

SELALE 13.61 MW Hydroelectric Power Plant Gold Standard Passport

CONTENTS



- A. Project Title
- B. Project Description
- C. Proof of Project Eligibility
- D. Unique Project Identification
- E. Outcome Stakeholders Consultation Process
- F. Outcome Sustainability Assessment
- G. Sustainability Monitoring Plan



- H. Additionality and Conservativeness Deviations



- Annex 1 ODA Declaration
- Annex 2 Special Guidance for Run-off-River HEPP Projects

SECTION A. Project Title

SELALE 13.61 MW Hydroelectric Power Plant

SECTION B. Project description

SELALE is a 'Run-off-River' type hydroelectric power plant(HEPP) project. SELALE HEPP Project is planned to be implemented by Muradiye Elektrik Üretim A.Ş and the project site is located on Bendimahı weir in Muradiye province of Van.

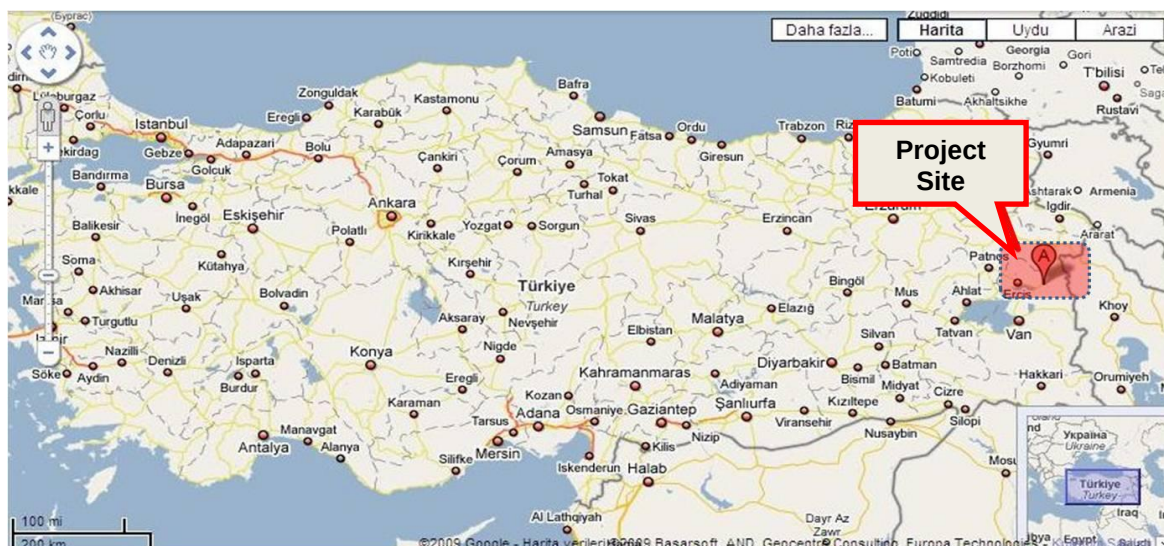


Figure 1. SELALE HEPP Project Area

Selale Regulator will be built at 1,782 meters elevation on Bendimahı Weir and then directed to Selale HEPP with a transmission line of 4.6 km. Selale Regulator will be built 7.9 meters above the weir bed and a minimum flow will be ensured through the weir to maintain the natural habitat.

The water will be released to the weir bed without a change in chemical composition after passing through transmission lines and turbines at a rate of 19.0 m³/second. Total annual electrical energy generation is estimated at 56.22 GWh.

No pollution source is anticipated during the construction and operation of the project. Run-off river HEPP projects are among the projects with minimal impact on environment and local people. No environmentally harmful emission is anticipated. After the conversion of potential energy of water to electrical energy the water flow will be maintained without any pollution. During the construction all regulations regarding protection of air quality will be followed. Any solid and liquid wastes formed during the construction and operation of the plant will be collected and discharged in accordance with 'Control of Solid Wastes' and 'Control of Water Pollution' regulations.

The project is anticipated to have a binary impact on economical structure. The primary impact is

regional and local people will be offered employment during the construction of the project. The construction work is planned to take 2 years and 55 personnel is planned to be employed within the scope of the project. This opportunity will increase income level of local population incrementally and will contribute to the prevention of migration from the region during the construction of the project. The positive impact on economical structure will also indirectly contribute to the quality of social life in the region. As a secondary impact the plant is important for Turkish economy by reducing energy supply deficit and by integrating generation surplus into the national grid.

