

SOCIALCARBON REPORT

CONTENT

1. Identifying the project
2. General description of the reduction of GHG emissions Project activity
3. Method of applying SOCIALCARBON Methodology
4. Results
5. Analysis of Results
6. Perspectives

ATTACHMENTS

1. Identifying the Project

Basic Information	
Indicators	<i>Hydro indicators version 4.1 Modified for Alkumru HPP</i>
Project Name	<i>Alkumru Hydroelectric Power Plant (Alkumru HPP)</i>
Year-Point of Project	<i>2012 - Point Zero</i>
Monitoring period (SOCIALCARBON)	<i>10 March 2011 to 31 October 2012</i>
Version + Date of report completion	<i>Version 3.00 , 12 June 2013</i>
Corresponding Monitoring Report (Carbon Accounting Standard)	<i>10 March 2011 to 31 May 2013 (VCS Version 3.3)</i>
Location	<i>Siirt, Turkey</i>

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2. General description of the reduction of GHG emissions Project activity

2.1. Context and history of the reduction of GHG emissions project

The Alkumru Hydroelectric Power Plant (Alkumru HPP from this point onward) project is to be constructed at the Eastern Anatolia Geographical district of Turkey over the Botan River that is one of the major tributaries of the Tigris.

The Alkumru HPP will be producing electricity by utilizing the energy of the Botan river, a major tributary to River Tigris. Energy will be produced using the head difference between the 647 m maximum water level and 541.80 m tail water levels. Based on the Electricity Studies Institution's report dated 1991, the Alkumru HPP is proposed to be developed with 222 MW capacity and with an annual energy production capacity of 812.48 GWh, and after completion of the upstream Çetin and Pervari Hydroelectric Power plants the annual electricity production was envisaged to be 817.26 GWh. The initial feasibility report submitted to State Hydraulic Works (DSI) of the Republic of Turkey proposed the project to be 240 MW with an annual electricity production of 822.13 GWh. The investment decision for the project activity considers these parameters.

Later, with a minor design change and an adjustment in the turbines the project owner revealed that with the same amount of water flow, the project capacity can be increased to 261.27 MW and the annual electricity production is calculated to be 875.84 GWh. The design change is presented to the Electricity Market Regulatory Agency and the terms of the electricity production license have been amended.

With these conditions project owner also presented a fish passage project so that the fish populations are not effected from the dam blocking the river, and it is agreed to release 14m³/s of water at all times to the river bed to support aquatic life. However, the design of the project turbines are realized not to be suitable to release the required amount of water, therefore an other addition is made at the tail water part of the project and a new horizontal Francis turbine with 14.250 MWe capacity is added to the project. This turbine is expected to be operational by the beginning of year 2014. This way by the third year of the project activity the electricity production is estimated to increase to 881,210 MWh, with the total project capacity of 275.520 MWe.

The Alkumru HPP will have a reservoir area of 10.99 km² and a dam that is designed to be clay cored, sand, gravel rock filled. The project activity will be constructed between the 611.80 minimum operation elevation and 647 m maximum operation elevation. With the latest design updates the project is expected to produce an annual amount of 881,210 MWh of electricity. This accounts for 475,143 tonnes of VCUs per year.

The Major milestones at the project development history can be summarized as shown in the following table (Table 1):

Table 1: Major Milestones of Alkumru HPP Project

Date	Milestones	Reference
October-06	Feasibility Study Report	Feasibility Study Report
10 Sep. 2007	Water Usage Agreement signed with DSI	Water Usage Agreement
Sep. 27, 2007	Electricity Production License issued by Energy Market Regulatory Authority (EMRA) and the license modification	EMRA License
Jan., 2008	Project granted EIA Affirmative certification	EIA Affirmative certification
Aug. 15, 2008	Construction Started	Memorandum by Limak Insaat (owner: Limak Hidroelektrik / contractor: Limak Insaat)
Dec. 18, 2008	Signing of the E&M contract	The E&M contract
June 19, 2009	TEIAS system connection agreements signed	TEIAS Connection agreement
Aug. 19, 2009	The start of the construction of the TEIAS electricity transmission line	The subcontractor agreement for construction of the transmission line
April 13, 2010	EMRA Approved capacity upgrade	The updated special terms of license agreement
May 17, 2010	Water Usage Agreement Updated.	DSI agreement amendment
Dec. 14, 2010	TEIAS system agreements signed	TEIAS system usage agreement
16 Dec. 2010	Expropriation Moderation and Information Meeting 1 Held in the Project site	Summary of Expropriation by the Company Lawyers
Dec. 22, 2010	The completion of the construction of the TEIAS electricity transmission line and the preliminary acceptance by the Ministry of Energy	Substantial completion protocol-transmission line
Mar. 10, 2011	The preliminary acceptance of the Dam and the HEPP for two units and the start of the electricity generation	Alkumru Preliminary acceptance protocol for units 1 and 2
April 12, 2011	The preliminary acceptance of the Dam and the HEPP for the third unit	Alkumru Preliminary acceptance protocol for unit 3
12 May 2011	Expropriation Moderation and Information Meeting 2 Held in the Project site	Summary of Expropriation by the Company Lawyers
Oct. 1, 2012	Feasibility report finalized	FSR
Oct. 12, 2012	Ministry of Environment approved the design upgrade	Environment and Urban Planning Correspondence with Ministry of

The following figure shows the location of the Project Activity and its position on Botan River.

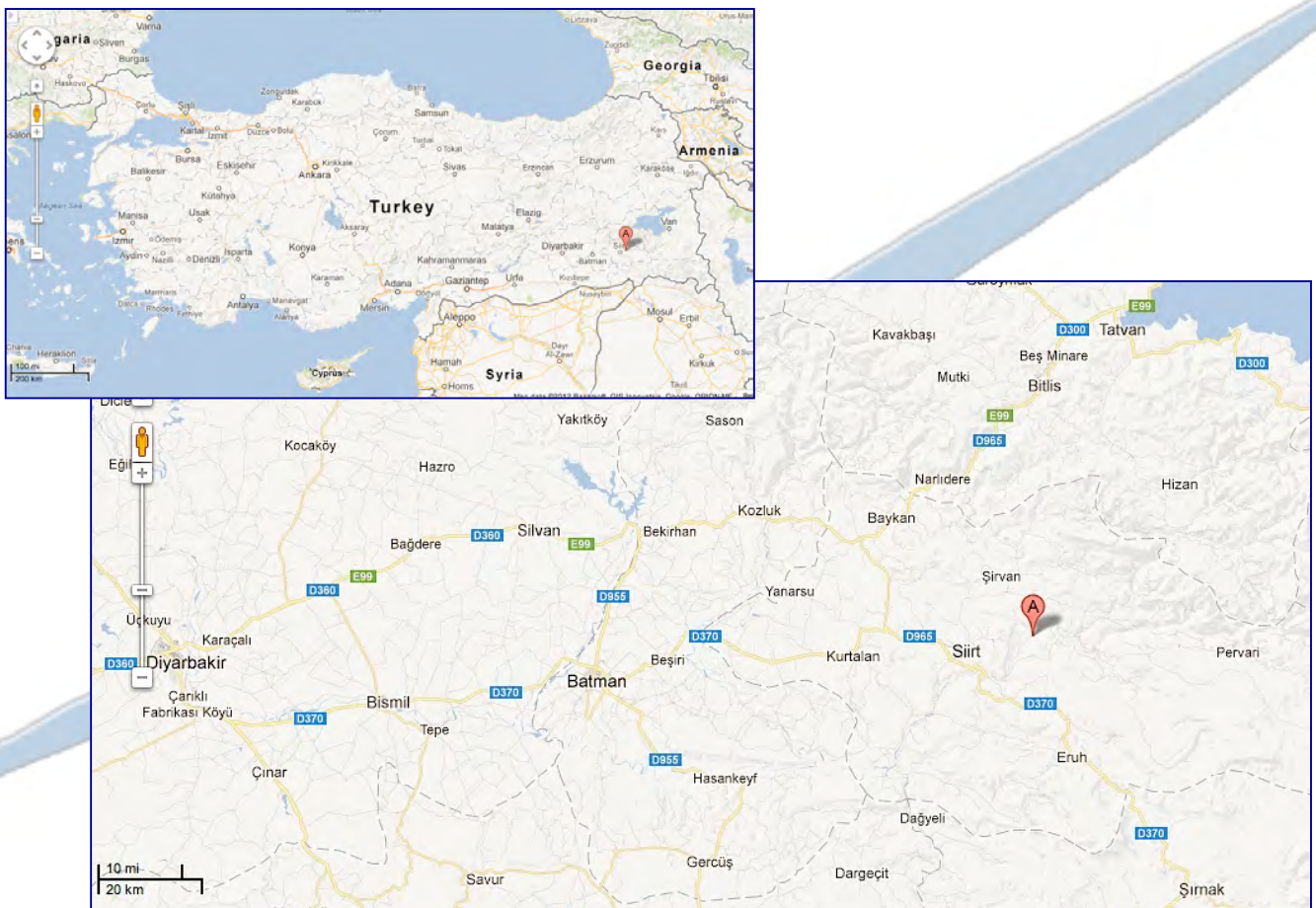


Figure 1: The location of the Project Activity and its position on Botan River

The Project Activity is a hydro power plant with a total installed capacity of 261.27 MW (3×87.09 MW). It is expected that the capacity increases to 275.52 MWe by early 2014.

