within the scope of the AESR to the Lenders.	
2.2.	Ensure all Project Worker's employment contracts comprise wages and overtime payment methods Ensure camp conditions are in line with the IFC-EBRD Workers' Accommodation Guidance Note. Provide workers' accommodation supervision by a medical doctor during construction activities in line with local legal requirements.	To standardize payments provided to Project Workers. To standardize accommodation provided to Project Workers.	EBRD PR2 & Relevant Turkish Regulations	Own resources,	Assess immediately and commence implementation of required measures immediately Continue throughout construction	Progress reported within the scope of AESR to the Lenders	
2.3.	Design and implement a structured Grievance Redress Mechanisms (GRM) for all Project Workers - including mechanism to process anonymous grievances. Train all Project Workers on the use of GRM. Review the appropriateness and effectiveness of the GRM on a regular basis and modify as necessary.	To provide a channel for raising workers concerns and transparent, consistent mechanism for resolution.	EBRD PR2	Own resources, external consultants (if required)	Assess immediately and commence implementation of required measures immediately. Full implementation within 6 months from CTA signing. Continue throughout construction and operation	Grievance mechanism in place and implemented. Universal staff awareness of GRM. Systematic grievance records including responses. Results reported within the scope of the AESR to the Lenders.	
2.4.	Develop a security management plan in compliance with the Voluntary Principles on Security and Human Rights. Provide fit-for-purpose Conflict Management and Human Rights Training to the security personnel by qualified trainer (e.g. firm holding an International Code of Conduct (ICoC) certificate).	To eliminate the risk to use of un-proportional force to public. To support the public's positive perception of Company.	EBRD PR2	Own resources and External consultants	Assess immediately and commence implementation of required measures immediately. Complete within 6 months from CTA signing. Continue implementation throughout construction and operation	Security Management Plan in place. Training records. The plan will be provided to the Lenders for their review after completion. Results reported within the scope of the annual report to the Lenders.	
PR3	Resource Efficiency and Pollution Prevention and Control						
3.1.	Implement Environmental and Social Management and Monitoring Plan (ESMMP) (Annex D of ESA Addendum (2019)).	Optimization of environmental and social management through training and monitoring.	EBRD PR1, EBRD PR3	Own resources,	Assess immediately and commence implementation of required measures immediately Continue throughout construction and operation	Monitoring records. Initial reporting on semi-annual basis during construction. Thereafter, results reported within the scope of the AESR to the Lenders.	

¹ Project Workers includes all formal and informal (e.g. day-laborer) employed by Company, contractors and sub-contractors working on the Project.

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3.2.	Monitor closely the GHG measurement results at all operation facilities of the Company. Provide a detailed breakdown of GHG emissions to Lenders as part of the AESR, including an update on the progress of any supplemental measures taken aiming to reduce emissions.	Monitoring of operational impacts associated with GHG Emissions. Aiming to become a model facility in sustainable geothermal power generation by tackling associated GHG emissions	EBRD PR3, Good Industry Practice	Own resources, external consultants (if required)	Continue monitoring at all operational plants. Install monitoring system at Efe-8 and start monitoring when Efe-8 is commissioned.	Monitoring results. GHG emissions and performance of any control measures reported to Lenders within the scope of the AESR.	
3.3.	Continuously evaluate applicable mitigation alternatives to reduce carbon emissions in the medium term and implement technologically and economically feasible alternatives with the aim to operate plant for average carbon emission below the National Grid Emission Factor (GEF) level in the long term.	The Company will develop a GHG reduction program through: - Operational control and re-injection - Carbon capture and storage/ use/ selling to 3 rd party industries - Other feasible techniques	EBRD PR1 EBRD PR3	Own resources	Ongoing evaluation of mitigation measures. Aim to implement trials of feasible technologies within the next 5 years from FC. Roll-out of GHG emission reduction to all Efeler units when technically and economically feasible.	Mitigation alternatives evaluated, and related information reported to Lenders within the scope of the AESR.	
3.4.	Commission an independent review of Best Available Techniques (BAT) for GHG emission reduction and develop a feasibility study to be presented to Lenders on options available.	The study will aim to identify the most technically and economically feasible means to reduce GHG emissions.	EBRD PR3, Good Industry Practice	External consultants and Own resources	Complete detailed BAT/feasibility study within 5 years from FC.	Independent review and feasibility study conducted. Results reported within the scope of AESR.to the Lenders	
3.5.	Continue evaluation of applicable mitigation alternatives to reduce H ₂ S emissions and corresponding odor.	To reduce environmental and health risk of H ₂ S emissions. To reduce the negative public perception mainly triggered by Odor.	EBRD PR3	Own resources, External consultants (if required)	Complete review of available options in 2019 Trial run preferred option for 12 m in 2020. Demonstrate attenuation of negative perception of the Project-related odor emissions through on-going community engagement indicating progress within 36 months following 2020.	Company's reporting on progress with odor impact in AESR. Stakeholder engagement and consultation records	
PR4	Health and Safety						
4.1	Extend construction phase OHS plans and procedures to Efe-8 Prepare operational phase OHS Plans and Procedures for all Project facilities	Minimize occupational injuries/fatalities due to accidents Optimized health and safety performance.	EBRD PR4 Relevant Turkish legislation Good Industry Practice	Own resources, external consultants (if required)	Complete within 6 months from CTA signing. Continue throughout construction and operation	Occupational H&S Plan in place and implemented Reporting to Lenders included in semi-annual E&S audit report during construction and AESR thereafter.	