The plant will have an installed capacity of 13.61 MW and generate 56,220 MWh energy annually. According to calculations based on electricity generation estimates, SELALE HEPP project will result in a CO₂ reduction of 36,712 tons per year due to use of renewable resources.

According to Turkish Electricity Transmission Company (TEIAS) statistic, in 2007 about 50% of the electricity has been generated by natural gas (NG) power plants which is fully imported and 20bn m³ NG has been consumed. In terms of fuel dependency, SELALE HEPP is expected to replace about 9 million m³ NG and contribute to balance of payments which will, in addition, increase air quality and access to affordable energy services in national level¹.



Figure 2. SELALE HEPP Project site

¹ <http://www.teias.gov.tr/ist2007/43.xls>

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 13.61 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.

Gold Standard Passport

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. Carbon income was also taken into account by the financier banks as an integral part of their decision to provide loans to fund the project.		

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 (Weir/Powerhouse)	N 39° 03' 01/ N 39° 01' 02"
Longitude (Weir/Powerhouse)	E 43° 45' 38"/ E 43° 44' 38"



Selale HEPP Project is situated in Muradiye district of Van province. The Project is located on Bendimahı Weir.

D.2. Map



Figure 3. SELALE HEPP Project Location

SECTION E. Outcome stakeholder consultation process

E.1. Assessment of stakeholder comments

The initial stakeholder feedback meeting has been held on 16th of April, 2009 in Muradiye Town which is the closest location to SELALE Hydropower Plant. In general stakeholders' comments were positive about the Project. Scores given by stakeholders have been assessed in SFR-1 report and will be further discussed during feedback round which will be organised after receiving Gold Standard's comments about SFR-1.

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

- Will the project have any impact on agriculture in the region?,
- What sort of additional contributions will the project have on the region? and
- Consideration of employment of local people.

Stakeholder Comment	Assessment	Response to comment
Will the project have any impact on agriculture in the region?	Reasonable	The company will ensure there will be a required amount of water flow not to impact agricultural use as regulated by legislations.
What sort of additional contributions will the project have on the region?	Taken into Account	The company recognizes that local people expect a variety of contributions for the region.
Job Opportunities.	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

Stakeholder Feedback Round Meeting for Selale HEPP projects were held on 12/11/2009 in Muradiye Town of Van Province. Invitation list for the local stakeholder meeting was based on Gold Standard Toolkit. Local and international NGOs, Government Agencies and individuals were invited. Invitations have been made by registered mails, newspaper ads and through village heads. Local people have been invited through announcement published in a daily newspaper called "Muradiye" and distributed in Van and its districts including Muradiye, for four days between 03/11/2009 and 06/11/2009).

Although there exist no DNA in Turkey, Ministry of Environment and Forestry and Ministry of Energy and Natural Resources were invited by registered mail to the meeting. When possible,

Gold Standard Passport

participation of the invitees was confirmed in order to make necessary arrangements for the meeting. Local representatives of three GS supporting NGOs were invited through postal system and or courier or hand delivery letters. Invitation letters were sent by mail and fax to local and national government institutions, NGOs, GS supporters

During SD exercise, participants have asked whether measures have been taken to protect fish species in the river. The issue has been replied by project manager and measures taken (including fish passage and release of minimum flow) have been explained. No negative impact have been raised by participants during the meeting. At the end of the Stakeholder Feedback Round, no significant issues or problems have been put by the participants that will require revisiting the sustainable development assessment.

The project documents also made available online for 90 days on GTE's website to collect further feedback.

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
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.	Project activities are not expected to cause any human rights abuse. Turkey has ratified European Convention on Human Right in 10/03/1954 ² .	Low	No mitigation measure is required for this indicator.
2 The Project does not involve and is not complicit in involuntary resettlement.	There is no residence along the project site. The Project does not involve and is not complicit in involuntary resettlement.	Low.	No mitigation measure is required for this indicator. Project does not involve any resettlement
3 The Project does not involve and is not complicity in the alteration, damage or removal of any critical cultural heritage.	The Project does not involve and is not complicity in the alteration, damage or removal of any critical cultural heritage.	Low.	No mitigation measure is required for this indicator. No cultural heritage has been identified in the project site.
Labor Standards			
4 The Project respects the employees' freedom of association and their right to	Turkey has ratified ILO 87 and 98 conventions .All staff recruited are	Low	No mitigation measure is

