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SECTION A. Project Title

ARALIK 12.41 MW Hydroelectric Power Plant

SECTION B. Project description

ARALIK is a 'Run-off-River' type hydroelectric power plant(HEPP) Project located on Aralik River in Borcka District of Artvin. The Project will be implemented by KAR-EN Karadeniz Elektrik ve Üretim Ticaret A.Ş.

Figure 1. ARALIK HEPP Project Area

The project was granted an operating license by Energy Market Regulatory Agency (EMRA) on 16.05.2006. The project aims to generate energy from the 300 meters fall on Aralik River 1km. upstream before the river merges with Coruh river. The project will maintain steady flow of water to the river to ensure the natural life is unaffected.

The 2,800m water tunnel enable water flow at a 5.0m3/sec to the turbine, and the water will be left to the river without a change in the chemical composition. The annual electricity energy generation is estimated at 45.00 GWh.

According to calculations based on electricity generation estimates, Aralik HEPP project will result in a CO_2 reduction of 29,400 tons per year due to use of renewable resources for electricity generation.

The construction is planned to be completed in 2 years and it is estimated that 200 personnel will be employed during this period. The plant is planned to be in operation for 46 years and will provide permanent job opportunity for 15 personnel during the operation phase. Local

applicants will be given preference during the recruitment process.

Figure 2. ARALIK HEPP Penstock and Powerhouse Location

SECTION C. Proof of project eligibility

C.1. Scale of the Project

Project Type	Large	Small
	☐	☐
	☐	☐
	☐	☐
	☐	■
	☐	☐
		☐

C.2. Host Country

Host country Turkey does not have cap on GHG emissions.

C.3. Project Type

Project type	Yes	No
Does your project activity classify as a Renewable Energy project?	■	☐
Does your project activity classify as an End-use Energy Efficiency Improvement project?	☐	■

Project activity involves construction of a 12.41 MW capacity run-off-river hydroelectric power plant for electricity generation. Project category is included in the sectoral scope 1 “Energy Industry – Renewable Sources” according to the UNFCCC definition.

Pre Announcement	Yes	No
Was your project previously announced?	☐	■
Carbon credit has been taken into account by project investors in making the project decision to proceed.		

C.4. Greenhouse gas

Greenhouse Gas	
Carbon dioxide	■
Methane	☐
Nitrous oxide	☐

C.5. Project Registration Type

Project Registration Type	
Regular	☐

Pre-feasibility assessment	Retro-active projects (T.2.5.1)	Preliminary evaluation (T.2.5.2)	Rejected by UNFCCC (T2.5.3)
	■	☐	☐

SECTION D. Unique project identification

D.1. GPS-coordinates of project location

	Coordinates
Latitude	41°23'14.55"- 41°23'54.23" N
Longitude	41°41'23.11- 41°44'23.19" E

Aralik HEPP Project is situated in Borcka District of Artvin Province. The Project is located on Aralik River and close to Aralik Villages.

D.2. Map

Figure 3. Aralik HEPP Project Location

SECTION E. Outcome stakeholder consultation process

E.1. Assessment of stakeholder comments

The initial stakeholder meeting has been held on 12th of March, 2009 in Borcka County which is the closest location to Aralik Hydroelectric Power Plants.In general stakeholders' comments were positive about the Project. Scores given by stakeholders have been assessed in LSC report and will be further discussed during feedback round which will be organised after receiving Gold Standard's comments about local stakeholder consultation.

The main issues raised by the participants during the SC meeting were:

- How will the water be processed and returned to the river bed, and
- Consideration of employment of local people.

Stakeholder Comment	Assessment	Response to comment
How will the water be returned to the river bed?	Reasonable	The company will ensure the water is returned to the river bed without affecting its composition and in line with the state regulations.
Job Opportunities. How many people will be employed in the plant?	Taken into Account	The company recognizes that there is an interest in job opportunities associated with the plant.

All comments from stakeholders are taken into account and promptly responded.