The following figure (Figure 2) schematically summarizes how the project activity will be operating and what needs to be considered within the physical project boundary.

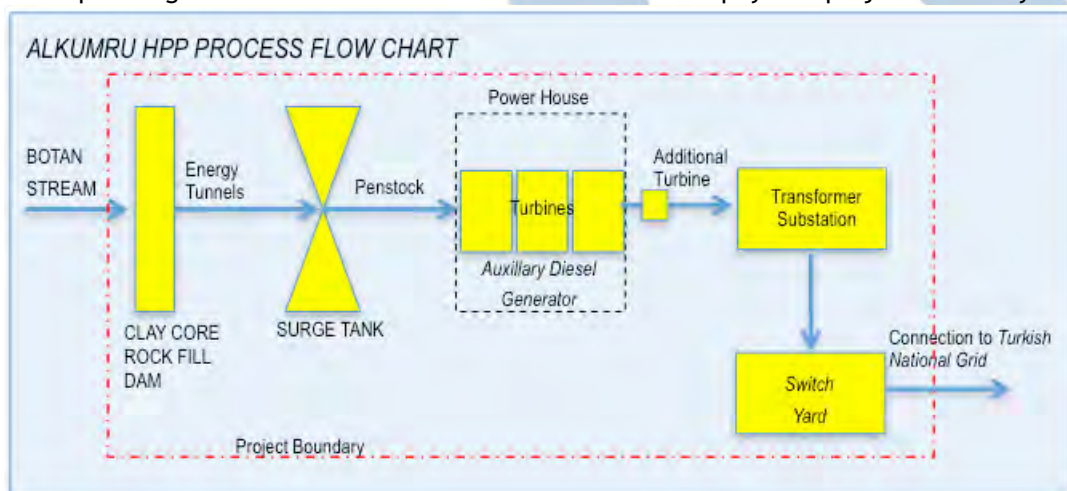


Figure 2: Flow chart showing the basic operational principles of the project activity.

The main technical characteristics obtained from the DSI Approved, final feasibility report are provided below (Table 2):

Table 2 : Technical characteristics of the Alkumru HPP.

Technical characteristics of Alkumru HPP	
<i>Characteristics of the Dam</i>	
Location :	Siirt Province, near Taşbalta village at the 542 m thalweg elevation of Botan River.
Purpose :	Energy Production
Dam Type :	Clay core, rock filled
Drainage Area :	7,562.50km ²
Annual average natural flow :	4,067.81 hm ³
Annual Average Flow Rate :	128.90m ³ /s
Thalweg elevation :	542 m
Base elevation :	516 m
Height from thalweg :	108 m
Height from the base :	134 m
Maximum Flood Crest Water Level :	648.66 m
Crest elevation :	650 m
Crest length :	909.05 m
Minimum operational water level :	611.80 m
Normal operational water level :	636.96 m
Maximum operational water level :	647.00 m
Active reservoir volume :	283.22 hm ³
Maximum reservoir Area (at maximum operational level of 647 m) :	10.99 km ²
<i>Characteristics of the Spillway</i>	
Location :	Right bank
Type :	frontal intake with radial gate
Inlet sill elevation :	633.00 m
Approach canal elevation :	629.00 m
Width :	56 m (50.00 m net)
Number and dimensions of the gates :	4 gates; w:12.75m X h:16.50 m
Discharge flow rate :	7,119.00 m ³ /s
Total Gross Energy (Maximum) :	
<i>Characteristics of the Derivation Tunnel</i>	
Tunnel location :	Right bank
Type and radius :	2 horse shoe type with 9.50 m radius
Discharge flow rate :	550.00 m ³ /s
Tunnel slop :	0.0041 and 0.00421
Tunnel entrance base elevation :	546.75 m
Total tunnel length :	(T1) 882.58 m and (T2) 935.07 m
Q ₂₅ :	1,875.30 m ³ /s
Q ₅₀ :	2,081.70 m ³ /s
Q ₁₀₀ :	2,292.70 m ³ /s
<i>Bottom outlet</i>	

Technical characteristics of Alkumru HPP		
Entrance shaft elevation	:	578.00 m
Penstock diameter	:	2.50 m
Total Length	:	337.84 m
Total discharge rate	:	24.74 m ³ /s
<i>Energy Tunnel</i>		
Location	:	Left bank
Tunnel type	:	Horse shoe type
Tunnel entrance base elevation	:	591.225 m
Tunnel inner radius	:	8.40 m
Tunnel capacity	:	295.00 m ³ /s
Total tunnel length	:	443.06 m
Tunnel exit elevation	:	585 m
<i>Surge Chamber</i>		
Type	:	circular
Radius	:	8.40 m at the bottom and 18.00 m at the top
Upper level	:	663.50 m
Base level	:	586.05 m
<i>Penstock</i>		
Number	:	1 with bottom trification
Inner radius	:	4.70 m
Total length	:	124.00 m
Average thickness	:	19.20 mm
Emergency and control	:	Butterfly valve
<i>Power House</i>		
Length	:	57.20 m
Width	:	41.15 m
Project flow rate (3+1)	:	295.00 m ³ /s
Tail water elevation	:	541.80 m
Turbine center line elevation	:	536.30 m
Total Capacity	:	275.52 MW (after the design upgrade)
Number of turbines	:	3 +1
Turbine type	:	3 Vertical axis francis + 1 horizontal
Gross head	:	105.20 m
Turbine unit capacity	:	87.09 MW +14.25 MWe
Annual Electricity production	:	875,840 MWh Until end of 2013
		881,220 MWh After 2014

The project will be using three vertical Francis turbines, and one additional horizontal Francis turbine. The Francis type of turbine is a reaction type of turbine. In case of reaction turbines, the water approaches a set of curved blades mounted on a shaft and glides over them thereby changing direction and so imparting pressure on the blades due to centrifugal force, i.e. the force experienced by a passenger in a car when turning very fast. The water enters the blades nearly at a tangent and for the highest efficiency leaves the blades radially and at a reduced velocity. Francis turbines was invented by an English engineer J.B.Francis (1815 - 1892) water is delivered into a volute casing which completely surrounds the runner and is under pressure as well as velocity. The water is guided through both fixed and adjustable veins in the casing and glides onto the runner blades at an angle. The water then turns in the runner to exit parallel with the axis of rotation. The adjustable vanes cater for load changes. A bypass valve or a surge tank deals with sudden load changes. In a Francis turbine the entire wheel assembly is immersed in water and surrounded by a pressure casing. In a Francis turbine the pressure casing is spiral shaped and is tapered to distribute water uniformly around the entire perimeter of the runner. It uses guide vanes to ensure that water is fed into the runners at the correct angle. See the below Figure (Figure 3), for a schematic explanation of working principles of a Francis Turbine.

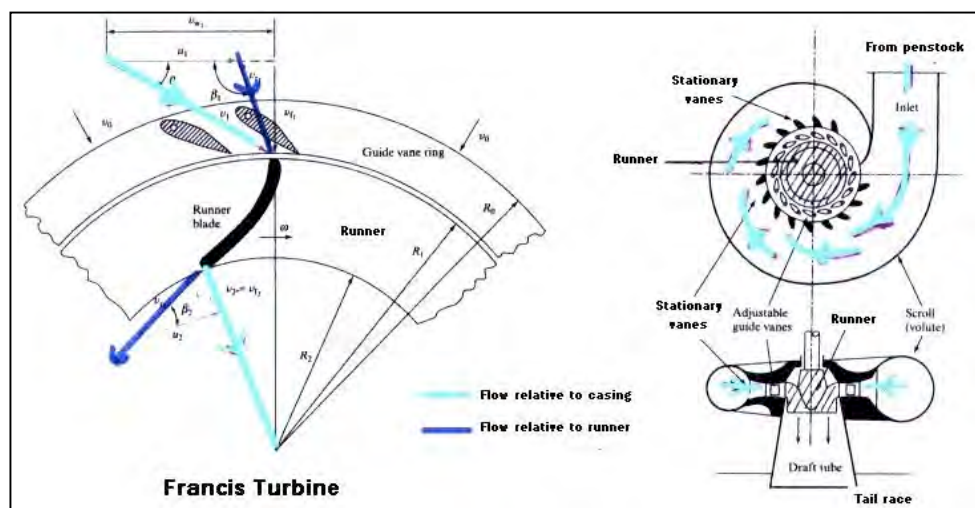


Figure 3: The working principle of a Francis type turbine, in case of the project activity the axis of the turbine will be vertical.

The project owner is granted a production license for 49 years² including the 52 months of project design and construction phase. The economic life time of a hydro power plant investment is assumed to be about 50 years, based on the experts' committee report³ on energy under the 8th development plan published by the State planning organization. Even if the facility can last for 50 years the major equipment needs to be replaced every 20 years⁴.

The project is expected to produce an average of 875,840 MWh of electricity per year, for the first three years of the project life and by the addition of the tail water unit the production will increase to 881,210 MWh over the extent of the first crediting period. The annual electricity delivered to the grid by the project, would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources. Based on this a combined margin emission reduction factor is calculated as detailed in Chapter 3 of the validated VCS-PD.

Project Location

The Project Activity is located on the Botan River in the Eastern Anatolia region of Turkey, within the Siirt city borders. It is located between the elevations of 647 m and 541.80 between 42°05'04''-42°05'54'' east latitudes and 37°57'0''-37°57'46'' North latitudes (Figure 4).

The Following (Table 3) gives the coordinates of the Alkumru HPP Dam location and Power house location.