² <http://www.istanbul.gov.tr/?pid=9218>

Gold Standard Passport

collective bargaining and is not complicit in restrictions of these freedoms and rights	employed according to national legislations. ³		required for this indicator
5 The Project does not involve and is not complicit in any form of forced or compulsory labour.	Turkey has ratified ILO convention 29 and 105 on forced and compulsory labour. ⁴	Low	No mitigation measure is required for this indicator
6 The Project does not employ and is not complicit in any form of child labour.	Turkey is a party of IPEC* since 1992 and ratified ILO convention 138 and 182.3	Low	No mitigation measure is required for this indicator
7 The Project does not involve and is not complicit in any form of discrimination based on gender.	Turkey has ratified ILO convention 100 and 111 and discrimination based on gender is illegal in Turkey.	Low	No mitigation measure is required for this indicator.
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	Turkey has ratified ILO convention 155 about work safety and precautions.	Low	All labours will be trained in terms of work safety and relevant safety protocols. Technical staff will be certified to work with high voltage equipment
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 measures should be taken even if some cause and effect relationships are not fully established scientifically."	The project will follow the environmental regulations which are listed on Page 68 of the Project Introduction File. All environmental risks associated with the project construction and operations are introduced both in the Project feasibility and the Project Introduction Folder ⁵ together with mitigation measures.	Low	Project will not induce risk of accident around reservoir area as the flooded area will be limited to the existing river bed mainly. However, to ensure safety, fences will be built around the reservoir area

³ <http://www.ilo.org/public/turkish/region/eurpro/ankara/about/sozlesmeler.htm>

⁴ <http://www.ilo.org/public/english/standards/relm/gb/docs/gb282/pdf/lils-7.pdf>

⁵ Page 15-49

Gold Standard Passport

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.	Low	No mitigation measure is required for this indicator
11. The project does not involve and is not complicit in corruption.	Turkey has ratified several conventions on bribery and corruption including OECD and UN conventions ⁶ .	Low	No mitigation measure is required for this indicator

⁶ <http://www.masak.gov.tr/en/LaunderingProceedsofCrime/Chronology.htm>

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 CO₂ emissions, total, per capita)	Parameter :SO₂ and NOx emission Emissions of SO₂ and NOx will be reduced in parallel to CO₂ due to avoiding fossil fuel combustion. Baseline: Same amount of electricity is produced by the grid which is dominated by fossil fuels.	+
Water quality and quantity	Ensuring that minimum flow will be released from the weir to protect aquatic life in the river bed. ⁷ The minimum flow is mandated by State Hydraulics Works.	-	Parameter: Amount of water released. Quality of water will not be affected by the project activity.⁸ Quantity of water released will be monitored continuously by DSI (State Hydraulics Work Authority) to ensure that adequate minimum flow is achieved.⁹ Baseline: Natural flow of river.	0

⁷ Project Introduction File, page 16

⁸ Project Introduction File, page 49

⁹ Project Introduction File, page 49

Gold Standard Passport

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
Soil condition	No mitigation measure is needed. All waste will be handled in accordance with the regulations. ¹⁰	-	Parameter: Disposal of waste Most of the excavation waste will be used for road and other infrastructure constructions. The rest will be handled in line with the bylaw on handling the excavation waste. Solid waste, hazardous waste such as waste oil and waste water will be handled according to the relevant bylaws. Baseline: Project is not realized and no waste produced	0
Other pollutants	No mitigation measure is required since there exist no settlement close to project site and noise during construction is calculated to be lower than	-	Parameter: Noise level during construction. Project will not create any other pollutant. Noise level is not expected to have an impact on local ecology according to Project Introduction File.	0

¹⁰ Project Introduction File, page 49

Gold Standard Passport

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
	the allowed limits. ¹¹		Baseline: Project is not realized and no pollutants produced	
Biodiversity	No mitigation measure is required in terms of plants as there are no endemic or protected plant species on the project site. As per trees, as it can be seen in Figure 3 of the PDD, the project site is very poor of vegetation and no trees exist on the site¹². To maintain fish migration, fish passage will be built.¹³	-	Parameter: Impact on natural life. Due to the geographic and climatic conditions, the project site does not consist of any trees and the vegetation is very poor. The fish passage will maintain the fish migration up and down. Baseline: River flows as it used to before the project. An irrigation reservoir lies in the downstream of the project which already forms a barrier for upstream movement of fishes.	0
Quality of employment	Staff will be trained for the positions created during construction&	-	Parameter: Number of certificates issued/trainings provided.	+