E.2. Stakeholder Feedback Round

Feedback round is planned to be organized receiving comments from GS about local consultation meeting. Feedback round will be organized to include all identified stakeholders. Summary of the project documents in Turkish, including outcomes of the local stakeholder consultation meeting will be made available to stakeholders either by mail or through local governors, village heads. Also, original copies of the documents will be made available to all stakeholders through GTE web page (http://www.gte.uk.com).

SECTION F. Outcome Sustainability assessment

F.1. 'Do no harm' Assessment

Project activities have been analyzed against questions in table 2.6 and in annex H of GS toolkit. Project is not complicit in corruption and fully respects human rights. Also, there exist no identified species under protection in the project area that will be affected negatively by the project.

Project is a run-off-river type project and does not involve use or generation of any hazardous waste. All of the project activity is implemented considering related environmental and safety precautions. Based on the analysis, only relevant areas related to project activity are determined as labour standards and environmental protection which are assessed as given in table below.

Safeguarding principles	Description of relevance to my project	Assessment of my project risks breaching it (low/medium/high)	Mitigation measure
Human Rights			
1 The Project respects internationally proclaimed human rights including dignity, cultural property and uniqueness of indigenous people. The Project is not complicity in Human Rights abuses.	Not Relevant. Project activities do not cause any human rights abuse and since there exist not indigenous people affected within the project boundaries.	N/A	N/A
2 The Project does not involve and is not complicit in involuntary resettlement.	Project does not involve any resettlement.	N/A	N/A
3 The Project does not involve and is not complicity in the alteration, damage or removal of any critical cultural heritage.	Not Relevant. There exists no cultural heritage within the project site as given in EIA report.	N/A	N/A
Labour Standards			
4 The Project respects the employees' freedom of association and their right to collective bargaining and is not complicit in restrictions of these freedoms and rights	Not Relevant. All staff recruited are employed according to the national legislations and project does not prevent collective	N/A	N/A

Safeguarding principles	Description of relevance to my project	Assessment of my project risks breaching it (low/medium/high)	Mitigation measure
	bargaining or encourage restriction of freedoms and rights		
5 The Project does not involve and is not complicit in any form of forced or compulsory labour.	Not Relevant Project does not involve any forced or compulsory labour.	N/A	N/A
6 The Project does not employ and is not complicit in any form of child labour.	Not Relevant Since project does not involve any child labour. Turkey is a party of IPEC* since 1992	N/A	N/A
7 The Project does not involve and is not complicit in any form of discrimination based on gender,	Not Relevant. Discrimination based on gender is illegal in Turkey. Workers will be recruited according to requirements of the position.	N/A	N/A
8 The Project provides workers with a safe and healthy work environment and is not complicit in exposing workers to unsafe or unhealthy work environments	Work Safety&Risk of accidents	Low	All labours are trained in terms of work safety and relevant safety protocols. An emergency plan is issued and in force for risk of accident.
Environmental Protection			
9 The Project takes a precautionary approach in regard to environmental challenges and is not complicity in practices contrary to the precautionary principle. This principle can be defined as:"When an activity raises threats of harm to human health or the environment, precautionary	Not Relevant. Project is in compliance with local regulations and precautionary principles.	N/A	N/A

Safeguarding principles	Description of relevance to my project	Assessment of my project risks breaching it (low/medium/high)	Mitigation measure
measures should be taken even if some cause and effect relationships are not fully established scientifically."			
10 The Project does not involve and is not complicity in significant conversion or degradation of critical natural habitats, including those that are (a) legally protected, (b) officially proposed for protection, (c) identified by authoritative sources for their high conservation value or (d) recognized as protected by traditional local communities	There exist no protected (or proposed to be protected) or critical habitat within the project boundary as stated in EIA report.	N/A	Company will comply with all national regulations and take all precautions stated in the EIA and legislations.
Anti-Corruption	Not relevant. Corruption is illegal in Turkey.	N/A	N/A