4.2	Conduct (or update an existing one for initial units) a comprehensive health and safety risk assessment study (e.g. HAZOP) for the capacity extension GPPs.	Optimized health and safety performance.	EBRD PR4 Relevant Turkish legislation Good Industry Practice	Own resources, external consultants if required (e.g. HAZOP facilitator(s))	Complete study by 31 December 2019. Review H&S risk assessment study and corresponding management measures every 3 years thereafter.	Updated, comprehensive H&S Risk Assessment completed for all units. Record of review of the H&S Risk Management system (procedures, equipment, trainings, etc.) included in every AESR to the Lenders	
4.3	Revise and expand Emergency Response Plan(s) to include Lender's requirements and cover the capacity extension Project. Include various possible scenarios (e.g. pipe rupture and inclusion) covered in the Risk Assessment Study. Engage with relevant institutions such as Fire Department of Germencik and Aydın Province, AFAD. Engage with Community Members to inform relevant stakeholders about Emergency Response Planning and provide training where relevant. Emergency response training to surrounding local villages on ERP, to the extent possible.	Optimized health and safety performance.	EBRD PR4 Relevant Turkish legislation Good Industry Practice	Own resources, external consultants (if required)	Complete updating of ERP documentation and drill schedule within 6 months from FC., no later than 3 months from initial disbursement Conduct drills of all scenarios within 2 years from FC. Thereafter conduct ERP drill (full scale) at least once a year.	Updated Emergency Response Plan, and any other plan/document in place and implemented. Drills schedule and plan. Records and photographic evidence of drills. Records of participation of external stakeholders to drills	

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4.4	Conduct semi-annual EHS and labor audits during construction. Within one year of commissioning Efe-8, undertake an independent EHSS audit for the capacity extension (Efe-6, Efe-7 and Efe-8) GPPs against all applicable standards and commitments.	The commissioning and COD reports will review how the capacity extension (Efe-6, Efe-7 and Efe- 8) plants have been developed, and whether the ESAP and EIA requirements have been met.	EBRD PR3 National legislation Good Industry Practice	Own resources and External Lenders Independent Environmental and Social Consultant (LIESC)	Semi-annual construction-focused audit during Efe-8 construction from signing of the CTA submitted to the Lenders. Third party EHSS Audit report submitted to Lenders within one year of Efe-8 commissioning, as part of the Commissioning Audit. Yearly AESR reporting to Lenders. 3rd party monitoring report against the applicable standards every five years from CTA signing submitted to Lenders	ToR for LIESC's monitoring audit during post-commissioning audit within 6 months from FC. ToR for five-yearly LIESC's EHSS audit agreed 3 months prior to the audit. Contract with the supplier to be mutually agreed with the Lenders and the Company.	
4.5	Develop a Community Health and Safety Management Plan to be supported by the OHS and medical experts of the company and the Public Health experts (if required) Respond to community's concerns on the Project's impact to public health through effective implementation and stakeholder engagement process.	Address concerns expressed in multiple forums by Project Affected People and external stakeholders toward geothermal industry in general and the Project in particular.	EBRD PR4 Relevant Turkish legislation Good Industry Practice	Own Resources Public Health experts (if required)	Develop Community Health and safety Management Plan by end 4Q 2019 Start study immediately Initial report in first AESR, and yearly thereafter. Continue throughout construction and operation	Community Health & Safety Management Plan in place. Records of all activities conducted as part of the Community Health and Safety Management Plan Summary of the activities reported to the Lenders as part of AESR.	