Table 3: Coordinates of the Weir and Power house:

	Latitude	Longitude
Dam	37° 57'36.94"N	42° 5'34.94"E
Powerhouse	37° 57'25.24"N	42° 5'30.08"E

² According to the production licence dated 27/09/2007 and numbered EÜ/1325-5/964

³ <http://ekutup.dpt.gov.tr/enerji/oik585.pdf> (page 4.25 –p72 of PDF document Last visited on 22/07/2012)

⁴ <http://ekutup.dpt.gov.tr/enerji/oik585.pdf> (page 4.26 - p73 of PDF document Last visited on 22/07/2012)

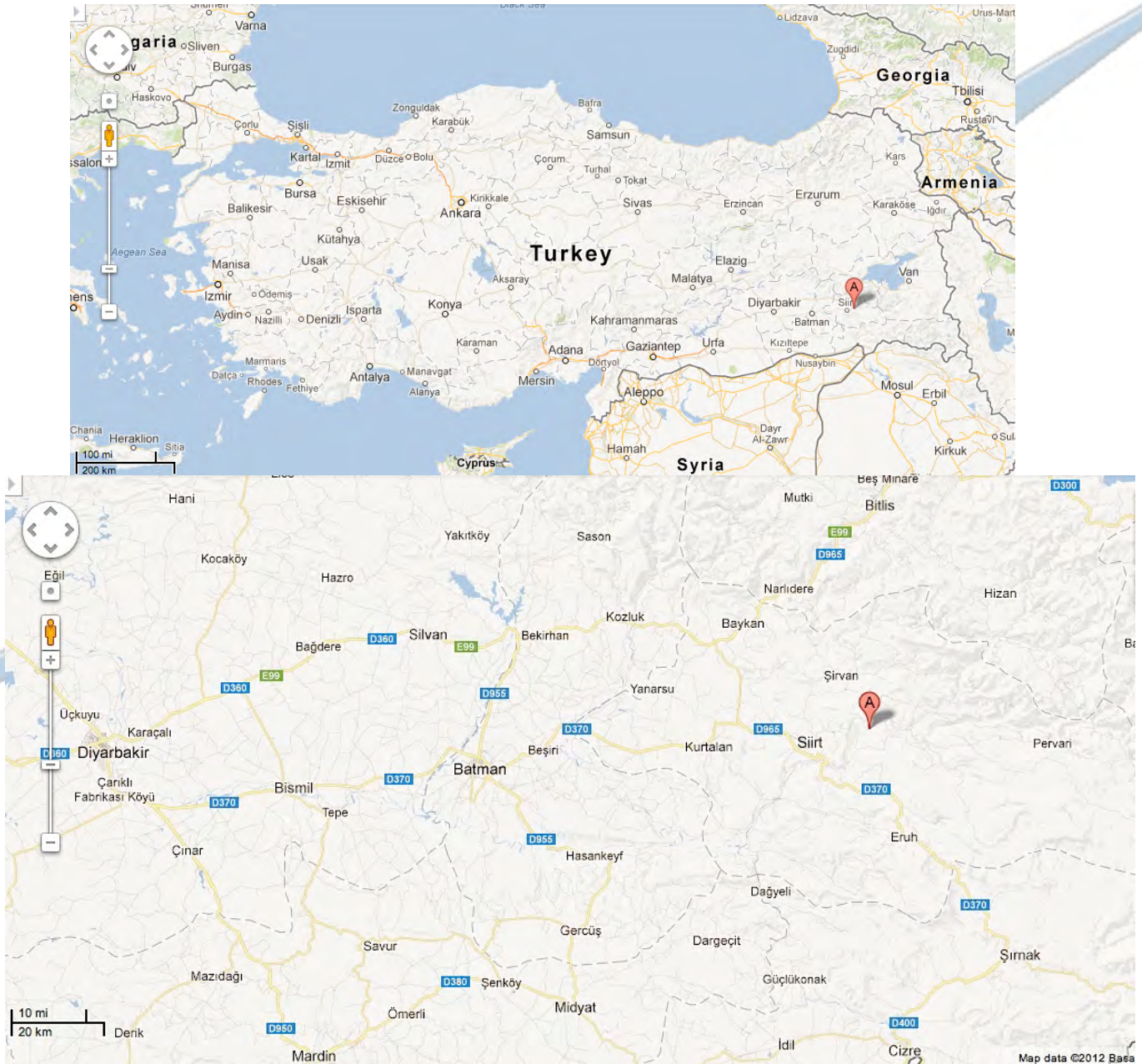


Figure 4: Map showing the location of Alkumru HPP on the Botan River, Siirt, Turkey.

2.2. Activities and methodology used for reduction/capture of GHGs

The Emission Reductions that result from the project activity are determined using the following UNFCCC methodology and its related tools are utilized:

Approved consolidated baseline and monitoring methodology ACM0002 “Consolidated baseline methodology for grid-connected electricity generation from renewable sources.” Version 13.0.0.

The Approved Methodology refers to the following tools:

“Tool for the demonstration and assessment of additionality” (Version 06.0.0)

“Tool to calculate the emission factor for an electricity system”. (Version 02.2.1)

“Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion”
(Version 02).

ACM0002 methodology defines the baseline scenario for the proposed project as:

“Electricity delivered to the grid by the project would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations.”

The choice of methodology ACM0002, Version 13.0.0, is justified as the project activity meets the following applicability criteria:

- “The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit;
- In the case of capacity additions, retrofits or replacements (except for wind, solar, wave or tidal power capacity addition projects which use Option 2 on page 10 (of the ACM0002 (version 13.0.0)). to calculate the parameter $EG_{PJ,y}$): the existing plant started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion or retrofit of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the project activity;”

The proposed project activity fits to first condition stated above, as it is the installation of a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plant).

“In case of hydro power plants:

- One of the following conditions must apply:
 - The project activity is implemented in an existing single or multiple reservoirs, with no change in the volume of any of reservoirs; or
 - The project activity is implemented in an existing single or multiple reservoirs, where the volume of any of reservoirs is increased and the power density of each reservoir, as per the definitions given in the Project Emissions section, is greater than 4 W/m²; or
 - The project activity results in new single or multiple reservoirs and the power density of each reservoir, as per the definitions given in the Project Emissions section, is greater than 4 W/m².”

In case of Alkumru HPP, at the maximum operation level of 647.00 m water level the total extend of the area that is covered by the reservoir is 10,990,000 m² therefore the power density is calculated to be 25.07 W/m², which is greater than 4W/ m².

Capacity (W)	Reservoir Area at Maximum Elevation (m ²)	Power Density (W/m ²):
275,520,000	10,990,000	$\frac{275,520,000 \text{ W}}{10,990,000 \text{ m}^2} = 25.07 \text{ W/m}^2$

“In case of hydro power plants using multiple reservoirs where the power density of any of the reservoirs is lower than 4 W/m² all the following conditions must apply:

- The power density calculated for the entire project activity using equation 5 (provided in the methodology) is greater than 4 W/m^2 ;
- Multiple reservoirs and hydro power plants located at the same river and where are designed together to function as an integrated project that collectively constitute the generation capacity of the combined power plant;
- Water flow between multiple reservoirs is not used by any other hydropower unit which is not a part of the project activity;
- Total installed capacity of the power units, which are driven using water from the reservoirs with power density lower than 4 W/m^2 , is lower than 15MW;
- Total installed capacity of the power units, which are driven using water from reservoirs with power density lower than 4 W/m^2 , is less than 10% of the total installed capacity of the project activity from multiple reservoirs.”

The proposed project activity does not have multiple reservoirs so the above conditions are not applicable and the project activity is eligible.

“The methodology is not applicable to the following:

- Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site;
- Biomass fired power plants;
- A hydro power plant that results in the creation of a new single reservoir or in the increase in an existing single reservoir where the power density of the power plant is less than 4 W/m^2 . “

The proposed project activity does not involve switching from fossil fuels to renewable energy sources at the site of the project activity, is not a biomass fired plant, is not a hydro power plant that results in the creation of a new single reservoir or in the increase in an existing single reservoir where the power density of the power plant is less than 4 W/m^2 , therefore the project activity is eligible to implement the ACM0002 version 13.0.0

“In the case of retrofits, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is “the continuation of the current situation, i.e. to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance”.

The project is not a retrofit, replacement or capacity addition so the above condition is not applicable,

In addition, Alkumru HPP meets the applicability conditions included in “Tool for the demonstration and assessment of additionality” (Version 6.0.0) and “Tool to calculate the emission factor for an electricity system” (Version 2.2.1) referred below, the following reasons justify the applicability of the methodological tools:

- “Tool for the demonstration and assessment of additionality” (Version 6.0.0) is required to apply for demonstrating and assessing the additionality of a project activity in ACM0002 (Version 13.0.0).

According to the “Tool to calculate the emission factor for an electricity system” (Version 2.2.1), “This tool may be applied to estimate the OM, BM and/or CM when calculating baseline emissions for a project activity that substitutes grid electricity, i.e. where a project activity supplies electricity to a grid.” Accordingly, Alkumru HPP will supply electricity to the Turkish National Grid, and therefore this tool can be used to estimate the OM, BM and CM of calculating baseline emissions.

The project boundary includes net electricity generated and supplied to the Turkish national grid. (See table 4).