F.2. Sustainable Development matrix

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
*Air quality	Mitigation measure is not required for this indicator	7.A -Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources) 7.B -7.2 CO_2 emissions, total, per capita)	Parameter :SO_2 and NO_x emission Emissions of SO_2 and NO_x will be reduced in parallel to CO_2 due to avoiding fossil fuel combustion.	+
*Water quality and quantity	Ensuring that minimum flow will be released from the weir to protect aquatic life in the river bed.	-	Parameter: Amount of water released. Quality of water will not be affected by the project activity. Quantity of water released will be monitored continuously by DSI (State Hydraulics Work Authority) to ensure that minimum flow is achieved.	+
Soil condition	No mitigation action is required for	-	Parameter: Amount of excavation wastes	0

	this indicator.		Excavation aggregates will be used in construction and provided to local habitants who need filling material for their land.	
Other pollutants	No mitigation measure is required since noise during construction will be much lower than allowed limits.	-	Parameter: Noise level during construction. Project will not create any other pollutant. Noise level will be lower than allowed limits according to EIA report.	0
Biodiversity	150 l/s of minimum flow will be released continuously to protect aquatic life.	-	Parameter: Flow released to river bed	0
Quality of employment	Staff will be trained for the positions created during construction& operation phases. All Heath and Safety measuremen ts will be applied according to local regulations.	-	Parameter: Number of certificates issued/trainings provided.	+

Livelihood of the poor	No mitigation action is required since local people will naturally have priority in recruitment process due to logistic purposes also.	MDG target 1.A (Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day)and 1.B (Achieve full and productive employment and decent work for all, including women and young people)	Parameter: Number of locally recruited staff in the power plant. Project will increase income of local people compared to baseline scenario through locally recruited staff and supply of plant needs from region.	+
Access to affordable and clean energy services	No mitigation action is required for this indicator.	-	Parameter: Fossil fuel replaced Project will decrease dependency on import fossil fuels (Natural gas, Coal and petroleum) compared to baseline scenario.	+
Human and institutional capacity	No mitigation measure is required for this parameter.		Parameter: Number of people participating stakeholder meetings. Project will contribute increasing awareness about environmental issues of the local	0

			people through stakeholder consultation process.	
*Quantitative employment and income generation	Mitigation measure is not required for this indicator.	MDG target 1.B (1.4, 1.5, 1.7 Achieve full and productive employment and decent work for all, including women and young people)	Parameter: Payment made to staff. Project will create new job opportunities compared to baseline scenario.	+
Balance of payments and investment	Mitigation measure is not required for this indicator.	MDG target 8.D (Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term)	Parameter: Currency saving due to avoided fuel import. Project will replace fossil fuel import for electricity generation and result in net foreign currency saving.	+
Technology transfer and technological self-reliance	Mitigation measure is not required for this indicator.	MDG target 8.F (In cooperation with the private sector, make available the benefits of new technologies, especially information and communications)	Parameter: Expenditures for equipments Project will enable latest technology transfer to Turkey and influence development of local suppliers and know-how in the country	+
Justification choices, data source and provision of references				

Air quality	SO_2 and NOx emissions Project will decrease use of fossil fuels for electricity generation and prevent particulate matter, SO_2 , NOx and odour which form as a result of incomplete combustion. For ease of monitoring, only SO2 and NOx emissions have been selected as monitoring parameter. (Source: National GHG Inventory of Turkey http://unfccc.int/files/national_reports/annex_i_ghg_inventories/national_inventories_submissions/application/zip/tur_2009_crf_13apr.zip)
Water quality and quantity	Quantity of water released Since the project activity is a run-off-river type HEPP, it does not cause any pollution or change in water quality in terms of chemical, biological oxygen demand or any other pollutants. Minimum amount water that should be released from the weir is determined during EIA study and to be monitored by local authorities through flow measurement station at the upstream and downstream of the plant. (Source: EIA Report)
Soil condition	Soil Pollutants Project activity involves electricity generation from renewable resources; therefore project does not have any impact on soil condition. All wastes will be collected and disposed according to local regulation. Excavation wastes obtained during conveying channel construction has been used as filling material in road construction along the channel and provided to local people who need filling material for their lands. (Source: EIA Report)
Other pollutants	Noise level Noise level during construction has been chosen as other source of pollutant which has also been assessed during EIA study. It has been concluded that even all machines are operated at the same time, the noise limits wouldn't be reached. (Source: EIA Report)
Biodiversity	Minimum Flow in the river bed Project site does not include any protected species. Since the conveyance line is very short and involves a tunnel rather than a conveyance channel no significant impact on biodiversity during construction is expected. Also, since the minimum water flow is continuously released to river bed and weir design involves a fish passage enabling upward migration, impact on biodiversity is not considered as significant. As the appropriate mitigation measures are taken during construction, the indicator was scored as zero. (Source: EIA Report)