¹¹ Project Introduction File, page 39-46

¹² Project Introduction File, page 51

¹³ Project Introduction File, page 51

Gold Standard Passport

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
	operation phases. All Health and Safety measurements will be applied according to local regulations.		Baseline: No project exists and no locals employed.	
Livelihood of the poor	No mitigation action is required since local people will eventually 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. Baseline: No project exists, hence, no recruitment takes place.	0
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. Baseline: Same amount of electricity is produced by the national grid which is	+

Gold Standard Passport

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
			imported fossil fuel dominated.	
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 people through stakeholder consultation process. Baseline: No project and stakeholder meetings	+
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. Baseline: No recruitment takes place.	+
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	Parameter: Currency saving due to avoided fuel import. Project will replace fossil fuel import for electricity generation and result in net foreign currency	+

Gold Standard Passport

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
		make debt sustainable in the long term)	saving. Baseline: Continuation of import dependency. Turkey is 74% import dependent to meet energy demand.	
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. Baseline: No project exists.	+

Justification choices, data source and provision of references	
Air quality	<u>SO₂ and NO_x emissions</u> Project will decrease use of fossil fuels for electricity generation and prevent particulate matter, SO_x and odour which form as a result of incomplete combustion. 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	<u>Quantity of water released</u> Since the project is a run-off-river type of HEPP without a storage capacity¹⁴, it will not cause any pollution or change in water quality in terms of chemical, biological oxygen demand or any other pollutants. As there is no water use for

¹⁴ Project Introduction File, page 16

Gold Standard Passport

	irrigation, domestic or industrial use, the only critical parameter is release of minimum amount of water from weir for aquatic life. Amount of flow will be monitored by DSI¹⁵ (State Hydraulics work Authority) through flow measurement station at the upstream and downstream of the plant. Minimum flow is determined as 10% of the average flow rate of the last 10 years as per the law. Source: Hydrograph data can be extracted by the project owner and DSI.
Soil condition	<u>Waste</u> Project Introduction Folder (page 17) describes the quantities and chemical features of all waste to be generated by the project. Accordingly, all waste will be handled in line with the relevant regulations as below: Bylaw on Handling and Control of Excavation and Construction Waste¹⁶ Bylaw on Handling and Control of Solid Waste¹⁷ Bylaw on Handling and Control of Hazardous Waste¹⁸ Bylaw on Water Pollution¹⁹ The monitoring of different waste is carried out by the authorities in line with the regulations. Source: Delivery documents of the waste
Other pollutants	<u>Noise level</u> Noise level during construction has been chosen as other source of pollutant which has also been assessed during feasibility study. It has been concluded that the noise level will not have a significant impact, since there exist very few settlements near the construction site and the noise due excavation equipments is lower than the limits. Source: Project Introduction File, page 39-44

¹⁵ State Hydraulic Works (DSI) is the national authority who leases the operational rights of the newly built hydroelectrical power plants to private sector for 49 years. DSI is the main body to monitor water related issues of hydro projects such as discharge water, construction components until powerhouse. By regulation project owners have to install electronic monitoring devices to meter flow rate and the data can be remotely extracted by the DSI.

¹⁶ Bylaw on handling and control of excavation waste, Ministry of Environment and Forest, Available on: www2.cevreorman.gov.tr/yasa/y/25406.doc (Accessed on:21/02/2011)

¹⁷ Bylaw on handling and control of solid waste, Ministry of Environment and Forest, Available on: www.atikyonetimi.cevreorman.gov.tr/yonetmelikler/kaky.doc (Accessed on:21/02/2011)

¹⁸ Bylaw on handling and control of hazardous waste, Ministry of Environment and Forest, Available on: www.atikyonetimi.cevreorman.gov.tr/yonetmelikler/tehlike.doc (Accessed on:21/02/2011)

¹⁹ Bylaw on Water Pollution, Ministry of Environment and Forest, Available on: www.mevzuat.adalet.gov.tr/html/23053.html (Accessed on:21/02/2011)

Gold Standard Passport

Biodiversity	<u>Plants affected</u> There is no forest area on the project site. Source: Project Introduction File <u>Fish passage</u> The projects involves construction fish passage. Source: Project Introduction File, page 52 and at the site visit.
Quality of employment	<u>Number of Certificates</u> 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	<u>Number of Locally recruited staff</u> 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 Muradiye District. According to State Planning Organization statistics, Muradiye District is ranking as 836th among 872 District in Turkey in terms of social and economic development. (http://ekutup.dpt.gov.tr/bolgesel/gosterge/2004/ilce.pdf page 102)
Access to affordable and clean energy services	<u>Fossil Fuel Replaced</u> 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	<u>Number of People attending meetings</u> Educational activities which are not part of the usual schooling system, such as environmental training, awareness raising and knowledge dissemination