Table 4: Main gases included in the project boundary

Source		Gas	Included?	Justification/Explanation
Baseline	Electricity generation in baseline (Turkey's Grid)	CO ₂	Yes	Main emission source
		CH ₄	No	Minor emission source
		N ₂ O	No	Minor emission source
		Other	N.A.	N.A.
Project	Emission from the reservoir of the proposed project	CO ₂	No	Minor emission source
		CH ₄	No	Minor emission source (Power density greater than 10W/m ²)
		N ₂ O	No	Minor emission source
		Other	N.A.	N.A.

Since the proposed project activity is going to be connected to the Turkish national grid, the baseline scenario of the proposed project is the supply of the equivalent amount of annual power output by the existing Turkish national grid, which is the continued operation of existing power plants and the addition of new sources to meet electricity demand.

Based on ACM002, baseline emissions are equal to power generated by the project activity that is delivered to the Turkish national grid, multiplied by the baseline emissions factor. This baseline emissions factor (EFy) is calculated as the Combined Margin (CM), of which the breakdown and detailed description is given in chapter 3 of the validated VCS-PD.

Combined Margin Emission factor of the project is calculated to be 0.53985 tCO_{2e}/MWh.

A summary of the estimated GHG removals by the project activity is given below (Table 5):

Table 5: summary of the GHG removals by the project activity

Years	Estimated baseline emissions or removals (tCO _{2e})	Estimated project emissions or removals (tCO _{2e})	Estimated leakage emissions (tCO _{2e})	Estimated net GHG emission reductions or removals (tCO _{2e})
Year 0: 2011 (March 10 th to Dec. 31 st)	356,237	0	0	356,237
Year 1: 2012	472,824	0	0	472,824
Year 2: 2013	472,824	0	0	472,824
Year 3: 2014	475,723	0	0	475,723
Year 4: 2015	475,723	0	0	475,723
Year 5: 2016	475,723	0	0	475,723
Year 6: 2017	475,723	0	0	475,723
Year 7: 2018	475,723	0	0	475,723
Year 8: 2019	475,723	0	0	475,723
Year 9: 2020	475,723	0	0	475,723
Year 10: 2021 (Jan. 1 st to March 9 th)	119,486	0	0	119,486
Total	4,751,432	0	0	4,751,432

3. Method of applying SOCIALCARBON Methodology

3.1. Elements considered in the application of the SOCIALCARBON Method for the sector

For the preparation of this report the “Approved Indicators for Hydroelectric Power Plants Version 4.1, June 2011” is being used, with the exception of indicator “APP (Permanent Protected Areas) and Legal Reservation” under the Biodiversity resource. This indicator was excluded, because as can be seen from the location map and as was also indicated in the 3rd party prepared project presentation file, there is no PPAs around the project vicinity and therefore this indicator is not applicable. Also the indicator related to technology transfer is excluded as there is no technology transfer aspect of the project. Therefore the indicators used for this project are referred to as “the Hydroelectric Power Plants Version 4.1 Indicators Adapted for the Alkumru HPP Project”.

3.2. Social, economic and environmental impacts of the emission reductions project

In accordance with “Environmental Law” No. 2872 (Issued in 1983), Annex 2 of Environmental Impact Assessment (EIA) Regulation (issued in 1993 and revised in 2001), run-off river type Hydroelectric Power Plants with an installed capacity of 50 MW or more are subject to a full EIA process or report preparation. The project has gone through a full EIA process and was granted an EIA Affirmative certification presented in Annex-3;

The EIA report outlines the major design parameters of the project activity, and explains how the project is going to be producing its cement, and how it is going to be utilizing the rock, clay and sand quarries.

The report summarizes that the cement that is needed will be acquired from the Cement factory at Kurtalan, Siirt, and the steel is going to be supplied from the Işkenderun province. The report also outlines how these quarries are going to be remedied at the end of the construction stage.

Although expropriation process and stake holder consultations related to expropriation is held separately the EIA report also summarizes the number of houses (13 house) and public buildings (1 school and 2 Gendarme posts) that are going to be flooded as a result of the formation of the reservoir lake of the project activity

Some of the environmental parameters discussed in this report can be summarized as follows:

Impact to local Traffic:

The project is mainly located in a rural area, the traffic activity that will be increased during the construction phase is not expected to disturb the baseline conditions of the traffic. During the operation phase there will be shuttle service up to Aydınlar town and this activity is considered as an insignificant addition to the baseline traffic.

Construction Waste

There will be a designated area to dump the construction waste. The dumped waste is to be compressed after the dumping will be completed and these parts will be forested. There will be no such waste during the operation phase.

Air quality

Modeling of dust flow and emissions predict no significant effect on air quality of the nearest residential areas, and the levels are in accordance with the “Regulations for Control of Air Pollution Caused by Industrial Facilities”, announced in the Official Gazette No. 26236, on the 22/07/2006.

During the construction phase the operation of the concrete mixing stations, operational at the rock and clay quarries, excavation, backfilling, transportation, loading and unloading of the debris will be causing dusting. The following are the preventive actions to avoid or minimize dust emissions:

- The work sites will be water sprayed periodically and will be kept damp to avoid dusting.*
- At the sewing and grinding facilities, the material will be dampened pulverized water before the break up of the material. In addition to this the bunkers and the conveyor belts will be designed as closed systems and the emission permits of these facilities would be followed up.*
- Dust holding filters would be installed at the bunkers of the concrete mixing stations.*
- The work sites and the roads that are prone to dust formation will be regularly sprayed by water.*
- Strict speed limits will be implemented at the work site, to avoid dusting*

No dust emission is expected during the operation phase. There will be gas emissions due to the operation of the heaters during winter season. The emissions related to heaters will be below the emission limits allowed by the regulations.

Waste Waters:

It is estimated that there will be about 1000 people working at the project site, and during the operation phase this number will be down to 80. During the construction phase there will be a compacted waste water treatment facility to treat the household waste water that will be produced as a result of water that will be utilized by the workers for toiletry etc. For the operation stage there will be housings that will be built for the personnel and the waste water from these housings will also be discharged to the compacted waste water treatment facility. The waste water that will be discharged from the power house will be first collected in a sanitary tank and will then be transferred to the treatment facility nearby the housings.

Hazardous Substances and Wastes

The residue oils and fuels from the construction equipment, or the used batteries will be disposed of according to the Regulations for Control of Hazardous Wastes, announced in the Official Gazette No. 25755, on 14 of March 2005, and Regulations for Control of Waste Oils announced in the Official Gazette No. 25353, on 21 January 2004.

The explosive to be used in construction of the conveyance tunnel is ANFO. The explosives will be transported and used in accordance with the "Regulations of Measures to be Taken At Workplaces Operated Using Explosive, Combustive, Dangerous and Hazardous Substances" and the "Regulations Related to Procedures and Principles of Production, Import, Transportation, Preserving, Storing, Sales, Use, Disposal, Inspection of Explosive Substances, Hunting Materials and Similar Substances, Excluding Tekel", announced in the Official Gazette No. 19589 on 29 September 1987.

Hazardous waste such as rubber, batteries, cables, paints, barrels, contaminated ground by oil, oil binding filters, etc. shall be collected and sent to a licensed hazardous waste recycling or disposal plant, and treated according to the provisions given in the "Regulations for Control of Hazardous Wastes" announced in the Official Gazette No. 25755, dated 14 March 2005.

Solid Waste:

Both during the construction phase and operation phase there will be solid waste as a result of the presence of the workers that will be working at the project site. These wastes will be sorted and re-cycleable wastes will be collected separately and sent to the recycling facilities and the rest will be sent to the Aydınlı Towns waste disposal site.

Noise

The noise levels on Alkumru Regulator site, tunneling system and HES site, were modeled. It was predicted that day and night time noise levels around the nearest residential areas will be within the standards of the "Day and night noise limits for Rural Areas and Settlement Areas" in accordance with the Article 25 of the Regulations for Evaluation and Management of Environmental Noise announced in the Official Gazette No. 25862 on 01.07.2005.

Water flow and Lifeline Water

It is agreed by the water usage agreement between the project owner and the DSI that 14 m³/s water will be released from the dam for wildlife year-round. And if under circumstances when the natural water flow will be less than the above mentioned flow the entire water will be released to the river.

River Water quality

The Project is not expected to have a material effect on water quality. The power density of the project is greater than 10 W/m², therefore, anaerobic conditions and decomposition are not expected to form and will not affect water quality and composition, or encourage methane production.

Ecology

The project area is not designated as an area for preservation. According to the available literature, there are no rare, endemic, endangered or protected species by national and/or international laws. Fauna and flora species, which are included in the Bern Convention or Red Data Book categories, were not found in the project area. A fish passage for fish species to be built, and once in operation, the project will not produce any air or water pollution to the surrounding environment. It is therefore concluded that the implementation of the project is expected to have only a minor impact on the surrounding environment and regional ecology.

The dam lake and its surrounding will be creating new habitat for waterfowl and other birds.

There will be some public buildings (2 security buildings and one school) and 13 houses that are to be relocated.

3.3. Method used for obtaining information

The data for the above mentioned approved indicators is collected by:

1. semi-structured interviews with key stakeholders on the project site,
2. based on the questionnaires that are sent to the project owner and each indicator is discussed with the project owner, and
3. based on the documents related to the project activity such as the validated VCS-PD and the validation report.

3.4. Actors involved

The stakeholders of the project are determined based on their relation to either the project itself or their relation to the location of the project. The following table provides a list of the stakeholders involved in the diagnostics, with their job/title and an explanation of why they were chosen to be a stakeholder.