Quality of employment	Number of Certificates Due to Health and Safety regulations and technical skills required for operating equipments, training will be provided to relevant staff. Also, some of the board operators will have training to get certificate for working at high voltage level as requested by local regulations. Trainings and certificates provided will increase their capacity compared to baseline level. Therefore, scoring for this indicator was given as positive. (Source: Certificates & evidence for trainings to be provided during verification)
Livelihood of the poor	Number of Locally recruited staff Income of local people employed in the plant will increase as a result of project activities which will also have impact on overall spending in the settlements near project site. According to State Planning Organization statistics, unemployment rate in Borcka is 6.42% and population decrease is about 9.23%(due to migration) due to lack of job opportunities. (http://ekutup.dpt.gov.tr/bolgesel/gosterge/2004/ilce.pdf page 144)
Access to affordable and clean energy services	Fossil Fuel Replaced The project will reduce dependency on fuel and energy import through use of local and renewable resources and help meet national energy demand and enable diversification in the energy supply. According to projections, electricity demand of Turkish grid will increase significantly in coming year. Therefore, this indicator was scored as positive. (Source: Capacity projection 2008-2017, http://www.teias.gov.tr/projeksiyon/CAPACITY%20PROJECTION%202008-2017.pdf figure 1., page 5)
Human and institutional capacity	Number of People attending meetings Educational activities which are not part of the usual schooling system, such as environmental training, awareness raising and knowledge dissemination will increase through stakeholder meetings. Also, pproject will increase human and institutional capacity of the workers in terms of technical skills. (Source: LSC report, trainings provided to workers)
Quantitative employment and income generation	Payments made to Staff More than 200 people will be employed directly during construction and 15 people during operation. This will create a significant contribution to the local economy.

	(Source: Social security and insurance payment documents, and (http://ekutup.dpt.gov.tr/bolgesel/gosterge/2004/ilce.pdf page 144))
Balance of payments and investment	Currency Saving Turkey is heavily dependent on import fossil fuel, especially natural gas which is imported, for electricity generation. Project will reduce fuel import and result in net foreign currency saving proportional to electricity generation. (Source: TEIAS: http://www.teias.gov.tr/ist2007/43.xls)
Technology transfer and technological self-reliance	Equipment Expenditures Project will assist in transfer of new technology to Turkey. In addition to Technological skills of local suppliers and technicians are also expected to increase as a result of trainings provided by the equipment manufacturers. (Source: Equipment purchase agreements)