Gold Standard Passport

	will increase through stakeholder meetings. Also, project will increase human and institutional capacity of the workers in terms of technical skills. Therefore, the indicator was scored as positive. (Source: SFR reports, trainings provided to workers)
Quantitative employment and income generation	<u>Payments made to Staff</u> About 300 people will be employed directly during construction and 10 people during operation. Since Muradiye District is ranking as 836th among 872 District, 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 102))
Balance of payments and investment	<u>Currency Saving</u> 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	<u>Equipment Expenditures</u> 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)

Gold Standard Passport

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 ²⁰ . 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 56.220 GWh generation is calculated as 306.2 ton per year.	
Chosen parameter 1.2	NOx 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. NOx emission per MWh is calculated as 1.1 kg.	
Future target for parameter 1.2	NOx emission reduction corresponding to 56.220 GWh generation is calculated as 61.7 ton per year.	
Way of monitoring	How	Electricity generated by Selale 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/Verifier

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		To be mandated by DSI
Way of monitoring	How	Flow measurements at the upstream and downstream of weir
	When	Continuously
	By who	Project developer/Verifier

No	6
Indicator	Quality of Employment
Mitigation measure	Recruited people will be trained for increasing technical skills and awareness about health, safety and environmental issues.

²⁰

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

Gold Standard Passport

Chosen parameter		Certificates issued. Trainings will be held to increase the awareness of the employees and minimize risks on health and safety will be delivered to staff. Health and safety trainings are obliged by laws and they are most often delivered by outsourced experts.
Current situation of parameter		No locals participated in this training before the project.
Future target for parameter		All staff
Way of monitoring	How	Documents for trainings and certificates issued.
	When	Once for crediting period
	By who	Project developer/Verifier

No		9
Indicator		Human and institutional capacity
Mitigation measure		Priority in local recruitment
Chosen parameter		Trainings attended by the local employees.
Current situation of parameter		Most of the locals are occupied with small-scale husbandry and agriculture. The young immigrate from the villages due to lack of economic opportunities.
Future target for parameter		Number of locally recruited people will be determined during construction and operation stage according to the needs of the project and the experience level of the locals.
Way of monitoring	How	Employment and training certificates
	When	Every year
	By who	Human and institutional capacity

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		Muradiye is one of the least developed districts in Turkey, 836 th among 872 ²¹ . Thus, daily or annual income of the locals is also very low. Most of the locals are occupied with small-scale husbandry and agriculture. The young immigrate from the villages due to lack of economic opportunities.
Future target for parameter		55 people during construction and 12 people during operation stage is planned to be employed. ²² Payment made is to be determined later.
Way of monitoring	How	Through evaluation documents for wages paid and social security documents.
	When	Every year
	By who	Project developer/Verifier

²¹ Socio-economic development ranking of the districts (2004), State Planning Organization, Available; www.dpt.gov.tr/DocObjects/Download/3159/ilce.pdf (accessed on 12/12/2010)

²² Project Introduction File, page 17.

Gold Standard Passport

No		11
Indicator		Balance of payments
Mitigation measure		Decrease dependency on fossil fuel through 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/dogalgazfiyatleri.asp for natural gas price.
Future target for parameter		Decrease natural gas consumed for electricity generation. Approximately consumption of 9 million m ³ of natural gas is expected to be avoided corresponding to € 2.5 million annually.
Way of monitoring	How	Through comparing electricity generated by Selale 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/Verifier

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		Most of the technology is imported from abroad. The project will contribute in the cumulative effect of showing demand internally to motivate local production.
Future target for parameter		As defined in the Project Introduction File ²³ , 3 turbines each with the capacity of 4.54 MW and design flow of 6.33 m ³ /sec are planned to be installed.
Way of monitoring	How	Review of purchasing agreements.
	When	Yearly
	By who	Project developer/Verifier

Additional remarks monitoring

As part of the equipments will be provided from local companies, this will contribute development of local manufacturing and service companies working on the subject.

²³ Muradiye HEPP Project Introduction File, page 11.

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



30.07.2009

Muradiye Ayrancılar and Şelale HEPPs

To: Gold Standard Foundation

Declaration of Non-Use of Official Development Assistance by Project

Proponent

Muradiye Elektrik Üretim A.Ş.