Name	Contact Info	Job/Title	Reason Involved
Abbas Alagaş	LİMAK ALKUMRU HES Taşbalta Köyü -Aydınlar/SİİRT Tel: 0484 224 20 36-46 Fax:0484 224 20 56	Employee	To obtain information on Human Resources
Ömer Günes	LİMAK ALKUMRU HES Taşbalta Köyü -Aydınlar/SİİRT Tel: 0484 224 20 36-46 Fax:0484 224 20 56	Employee	To obtain information on Human Resources
Ahmet Toprak	LİMAK ALKUMRU HES Taşbalta Köyü - Aydınlar/SİİRT	Employee	To obtain information on social and human resources

	Tel: 0484 224 20 36-46 Fax:0484 224 20 56		
Sabri Akdağ	LİMAK ALKUMRU HES Taşbalta Köyü - Aydınlar/SİİRT Tel: 0484 224 20 36-46 Fax:0484 224 20 56	Employee	To obtain information on social resources and human resources
Hüseyin Adar	LİMAK ALKUMRU HES Taşbalta Köyü - Aydınlar/SİİRT Tel: 0484 224 20 36-46 Fax:0484 224 20 56	Employee	To obtain information on social resources and human resources
Kasım Eren	LİMAK ALKUMRU HES Taşbalta Köyü - Aydınlar/SİİRT Tel: 0484 224 20 36-46 Fax:0484 224 20 56	Limak Alkumru HPP Operations Manager	To obtain information on social resources and human resources
Burhaneddin Akın	Taşbalta village/Siirt	Local Stakeholder Tasbalta Village Head (Muhtar)	To obtain information on social resources
Hayrettin Beydoğan	Çınarlıkuyu /Siirt	Local Stakeholder Çınarlıkuyu Village Head (Muhtar)	To obtain information on social resources
Mehmet Sadıkuysal	Meydandere Village /Siirt	Local Stakeholder Çınarlıkuyu Village Head (Muhtar)	To obtain information on social resources
Yusuf Korkutata	+90 484 224 00 82 - 69	DSI 104 th District Manager	Represents DSI major party that holds the water utilization rights.
Sami Bozkurt	(+90-484)2231001	Secretary to Siirt Governance	Major stakeholder, to obtain information on expropriation and acceptance of project
Mahmut Kurtuluş	+90484 2232349- e-mail: bilgi@siirtozelidaresi.gov.tr	Siirt Special Provincial Authority	To collect information about the social resources and compliance with legal aspects.
İlhan Özel	+90484 223 13 01 siirt@tarim.gov.tr	Siirt Governance, Directorate of Agricultural Services	To collect information about the social resources and compliance with legal aspects.
Mesut Batur-	mm.batur@hotmail.com	Ministry of Environment and Urban Planning, Siirt Provincial directorate, Deputy director	To collect information about the Natural resources and biodiversity
Ahmet Barlak	barlahmet@hotmail.com	Department of EIA Services and Environmental Permits Department of Environmental Management	To collect information about the Natural resources and biodiversity

		and Monitoring	
Necat Çelik	necelikten@hotmail.com	Chief of Siirt Forest Authority	To collect information about the Natural resources and biodiversity
Hüseyin Koçyiğit	huseyinkocyigit@ogm.com.tr	Forest Engineer at Siirt Forest Authority	To collect information about the Natural resources and biodiversity
Şukrü Sevim	LİMAK ALKUMRU HES Taşbalta Köyü Aydınlar/SİİRT Tel: 0484 224 20 36-46 Fax:0484 224 20 56	Limak, Construction Site Manager	To collect information about acceptance of project and technical aspects of the project
Cerciş Güneş	cgunes@limak.com.tr	Project Manager (Mechanical Equipment)	To collect information about the technical aspects of the project
Elçin Caner	ecaner@limak.com.tr	Business Development & Project Financing	Information about Financial Performance of the Project
Mehmet İpekçi	mipekci@limak.com.tr	Project Manager (Electrical Equipment)	To collect information about the technical aspects of the project
Birol Saylan	+90(312)4468800 bsaylan@limak.com.tr	Human Resources Director	To collect information related to human resources
Taner Ercömert	+90(312)4468800 tercomert@limak.com.tr	General Manager	To collect information on financial resources
Hatice Çınar	+90(312)4468800 hcinar@limak.com.tr	Occupational health and safety and environmental protection manager	To collect information related to Natural Resources and Biodiversity

4. Results

The results are presented by using the names of each indicator as they are demonstrated in the original “hydro indicators version 4.1”. The name, description of each indicator is given, the comments on present situation, the score of the indicator determined based on the present situation and the future target for the considered indication is also provided. The targets are tried to be kept to the most realistic level, in order not to increase expectation for the future. The achievability of some of these targets depends on the availability of the human and financial resources, whereas some of the targets are relatively easier to achieve since these are to improve the present situation by implementing a recording and reporting system.

4.1. Social Resources

<i>Name of Indicator</i>	<i>Population Displacement</i>
<i>Description of Indicator</i>	Evaluates if the project requires people, activities or services to be displaced due to the implementation of the project, as well as the measures adopted during the planning and implementation stages, in order to minimize negative impacts or maximize positive impacts.
<i>Comments on present situation</i>	The project activities reservoir area flooded some privately owned land, three public buildings (two security buildings and one school) and 13 houses. The project owner spent more than 10 fold of the number they have initially estimated for the expropriation process. This is indicating that the property owners were fairly compensated. In addition to this the project owner held two meetings at the project site to inform and manage the relocation and expropriation process (Dates of the meetings were: 16.12.2010 and 12.05.2011). They have re-built the public buildings replacing them with better ones. The sum of the area that has undergone expropriation was 12.504.377,70 m ² that makes up the Forest, treasury and private ownership lands. The privately owned land was made up of 714 parcels. All of the property owners have been paid their monies via the bank accounts opened to their names. During the expropriation meetings 59 of the owners agreed to the negotiated land prices, and for 681 of the parcels the project owner called the court to determine the price. So far half of these cases have been resolved. Also the local authorities have confirmed that the expropriation process was conducted with a participatory approach, with not only organized meetings but also with one to one contacts with right owners.
<i>Score of the Indice</i>	5- Participatory Relocation Program, including negotiations with different actors (owners, public agencies, and civil society organizations).
<i>Future Targets</i>	No Target Assigned
<i>Name of Indicator</i>	<i>Communication With Stake Holders</i>
<i>Description of Indicator</i>	Evaluates the process for contacting stakeholders in the planning, implementation and operation stages.
<i>Comments on present situation</i>	The project owner is open to dialogue with stakeholders. They communicate regularly with the village heads, and welcome the

situation

visitors. Access to the project site is controlled by a gate controlled by security patrol that checks the visitors, since the project is located at a security sensitive area. The operations manager's mobile phone is made available to all the stakeholders including governorship, heads of the villages and the military station. The public can acquire information about the project whenever they want. This type of communication is an informal, unmediated communication, which is based on goodwill. This is a kind of a forum that best suits to the cultural structure of the project vicinity.

Score of the Index	3- During the planning and operation stages, the entrepreneur has communication with the stakeholders.
Future Targets	The project owner will continue communicating with stakeholders and will try to improve the mechanism to collect the opinions of different stakeholders about the project, and will establish a standard operating procedure to ensure the permanence of the established forum on a regular basis.

Name of Indicator	Acceptance
Description of Indicator	Evaluates the level of support or acceptance from the neighbouring population in regard to the project construction or management of the reservoir.
Comments on present situation	Although there is a reaction against all the hydro power plants in some parts of Turkey, there are no project-specific complaints about the project. In general people are happy with the project as they think the project has improved the scenery, provided jobs, lead to the improvement of some of the infrastructure at some locations and contributed to the development of the regional economy & welfare level of the peoples in the subject area. The government officials, and the villagers from the nearest settlement mentioned that the community was happy with the project and was supporting the project.
Score of the Indice	6- Strong support from local stakeholders and insignificant opposition.
Future Targets	No Target assigned

Name of Indicator	Social Demands
Description of Indicator	Social Demands may be understood as institutional or civil society interests: demands made by institutions, agencies, NGOs, municipalities or other institutions which aim to improve the human development and/or the environment near the project. This item evaluates which social demands the entrepreneur addresses.
Comments on present situation	Limak is addressing Social demands that originate from different stakeholders such as the military station or the nearby villages. Limak helped villagers for the maintenance of the roads of the surrounding villages and helped its stakeholders with their construction material needs. Limak also built a public school and a guest house for the military staff. The needs are communicated to the project managers at the project activity site and are evaluated first by them. If they are simple requests and within their limited miscellaneous items budget, and if they decide it

will benefit the community they immediately react and address the needs. If the scale of the request is relatively larger they communicate the request to the central management and get an approval prior to addressing the demand.

Score of the Indices	4-The entrepreneur takes actions that surpass compulsory activities.
Future Targets	The entrepreneur is developing a policy that will cover the rules and other criteria to address voluntary social actions. In the coming years the project owner is going to prepare an internal document that will outline the standard operating procedures to respond the social demands.

Name of Indicator	Social Programs
Description of Indicator	Evaluates the quality and results of additional social programs, such as: - Social and Environmental Communications Program - Community development / income generation - Ethnic integration (Not Applicable in this case) - Other social areas (women's involvement in family income generation)
Comments on present situation	The project management has very good relations with the local inhabitants, and the entrepreneur is highly committed to such issues; yet, such social programs are at the planning stage since the project itself is at the very early stages of operation.
Score of the Indice	2- Actions are in planning stage with high uncertainty that benefits can be delivered.
Future Targets	The Entrepreneur is going to be identifying such activities together with the local stakeholders. They will assess the situation taking into account socio economical characteristics of the area.