4.6	Implement training activities to reduce exposure to infectious diseases (such as HIV, hepatitis and Legionella) for communities and workers.	Reduced impact of infectious diseases.	EBRD PR4 Relevant Turkish legislation Good Industry Practice	Own resources, appropriate local institutions as/when required.	- Commence implementation immediately after completion of the OHS and the Community Health and Safety Management Plans - Conduct regular health checks to employees internally by the Company doctor - Provide training to employees at least on annual basis and; - Provide at least one external training in selected communities per year. Report on training activities – including overview of training material, training frequency and attendance – on an annual basis in AESR.	Records of training activities will be reported in AESR to the Lenders	
PR5	Land Acquisition, Involuntary Resettlement and Economic Displacement						
5.1	Develop a Land Acquisition (covering acquisition and leasing/rental) procedure in line with local administrative requirements and Lenders' PR5 requirements.	Systematic approach to land acquisition and management of impacts on livelihoods	EBRD PR1, EBRD PR5, Good Industry Practice	Own resources, external consultants (if required)	Prior to securing (acquisition, lease, rental) of any land for the Project (e.g. Efe-8 pipeline's Right-of-Way)	Land Acquisition Procedures submitted to Lenders prior to any land acquisition (including leasing, renting, etc.) Implementation records provided with AESR for reporting period	
5.2.	Use its best efforts to monitor the land acquisition process carried out by TEİAŞ for high voltage transmission lines against national legislation. Extend Grievance Redress Mechanism (GRM) to all land-acquisition related activities.	To avoid negative social impact posed by associated facilities.	EBRD PR1, EBRD PR5, National legislation Good I Industry Practice	Own resources,	Commence implementation immediately Continue throughout construction and operation	Resolution of the concerns on best effort basis. Details on all temporary and permanent land acquisition details that occurred during the reporting period – comprising an assessment of alignment with PR5 - included in the AESR submitted to Lenders	

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5.2	Monitoring operational impacts on agricultural production such as olives and fig in cooperation with Provincial/District Directorate of Agriculture and/or Chamber of Agricultural Engineers or similar recognized professional or academical parties.	To avoid negative social impact posed by projects. To increase positive public perception on the Company.	EBRD PR1, EBRD PR5	Own resources, external consultants if required.	Commence implementation immediately Continue throughout construction and operation	Monitoring reports. Compensations records.	
PR8	Cultural Heritage						
8.1	Chance finds shall be handled in line with related national legislation and relevant authorities are informed in case of a chance find.	Any archaeological finds will be preserved during the construction process	EBRD PR8	Own resources	Commence implementation immediately – no later than 3 months after CTA signing or prior to start of construction on associated facilities such as pipelines, transmission line(s), etc., whichever comes the earliest. Continue throughout construction	Chance Finds Procedure adopted. All staff, including EPC Contractor, trained in implementation	
PR10	Information Disclosure and Stakeholder Engagement						
10.1	Implement the SEP and the grievance mechanism. As part of the SEP, maintain a register of external communications including minutes of meetings held with stakeholders. Review SEP on an ongoing basis and update as necessary.	To maintain good stakeholder engagement and framework for sharing information with the public	EBRD PR10 Good industry Practice	Own resources	Commence implementation immediately Continue throughout construction and operation Report on SEP implementation and updates on an annual basis in AESR.	Information on material grievances received and how these are addressed/ resolved provided to Lenders as part of the AESR.	
10.2	ESA, SEP, NTS and ESAP to be disclosed locally and on web site until the end of the third year from the COD of Efe-8. Implement the requirements of the Lenders ESIA disclosure package and National legislation. Provide an update on the implementation of the SEP and ESAP in annual external E&S performance disclosure.	The Lender ESIA disclosure document contains information on the project design and implementation as well as compliance. This will be used to benchmark the plants EHSS performance	ERBD PR 10	Internal,	Retain E&S documentation on Company's website at least until the end of the third year from the COD of Efe-8. Publish a summary of SEP and ESAP implementation on Company website on an annual basis, no later than for 2020 reporting year.	Documents available locally and on Company's web site Publication of external E&S performance summary for reporting year 2020 no later than 90 days after reporting period, and annually.	
10.3	Conduct external reporting to public, summarizing project progress, EHSS performance, GHG emissions, CSR (Corporate Social Responsibility) activities and other relevant information. Provide full data to Lenders on H2S and GHG emission on annual basis.	To maintain good stakeholder engagement, implement Good industry practice, disclose annual non-financial information.	EBRD PR 3 EBRD PR 10 Good industry Practice	Internal	Preparation of disclosure template within 6 months from FC. Annual disclosure on Company website, within [90] days after year end for the duration of the Loan	Sharing of disclosure template with Lenders. EHSS performance information, GHG emissions, CSR information to be disclosed in summary form on the web-site of the Company. H2S and GHG emission data to be reported within AESR to Lenders.	
10.4	Continue to implement community development projects which aim to support education and enhance agricultural production in the villages in line with the needs of the communities.	To avoid negative social impact posed by projects. To increase positive public perception on Gurmat.	EBRD PR1, EBRD PR10	Own resources, and other donor funds (if possible) to be organized by Lenders.	Annual Community Development Plans Commence implementation immediately Continue throughout construction and operation	Report in AESR.	
10.5	Use its best efforts to increase gender diversity and representativeness of the Community Relations function within Gurmat. Engage and consult in a gender and culturally appropriate manner, in particular ensuring the inclusion of women stakeholders.		EBRD PR1	Own resources, and external consultants if required	. Continuously engage with stakeholders in a gender and culturally appropriate manner throughout construction and operation	Detailed records of stakeholder engagement activities and representative participations by all stakeholders' groups – in particular women and vulnerable groups (if any) included in AESR	