Justification choices, data source and provision of references	
Air quality	To generate electricity by hydro power will reduce the amount of CO2 released to atmosphere in Turkey. (TEIAS – Turkish Electricity Transmission Corp- Electricity Capacity Projection Report (2008-2017) http://www.teias.gov.tr/projeksiyon/CAPACITY%20PROJECTION%202008-2017.pdf)
Water quality and quantity	No negative or significantly positive impact of project is identified. (”Environmental Impact Assessment Report” licensed by Ministry of Environment and Forestry.)
Soil condition	No negative or significantly positive impact of project is identified. (”Environmental Impact Assessment Report” licensed by Ministry of Environment and Forestry.)
Other pollutants	No negative or significantly positive impact of project is identified. (”Environmental Impact Assessment Report” licensed by Ministry of Environment and Forestry.)
Biodiversity	No negative or significantly positive impact of project is identified. (”Environmental Impact Assessment Report” licensed by Ministry of Environment and Forestry.)
Quality of employment	Project activities will create many direct and indirect opportunities both locally and nationally.
Livelihood of the poor	Income of local people from project activities will increase as a result of project. Non agricultural unemployment reaches 11.1% for the region. ((http://tuikapp.tuik.gov.tr/Bolgesel/menuAction.do , Turkish Statistical Institute’s web site)
Access to affordable and clean energy services	The project will help meet national energy demand and enable diversification in the energy supply. (www.teias.gov.tr, Turkish Electricity Generation Statistics, http://www.epdk.org.tr/yayin_rapor/elektrik/yayin_rapor.htm EMRA/EPDK – Turkish Electricity Market Regulatory Authority Reports)
Human and institutional	Project will increase human and institutional capacity of the workers and local community in terms of awareness about environmental issues.

Justification choices, data source and provision of references	
capacity	((http://tuikapp.tuik.gov.tr/Bolgesel/menuAction.do , Turkish Statistical Institute's web site)
Quantitative employment and income generation	During the construction and operation phases, recruitment will be conducted among the local workforce. (KAREN supplies all documents.)
Balance of payments and investment	Turkey is heavily dependent on import fossil fuel for electricity generation. Project will help to decrease the dependency of fuel import and result in net foreign currency saving and energy security. (TEIAS – Turkish Electricity Transmission Corp- Electricity Capacity Projection Report (2008-2017) http://www.teias.gov.tr/projeksiyon/CAPACITY%20PROJECTION%202008-2017.pdf)
Technology transfer and technological self-reliance	Project will assist in transfer of high technology to Turkey. (Technical Brochures sourced by equipment suppliers.)

SECTION G. Sustainability Monitoring Plan

No		1
Indicator		Air Quality
Mitigation measure		N/A
Chosen parameter 1.1		SO_2 emissions by thermal power plants
Current situation of parameter 1.1		Total SO_2 emission related to electricity generation is about 936.1 Gg for 2007 according to National Inventory of Turkey[1]. Considering that electricity generation in 2007 is 183,339.7 GWh, SO_2 emission per MWh is calculated as 5.3 kg/MWh.
Future target for parameter 1.1		SO_2 emission reduction corresponding to 127 GWh generation is calculated as 692 ton per year.
Chosen parameter 1.2		NO_x emissions by thermal power plants
Current situation of parameter 1.2		Total SO_2 emission related to electricity generation is about 202.9 Gg for 2007 according to National Inventory of Turkey. NO_x emission per MWh is calculated as 1.1 kg.
Future target for parameter 1.2		NO_x emission reduction corresponding to 127 GWh generation is calculated as 140 ton per year.
Way of monitoring	How	Electricity generated by Resadiye-I HEPP and NO_X and SO_2 emission data from GHG inventory of Turkey will be used as reference in calculation of the emission reduction.
	When	Yearly
	By who	Project developer

No		2
Indicator		Water Quality and quantity
Mitigation measure		Release of minimum flow to protect aquatic life.
Chosen parameter		Flow rate of water released
Current situation of parameter		Natural flow of river course
Future target for parameter		Minimum 150 l/s
Way of monitoring	How	Flow measurements at the upstream and downstream of weir
	When	Continuously
	By who	Project developer

1 http://unfccc.int/files/national_reports/annex_i_ghg_inventories/national_inventories_submissions/application/zip/tur_2009_crf_13apr.zip ,Worksheet:Table1s1 **)**

No		10
Indicator		Quantitative employment and income generation
Mitigation measure		Mitigation measure is not required.
Chosen parameter		Payments made to staff
Current situation of parameter		None
Future target for parameter		More than 200 people during construction and 15 people during operation stage is planned to be employed. Payment made is to be determined later.
Way of monitoring	How	Through evaluation documents for wages paid and social security documents.
	When	Yearly
	By who	Project developer