Name of Indicator	Social Benefits
Description of Indicator	Evaluates the additional benefits to local stakeholders, when these benefits are measurable or evident. These benefits may include: • Improvements in health system (new installations, enhanced water and electricity systems, support for health programs, and others) • Additional economic activities (industry, commerce, and others) • Improvements in the infrastructure (roads, energy provision, leisure spaces, and others)
Comments on present situation	The project owner constructed one health cabin (one action that serves majority), 18 km's of highway (second action that serves many) to connect some of the villages to the town, helped those people that need to re-build their homes by providing them with construction material. Helped to improve the living conditions of a widow that used to live in a cave like dwelling, by providing her and her family a proper housing. In addition to that the

project is also providing scholarships to the students who are keen to continue their education but have difficulty finding finance.

Score of the Indice	5- Project delivers in two major areas to a large number of local stakeholders.
Future Targets	The project owner will identify the social needs together with the stakeholders and local authorities and will determine actions that will benefit more people.

The rate of the critical indicators: 17 %

The rate of satisfactory indicators: 33 %

The rate of sustainable indicators: 50 %

The total of the 6 social indicators is: 25

The average score for the social resource is: 4.17

4.2. Human Resource

Name of Indicator	Human Resource Availability Capacity Building Initiatives
Description of Indicator	Level of experience and capacity of people involved in the operation and maintenance of the project.
Comments on present situation	The project owner is recruiting most of the employees from the local area or close proximity of the project site. The capacity of the employee is sufficient and Limak is supporting its employees by providing frequent and regular trainings that would improve the quality of their staff.
Score of the Indice	6-Employees of the project have experience and have participated in more than one training or course in intervals of one year or less.
Future Targets	The project owner will maintain the situation

Name of Indicator	Health & Safety
Description of Indicator	Evaluates if a comprehensive employee safety program is in place and its effectiveness can be demonstrated by the absence of life-threatening accidents
Comments on present situation	There were no accidents in the last one-year of the project activity and the project owner has a system supported by their consultant company. The consultants provide regular trainings to the employee of the Alkumru HPP. And they are certified to the OSHA standard, by a third party.
Score of the Indice	6-Existence of an Occupational Health and Safety Management System certified by a third party.
Future Targets	The project owner will keep implementing the OSHA Management System and renew its certification as deemed necessary.

Name of Indicator	Benefits
Description of Indicator	Evaluates existence of additional benefits to workers regarding the following: - Education (support for studies) - Health (medical and hospital assistance) - Retirement assistance - Other (leisure, sports, and meal vouchers, among others). <i>In cases where the services for implementation, operation and maintenance are outsourced, the indicator evaluates the outsourced employees also.</i>
Comments on present situation	In addition to their salary the employees are provided with trainings that improve their capacity and the project owner provides its employees with free housing, free lunch & dinner, free shuttle service and reduced priced holiday opportunity at Limak holiday resorts (with a significant 50% price reduction). This indicates that all the employees benefit in three of the areas. In addition to that, project coordinator and also the president of the company regularly visits the site and questions the satisfaction of the employees and helps to solve any problems they may have. It is also observed in our site visit that the employees are highly satisfied in their jobs.
Score of the Indice	5- Benefits are offered to all employees involved in the project in to three of the areas.
Future Targets	The project owner will establish a workers satisfaction assessment questionnaire to be implemented once in a year.
Name of Indicator	Involvement of Employees in the Project
Description of Indicator	Evaluates internal communication process of the entrepreneur in relation to project emissions reductions.
Comments on present situation	The management is aware of the carbon project. In addition to that during the preparation of the VCS PD and Social Carbon reports, when a document or data was needed the central /management in Ankara explained the process to all the engineers at the project site.
Score of the Indice	2. Only management and employees directly involved in the carbon project are aware.
Future Targets	The project management will include an in-house training addressing climate change and the contribution of renewable energy projects to tackle the climate change issue. This will ensure the involvement of all the employees to the carbon project

The rate of the critical indicators: 25 %

The rate of satisfactory indicators: 0 %

The rate of sustainable indicators: 75 %

The total of the 4 Human Resources Related indicators is: 19

The average score for the Human Resource is: 4.75.

4.3. Financial Resource

<i>Name of Indicator</i>	<i>Economic Performance</i>
<i>Description of Indicator</i>	Evaluates if the economic performance of the project met the expectations of the shareholders and directors regarding, for example, goals for energy generation, stated periods for executing jobs, and operational and maintenance costs. It evaluates if the goals were met or if they did not meet the expectations for the given period.
<i>Comments on present situation</i>	The project owner had fiscal targets for the project activity. Checking the production and electricity sales predictions against those targets they claim that the targets are achieved by a really high rate. Therefore we interpreted the situation that the project performance was highly adequate.
<i>Score of the Indice</i>	4- Adequate Performance. Goals and expectations established with shareholders have been accomplished..
<i>Future Targets</i>	To be able to improve the efficiency of the project maximum care will be spent for the maintenance of the components of the project.
<i>Name of Indicator</i>	<i>Market</i>
<i>Description of Indicator</i>	Evaluates eligibility of credits to CDM Market or to other voluntary markets as well as their attractiveness to potential buyers.
<i>Comments on present situation</i>	The carbon asset of the project is developed considering the CDM rules and the project is validated to the Verified Carbon Standard and can only reach to the voluntary markets.
<i>Score of the Indice</i>	3. Project activities are eligible for the voluntary market.
<i>Future Targets</i>	The project owner is hoping to have an opportunity to bring the project into compliance market. However, this depends mainly on the change of the status of Turkey.
<i>Name of Indicator</i>	<i>Sale of Credits</i>
<i>Description of Indicator</i>	Evaluates uncertainties regarding the value of commercialized credits generated by the project
<i>Comments on present situation</i>	The project owner started to probe potential buyers by the help of their carbon finance consultant.
<i>Score of the Indice</i>	2- Carbon credits are being negotiated, with little uncertainty regarding its commercialization.
<i>Future Targets</i>	The project owner is targeting to differentiate the project activity from the similar projects in the market and therefore to increase the value of the VCUs.

The rate of the critical indicators: 33 %
The rate of satisfactory indicators: 67 %
The rate of sustainable indicators: 0 %
The total of the 3 financial indicators is: 9.00

The average score for the financial resource is: 3.00

4.4. Natural Resource

<i>Name of Indicator</i>	<i>Sustainability Principles</i>
<i>Description of Indicator</i>	Evaluates the existence of specific policies and programs geared toward project sustainability and the applicability of the principles, values and objectives regarding sustainability.
<i>Comments on present situation</i>	Limak has its quality, environmental and safety management systems and in this context, they carry out periodically the necessary endeavours to maintain their clear set sustainability targets. Sustainability is a principle emphasised in the company policy and procedures, including a written action plan. Natural resource consumption is monitored on a regular basis and measures are being taken to minimize consumption. In addition, to that during the construction phases of their projects they always implement the environmental and social impact assessments that need to be done in order to ensure sustainability measures are defined and implemented. Examples from the good track record of sustainable actions of Limak is Provided in Attachment 1 and the Alkumru HPP specific sustainability policy and the general goals set forth for Alkumru HPP Project are provided as Attachment 2.
<i>Score of the Indice</i>	4-Clear sustainability goals and objectives inserted in the values, strategy or principles of the project owner, but difficulties exist in applying them in practice.
<i>Future Targets</i>	The project owner will make sure that their collaborators also adapt and implement their sustainability principles effectively.
<i>Name of Indicator</i>	<i>Environmental Management</i>
<i>Description of Indicator</i>	Evaluates environmental management procedures adopted by the project, including organization, coordination of actions, and documentation of impacts identification, monitoring, and periodic emissions reporting, as well as existence of regular certification.
<i>Comments on present situation</i>	The project is implementing an environmental management system and has a third party certification.
<i>Score of the Indice</i>	6. Certified environmental management system.
<i>Future Targets</i>	The project owner will ensure the perfection of the Environmental Management system, and renew its certification periodically.
<i>Name of Indicator</i>	<i>Environmental Legislation</i>
<i>Description of Indicator</i>	Evaluates accordance of the project with environmental laws and norms, including agreements with public authorities, such as environmental licenses, requested authorizations for installation, etc.
<i>Comments on present situation</i>	Environmental permits are not only followed up the by the responsible staff (Mr Kasım Eren & Ms. Hatice Çınar) for the collection of the necessary work within the company but also are carried out through a consulting firm. All relevant changes to the current legislation and compliance to the environmental regulations are followed up by the management at the central office, and by the help of the intranet system, such changes are

shared with the relevant project managers. This way all environmental permits are ensured to be complete and on time. The project's compliance with all the environmental rules and regulations has also been testified by the relevant government officials that were interviewed during the site visit.

Score of the Indice	6- In addition to the items in Index 5, the entrepreneur has systematic control of the licensing process.
Future Targets	The project owner will maintain the present situation.