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

Mr. Behzat AKSARAY

I hereby declare that I am duly and fully authorised by the legal owner ("Project Proponent") of the above-referenced project, acting on behalf of all project participants, to make the following representations on Project Proponent's behalf:

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 project's 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 declarations 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.

Signed: 30.07.2009
Name: Behzat AKSARAY
Title: Board Member
On behalf of:


MURADIYE
ELEKTRİK ÜRETİM A.Ş.

MURADIYE ELEKTRİK ÜRETİM A.Ş.

Yıldız Posta Cad. No:52/7 Esentepe - İSTANBUL Tel.: (0212) 267 42 06 - Fax: (0212) 267 42 09
bilgi@muradiyeelektrik.com www.muradiyeelektrik.com

ANNEX 2 Special Guidance for Run-off-River HEPP project

Management domain	
Minimum flow which guarantees habitat quality and prevents critical oxygen and chemical properties.	Minimum flow of water mandated by state hydraulics works (DSI) will be released for the section between the weir and the HEPP. This minimum flow shall guarantee habitat quality and prevent critical oxygen and chemical properties.
No disconnection of lateral rivers.	There shall be no disconnection of lateral rivers. Flows of Bendimahi Weir will be discharged back to the same river bed after being used in energy production.
Minimum water depth for fish migration during critical periods.	Minimum flow of water mandated by state hydraulics works (DSI) shall always be released from the weir, even in dry seasons when there is not enough water for energy production, which will aid aquatic life, compared to the conditions before the construction of the project.
Lateral and vertical connectivity shall not be substantially disturbed	There shall be no disconnection of lateral rivers. Since the project is a small run of river project, it does not have a storage volume to substantially disturb the underground waters.
Provides sufficient transport capacity for sediments	The weir has been designed to prevent any sediments accumulation before the weir will be released to downstream. Additionally there will be pebble passages to ease transfer of sediments.
Landscape compartments shall not be destroyed. Flood plain ecosystems shall not be endangered.	Since the project does not have a dam but a small weir to regulate the waters of the brook, landscape compartments and flood plain ecosystems shall not be endangered.
Hydropeaking	
Rate of change of water level should not impair fish and benthic population.	Project does not involve a storage capacity. A minimum flow of water mandated by state hydraulics works (DSI) will be released, so that there shall not be any significant change in water level. Regarding the consistency of rate of flow after the weir, the weir shall regulate and help the consistency of the flow of water.
Reduction in water level should not lead to drying of the water course.	Same amount of water shall be released even in dry seasons.
No isolation of fish and benthic organisms when water level decreases	The weir shall prevent the isolation of fish and organisms by providing a steady minimal flow, even when water level decreases.
Reservoir Management	Since the project is a run of river power plant, it does

Gold Standard Passport

	not feature any large storage volume, but a weir to regulate the water. Unlike the dam reservoirs, a reservoir operation policy would not be applied to this project.
Sediment Management	
Sediments have to pass through the power plant.	Sediment management will be performed and controlled by means of a sediment passage, which have been designed and constructed as the integral parts of the Project.
Power Plant Design	
Free fish migration upwards and downwards.	Since there shall be always water flowing in the original river bed, free fish migration upwards and downwards will be available through the fish passage of the weir.
Protection of animals against injury and death stemming from power plant operations.	Necessary precautions shall be taken in the power plant to prevent injury to animals during operation.
Social Impacts	
Cultural Landscapes	Cultural Landscapes shall not be changed.
Human heritage (including protection of special ethnic groups) and preservation of life styles.	There shall not be any negative social impact on human heritage and way of life since the power plant shall not be on any settlement territory. It shall help the locals by providing additional employment and enable irrigation of agricultural lands.
Empowerment of local stakeholders in the decision making process about mitigation and compensation of social impacts	Local stakeholders shall be able to express their views about social impacts at stakeholders meetings whereby the project owners would take the proper mitigation measures.
Resettlement of local population	Settlement of local population is not affected.
Build additional social infrastructure due to migration induced by the project.	The project would not induce any migration.
Water quality and fishing losses affecting downstream riverside population.	The downstream water quality shall not be affected, since the same water flows shall be kept downstream.

Main sponsors

firstclimate²

climatecare 

 **TFS Green**
Part of Tradition

TRICORONA

one  carbon

Supporting Sponsors

-essent 

 south pole



 **myclimate**
Protect our planet

 **BNP PARIBAS**

Developers Gold Standard version two

ECOFYS



Industrie Service

FIELD
Foundation for International
Environmental Law and Development