No		11
Indicator		Balance of payments
Mitigation measure		Decrease dependency on fossil fuel thorugh increasing use of local resources.
Chosen parameter		Currency saving.
Current situation of parameter		In 2007, about 20.5 bn m3 natural gas been used for about 95,000 GWh electricity generation and about € 5 bn has been spent. Source: http://www.teias.gov.tr/ist2007/43.xls and http://www.teias.gov.tr/ist2007/36(06-07).xls for generation and fuel consumption. http://www.esgaz.com.tr/dogalgazfiyatlari.asp for natural gas price.
Future target for parameter		Decrease natural gas consumed for electricity generation. Approximately consumption of 27.5 million m^3 of natural gas is expected to be avoided corresponding to € 7.5 million annually.
Way of monitoring	How	Through comparing electricity generated by Reşadiye-I HEPP and natural gas that would be used to produce the same amount of electricity according to baseline scenario.
	When	Yearly
	By who	Project developer

No		12
Indicator		Technology transfer and Self reliance
Mitigation measure		Mitigation measure is not required for this indicator.
Chosen parameter		Equipment expenditures
Current situation of parameter		None
Future target for parameter		To be determined during implementation phase.
Way of monitoring	How	Review of purchasing agreements.
	When	Yearly
	By who	Project developer

SECTION H. Additionality and conservativeness

H.1. Additionality

Additionality assessment is performed according to the "Tool for the demonstration and assessment of additionality" approved by UNFCCC. Details are available in PDD

H.2. Conservativeness

Conservative approach has been followed in calculating baseline emission factors and investment analysis sections as detailed in PDD.

ANNEX 1 ODA declarations

KAR-EN

Karadeniz Elektrik ve Üretim Ticaret A.Ş.
Uğur Mumcu Cad. No:88
06700 Gaziosmanpaşa – Ankara
Tel: (0312) 436 30 00
Fax: (0312) 436 64 66

Ankara, 16 February 2009

Project reference: **Aralık Hydroelectric Power Plant**

To: **Gold Standard Foundation**

Declaration of Non-Use of Official Development Assistance by Project Proponent;

As Legal Owner ("Project Proponent") of the above-referenced Project, acting on behalf of all Project participants, I now make the following representations:

I. Gold Standard Documentation:
I am familiar with the provisions of Gold Standard Documentation relevant to Official Development Assistance (ODA). I understand that the above-referenced Project is not eligible for Gold Standard registration if the Project receives or benefits from Official Development Assistance under the condition that some or all credits coming out of the Project are transferred to the ODA donor country. I now expressly declare that no financing provided in connection with the above-referenced Project has come from or will come from ODA that has been or will be provided under the condition, whether express or implied, that any or all of the credits (CERs, ERUs or VERs) issued as a result of the Projects' operation will be transferred directly or indirectly to the country of origin of the ODA.

II. Financier Declarations:
I hereby declare that I have submitted 1 declaration of Non-Use of ODA,representing declarations from all project financiers. If additional financiers are added to the Project, I will promptly notify the Gold Standard Foundation and ensure that additional declarations are promptly submitted.

III. Financing Plan:
I agree to complete and submit a sufficiently clear and transparent financing plan for the Project so that during validation the Validator can assess compliance with the Non-Use of ODA requirement.

IV. Duty to Notify Upon Discovery:.
If I learn or if I am given any reason to believe at any stage of project design or implementation that ODA has been used to support the development or implementation of the Project, or that an entity providing ODA to the host country may at some point in the future benefit directly or indirectly from the credits generated from the Project as a condition of investment, I will make this known to the Gold Standard immediately.

V. Sanctions:
I am fully aware that under Section 10 of the Gold Standard Terms and Conditions sanctions and damages may be incurred for the provision of false information related to Projects and/or Gold Standard credits.

KAR-EN KARADENİZ ELEKTRİK VE ÜRETİM TİCARET A.Ş.

Signed:
Name: **Güven BALKAN**
Title: **Member of Board**
On behalf of: **KAR-EN Karadeniz Electricity and Generation Co. Inc.**

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