Name of Indicator	Legal Procedures
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Description of Indicator	Evaluates if the project was involved with any lawsuit or administrative sanctions executed by public organs, person or people, aiming the environment and human health protection or repair.
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Comments on present situation	There are no complaints and therefore no court cases open related to the negative effects of the project to human and environmental health.
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Score of the Indice	6- The project did not suffer from public civil or judicial action or receive any warnings due to potential risk or effective damage to human health or the environment.
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Future Targets	The project owners will do their best to maintain the present situation.
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Name of Indicator	Environmental Impacts
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Description of Indicator	Evaluates magnitude of environmental impacts of the project, existence of environmental impact statements/studies, and maintenance of environmental evaluation procedures.
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Comments on present situation	The project has submitted an EIA report to the MoEUP. The file is studied and the project received an EIA affirmative certificate. The report is suggesting very minimal damage to the environment; in addition to that there are remedial actions to some of the damage made to clay quarries. The site where the material for the dam body is taken was remedied and the top soil is placed and the area is planted to be used by the local community.
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Score of the Indice	4-Studies show high environmental impact, yet compensation and mitigation measures for such impacts are satisfactory (i.e. Efficient execution of environmental programs).
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Future Targets	No Target Assigned. But implementation of the mitigation measures will be monitored.
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Name of Indicator	Environmental Risk Management emergency action plan
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Description of Indicator	Evaluates the definition, implementation and maintenance of procedures relevant to potential emergencies and accidents related to the project, as well as those relevant to the preparation of answers for such situations, in case of emergency.
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Comments on present situation	As general a company policy, environmental risk assessments are performed before the commencement of construction works. In addition to this, a risk assessment for the operation stage of the Alkumru HEPP project was commissioned. Necessary control measures are developed to manage the identified risks for the project activities, and these risk management activities are carried out by the project site employees. These activities are monitored and controlled by the central office authorized personnel. Hence, there were no environmental emergency situations during the specified assessment period. The Emergency action plan is also provided to the attention of the Ministry of Environment and Urban Planning, as part of the EIA
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report. On top of that the project has ISO 14001, OSHAS 18001 and ISO 9001 certifications that also partially matches the evaluated period.

Score of the Indice	6- Periodic internal and external audits of environmental risks and technical reports regarding environmental management are conducted.
Future Targets	The project owner will maintain the good practice
Name of Indicator	Reservoir and marginal areas management
Description of Indicator	Measures the effectiveness of the Reservoir and marginal areas management, considering: a) existence of invasions in the marginal and adjacent areas and mitigation measures adopted b) existence of plan or program for use of the reservoir and surrounding areas, considering its coverage and efficacy for assurance of the planned uses.
Comments on present situation	There are no invasions around the marginal areas, and the project owner surveys the area for safety and security purposes. In addition to that the sacred land piece is at the reservoir banks and Limak contributed significantly for the planning and management of that area..
Score of the Indice	5. Satisfactory plan, but it only contemplates monitoring, safety and control activities.
Future Targets	The project owner will be in close co-operation with DSI and Forest authorities to improve fishery potential of the reservoir.
Name of Indicator	Erosion, landslides, silting and floods
Description of Indicator	Evaluate the current stage of erosion and silting of the reservoir and if the operations are a major cause of the problem and the existence of programs to manage these risks, such as monitoring, and erosive processes control (ex: protection and reforestation programs for reservoir protection zone).
Comments on present situation	As a general company policy, Limak implements, rehabilitation and reclamation procedures for the degraded areas along the construction phase and implements the necessary erosion controls. Especially areas where large excavations are made is reclaimed and the slopes with mass flow risks are rip-rapped or steep slopes are broken to reduce mass flow risks. Such erosion control measures that also involve slope plantation are carried out in co-ordination with the related institutions such as forest authority and DSI.
Score of the Indice	6- Program is supported by external Stakeholders (i.e. regulators, ngos, etc.).
Future Targets	The project owner will coordinate with the local stakeholders and DSI for implementing the erosion control programme.
Name of Indicator	Water Resources
Description of Indicator	Evaluate the current stage of water quality of the reservoir or downstream water and if the operations are a major cause of the problem and the existence of programs to manage these risks, such as monitoring data and measures of control implemented (ex: sewage treatment station eventually implemented in local communities due to construction of the hydroelectric plant, actions taken for sanitary vigilance, etc.).
Comments on present situation	The general company policy involves, protection of water quality. Therefore, untreated wastewater discharge is not at all allowed. To avoid discharge of untreated wastewater, depending on the size of the operation either sanitary septic tanks are

constructed for temporary storage and the effluent is then transferred to the nearest wastewater treatment site or on site water treatment facilities are established. During Alkumru construction period, a package wastewater treatment plant was established for the sanitary wastewater generated from construction activities. Additionally, settlement ponds were constructed for purpose of treatment for wastewater generated from batching plant. Limak also makes sure that the discharges are to be made in compliance with the nationally allowed limits and monitoring are carried out by performing analysis, with the competent laboratories and in collaboration with the Provincial Directorates of Environment. Additionally, precautions are taken to avoid contamination of the reservoirs or other water resources from other construction related rubble and wastes. Construction of protective barriers, waste management practices and activities are carried out for the protection of water quality. These preventive actions have also been outlined in the Environmental Impact Assessment Report, and the project owner is not only bound by regulations to protect water resources but also have undertakings stating that they will take the necessary measures and precautions to protect water quality. In addition to this the project owner is bound by the undertakings of the water usage agreement and needs to released the promised amount of lifeline water at all times.

Score of the Indice	4- Operations either enhance or cause minimal deterioration to Reservoir or downstream water quality.
Future Targets	The project owner will maintain the existing situation and will keep existing water quality in coordination with the relevant public bodies.

The rate of the critical indicators: 0
The rate of satisfactory indicators: 33 %
The rate of sustainable indicators: 67 %
The total of the 8 natural resource indicators is: 47
The average score for the natural resource is: 5.22

4.5. Biodiversity/Technology Resource

Name of Indicator	Recovery of Degraded Areas
Description of Indicator	<i>Evaluates existence of reforestation projects in marginal areas of the reservoir, procedures for planting, maintenance, control measures and surveillance. It also evaluates extent of actions: limited legal obligations, areas of the company, riparian forest in the incremental basin, and so on.</i>
Comments on present situation	The project area is not densely vegetated as the harsh Eastern Anatolia climate is not promoting growth of dense forests due to extremely warm and dry summers and extremely cold winters. Therefore there are not much degraded areas. But still the project owner is improving the surroundings of the project area by tree plantations, but these activities are limited within the close proximity of the project.
Score of the Indice	4.Voluntary recovery of degraded areas but only in areas of project ownership.
Future Targets	The project owner is planning to implement a tree planting campaign together with the local inhabitants of the area, thus improving areas that are outside the project borders in

	coordination with the relevant public bodies.
Name of Indicator	Biodiversity Conservation
Description of Indicator	Evaluates actions of biological monitoring developed in surrounding environmental areas and influence of the power plant; assesses specific programs developed for flora and fauna on the banks of the reservoir or in surrounding areas for conservation and research.
Comments on present situation	The project owner is safeguarding the project boundaries and watching for illegal hunters and fishers. This way they are supporting the local wildlife. In addition to that the HPP management is communicating with local inhabitants and organizing tree planting campaigns and promoting biodiversity conservation in the area. In their extensive tree planting campaigns they choose trees that will also support local wildlife.
Score of the Indice	3- Limited to legal obligation.
Future Targets	The project owner is seeking better and more effective ways to support local wildlife in coordination with the forestry department and DSI.
Name of Indicator	Ichthyofauna
Description of Indicator	Evaluates existence of procedures for monitoring the Ichthyofauna, partnerships for research, and management actions (restocking, culture in ponds, net)
Comments on present situation	The project is supporting the fish life by preventing illegal fishing in the project area. They have an active fish ladder at the body of the weir. They have observed and pictured fish using the fish ladder. In addition to this they have co-operated the restocking activities of DSI and accordingly DSI has delivered 100,000 young fish to the reservoir lake.
Score of the Indice	4-Program for corrective actions (restocking, transposition, aquaculture, for example).
Future Targets	The project owner is going to cooperate with local authorities and/or local universities to monitor and/or research the state of the fish population in the river.

The rate of the critical indicators: 0 %
The rate of satisfactory indicators: 100 %
The rate of sustainable indicators: 0 %
The total of the 3 Biodiversity indicators is: 11
The average score for the biodiversity resource is: 3.67

4.6. Carbon Resource

Name of Indicator	Additionality
Description of Indicator	Consists of reduction of greenhouse gas emissions or increase in removal of CO2 beyond what would occur in absence of project activity. This item evaluates tools used for assessing additionality and compliance with national and international standards.
Comments on present situation	The project is validated to the VCS version 3.3 standard and implementing CDM Approved tools to demonstrate additionality. The project is under VCS version 3.3 Verification.
Score of the Indice	6. It is considered additional according to criteria stated in a monitoring methodology approved by the CDM Executive Board.
Future Targets	The project is targeting to comply with the VCS rules and will be monitored and verified to be in compliance with CDM approved emission reduction methodology.

Name of Indicator	Emissions Reductions Calculations & Monitoring
Description of Indicator	Evaluates methodologies used to calculate emissions and monitor compliance with national and international standards.
Comments on present situation	The projects emission reductions are calculated and monitored based on CDM approved Methodology “ACM0002 version13: Grid-connected electricity generation from renewable sources”
Score of the Indice	6. The project has a methodology to calculate emissions reductions and a monitoring plan based on a methodology approved by the CDM Executive Board.
Future Targets	The project owner is targeting to keep complying with the VCS and CDM rules.

Name of Indicator	Validation & Verification
Description of Indicator	Evaluates existence of total or partial validation/verification of project by a third party, if third party is accredited by UNFCCC, and compliance procedures for validation/verification with national and international standards.
Comments on present situation	The project is validated by a UNFCCC accredited DOE, and the same UNFCCC accredited DOE is also assigned for the verification of the project..
Score of the Indice	6.Validation and Verification are conducted by a Designated Operational Entity according to UNFCCC specifications.
Future Targets	The project owner is targeting to keep complying with the VCS and CDM rules.

Name of Indicator	Project Performance
Description of Indicator	Evaluates performance of project, verified by comparison with estimates of emissions reductions under the PDD.
Comments on present situation	Comparing the produced VCUs with the values indicated in the VCS PD it reveals that the project performance was 99% and in year 2012 it performed 86.2%. The average performance revealed as 92.7%.
Score of the Indice	5.Good: 76% to 95% of carbon credits predicted for the period were Effectively generated.
Future Targets	Project Management will do their best to improve project performance and keep their production targets.

The rate of the critical indicators: 0%
The rate of satisfactory indicators: 0 %
The rate of sustainable indicators: 100%
The total of the 4 carbon resource indicators is: 23
The average score for the carbon resource is: 5.75 %

5. Analysis of results

To analyze the situation of the project, it is important to consider what is represented by the score obtained for each of the resources. The indicators are established to express the following relationship between the scores obtained and the situation of the project:

Scores 1 and 2:

Situation: Critical.

Characteristics: existence of irregularities; high socio-environmental risk; significant levels of social and environmental degradation; or situation of extreme hardship, which significantly compromises the quality of life of the population.

Scores 3 and 4:

Situation: Satisfactory.

Characteristics: meets all the legal requirements relating to its activities; surpass them through the adoption of good practices and voluntary actions in some cases; or a quality of life that reaches the minimum acceptable standard, but which requires improvement.

Scores 5 and 6:

Situation: Sustainable.

Characteristics: exceeds its legal obligations and/or common practice in the market, in many cases adopting the best-possible practices for the sector; or communities have reached a sustainable livelihood, with adequate access to material and social goods, are capable of recovering independently from situations of stress, and are not causing the deterioration of basic environmental resources through their activities.

In order to obtain an analysis of the Resources average, an equal distribution is adopted between the decimal intervals from 1 to 6, expressing the following relationship amongst the indexes obtained and the project performance.

Average index obtained for the Resource	Decimal interval	Situation
Interval from 1 to 2,6	1,7	Critical
Interval from 2,7 to 4,3	1,7	Satisfactory
Interval from 4,4 to 6	1,7	Sustainable

5.1. General performance

Based on the above explanation the sustainability performance of the Alkumru Hydroelectric Power Plant Project can be summarized as follows (Table 6):

Table 6: Sustainability Performance of Alkumru Hydroelectric Power Plant project - Point Zero (10 March 2011 to 31 October 2012).

Resource	Critical	Satisfactory	Sustainable	Average Score	General Performance
Social	17%	33%	50%	4.17	Satisfactory
Human	25%	0 %	75%	4.75	Sustainable
Financial	33%	67%	0%	3.00	Satisfactory
Natural	0%	33 %	67%	5.22	Sustainable
Biodiversity	0%	100%	0%	3.67	Satisfactory
Carbon	0%	0%	100%	5.75	Sustainable
Overall Assessment	12.50%	38.80%	48.70%	4.43	100.0%

Based on the above table (Table 6) that summarizes the general state of the Alkumru HPP, the project is performing sustainably based on the overall assessment (A score of 4.43 >4.40 sustainability margin). However, to reach the most ideal performance, the project needs to improve its performance on all of the resources. However there are some resources like the financial resource, where the project performance is not only dependent to the project itself but also to the improvements in the global carbon markets. Therefore it is difficult to hope for the project to improve its performance especially in the short term in this area where there are elements that cannot be controlled by the project proponent. But the project is expected to improve its score in time.

The carbon resource of the project is the strongest aspect of the project, as it was developed using UNFCCC approved methodologies and tools and since it was validated by UNFCCC accredited DOE.

The project has also scored high (5.22) in the natural resources due to the proper implementation of the environmental management and environmental risk management systems as a corporate culture, certified by a third party.

The lowest average performance score of the project is related to the financial and the biodiversity resources. For these resources the project is observed to score within the band of satisfactory range with a score of 3.00 and 3.67 respectively. For the financial Resource, this is related to the position of Turkey in the Carbon Markets. The project is so far only eligible to voluntary market schemes. And for the biodiversity resource, the relatively low score is attributable to the lack of monitoring or research related to the fish populations living in the Botan Stream.

Together with the financial resource the social, and biodiversity resources are observed to get scores within the satisfactory range.. In the next monitoring stage it is believed that the project will improve in these resources. Such as the social resource that is expected to improve as a result of social programs that will be identified and put in place in the coming years.

5.2. Performance by resource

As explained above the overall performance of the Alkumru HPP is sustainable, with the best performance to be observed as sustainable, for the carbon resource, for the natural resources, and for the human resources and satisfactory performances for social, financial, and biodiversity resources.

5.2.1. Performance of Social Resource

To assess the social resource, 6 indicators are evaluated. The average performance regarding the social resource is Satisfactory (Average mark $4.17 < 4.4$ and > 2.7 , indicating satisfactory range). The analysis of this resource in detail shows that the local stakeholders accept the project. This acceptance is established as a result of the good communication between the project and the local community, but the communication is not systematic and the effect of this communication is not measured. In addition to the acceptance, another strength of the project is that, although it caused displacement of some activities it did compensate these people very well, by spending more than 10 times than the project proponent initially considered in the budget.

The studied indicators to assess the social resource have shown that the project owner has surpassed the compulsory actions to satisfy social demands of the community. There are plans for the social programs that would improve the quality of life for the immediate vicinity of the project, by creating extra income, but these are at planning stage. Alternative or additional such programs are planned to be identified and implemented at the project site, by the involvement of all the relevant stakeholders. Social programs is the only indicator that scored critical, but project owners are observed to be committed to find out and implement low cost high impact social programs.

The social resource related indicators obtained marks indicating satisfactory for 33% of the indicators, sustainable for the 50 % and critical for the remaining 17% with an average mark of 4.17 indicating a satisfactory performance.

5.2.2. Performance of Human Resource

To assess the human resource, 4 indicators are evaluated. The average performance of the project regarding the human resources is 4.75, indicating a sustainable performance. The project gets sustainable marks for the indicator that diagnoses the capacity building initiatives and the health and safety system. However, although the project have a satisfactory system in place to arrange benefits to employees, due to lack of an employee satisfaction mechanism it scored satisfactory. The only critical score is related to the involvement of Employees in the Project.

5.2.3. Performance of Financial Resource

To assess the performance of the project against the financial resource, 3 indicators are evaluated. The average performance of the project for this resource is 3.00, although this is the lowest score amongst other resources, this score is still within the satisfactory performance range. The reason for this low score is the lack of certainty in selling the VCUs and the overall state of the reduced carbon prices. As the indicators that scored low are in general independent of the efforts of the project owner, these two indicators are the ones that are the most challenging to improve.

5.2.4. Performance of Natural Resource

To assess the performance of the project against the Natural Resource, 9 indicators are evaluated. The average performance of the project, for this resource is 5.22, indicating a sustainable performance. The project showed that it is sustainable for 6 of the 9 evaluated indicators, because, the project complies with the Turkish regulations and environmental laws, and proved that it has the minimum impact to the environment by a government approved Environmental Impact Assessment affirmative certification. In addition to this the project owner has an environmental management and an environmental risk management system.

5.2.5. Performance of Biodiversity Resource

To assess the performance of the project against the Biodiversity Resource, 3 indicators are evaluated. The project scored 3.67, indicating a satisfactory performance. The project scored within the satisfactory range for all the indicators, with 4- a satisfactory performance regarding the recovery of the degraded areas as they have already started a tree plantation activity within the project owned boundaries by the instruction of the central management. The program scored also 3, for the biodiversity resource, and 4 for the ichtiyofauna because, monitoring and research related to fish populations have some gaps. The project owners are willing to improve their status to be fully sustainable by implementing tree-planting campaigns to improve degraded areas outside their jurisdiction, by getting assistance from the local inhabitants for monitoring fish activity and by developing supportive programs that would encourage biodiversity protection in their region.

5.2.6. Performance of Carbon Resource

To assess the performance of the project against the Carbon Resource, 4 indicators are evaluated. The project scored 5.75, and a 6, full score, indicating a sustainable performance for the first 3 of these indicators. The reason for this is that the project's carbon assets were developed according to a UNFCCC CDM executive board approved methodology. The additionality, the emission reduction calculations and the validation and verification (under progress) of the project are all performed by UNFCCC accredited DOEs, based on UNFCCC approved methodologies, and tools.

Since the overall project performance is calculated to be slightly under 95 % of the amount estimated in the validated VCS PD (Considering the entire monitoring period under assessment), this indicator scored 5, sustainable. The average score obtained for this resource was 5.75 and the results are within the sustainable range.

5.3. Historic performance and comparative analysis

Since the assessment period between March 10th, 2010 and October 31st, 2012 (both days inclusive), is the first assessment period (Point Zero) based on the Social Carbon Standard criteria. There is no historical performance and no comparative analysis is being made.

5.4. The Graphic performance of the project

Based on the above-explained scores, the graphic performance of the Alkumru Hydroelectric Power Plant project is as shown in Figure 5.

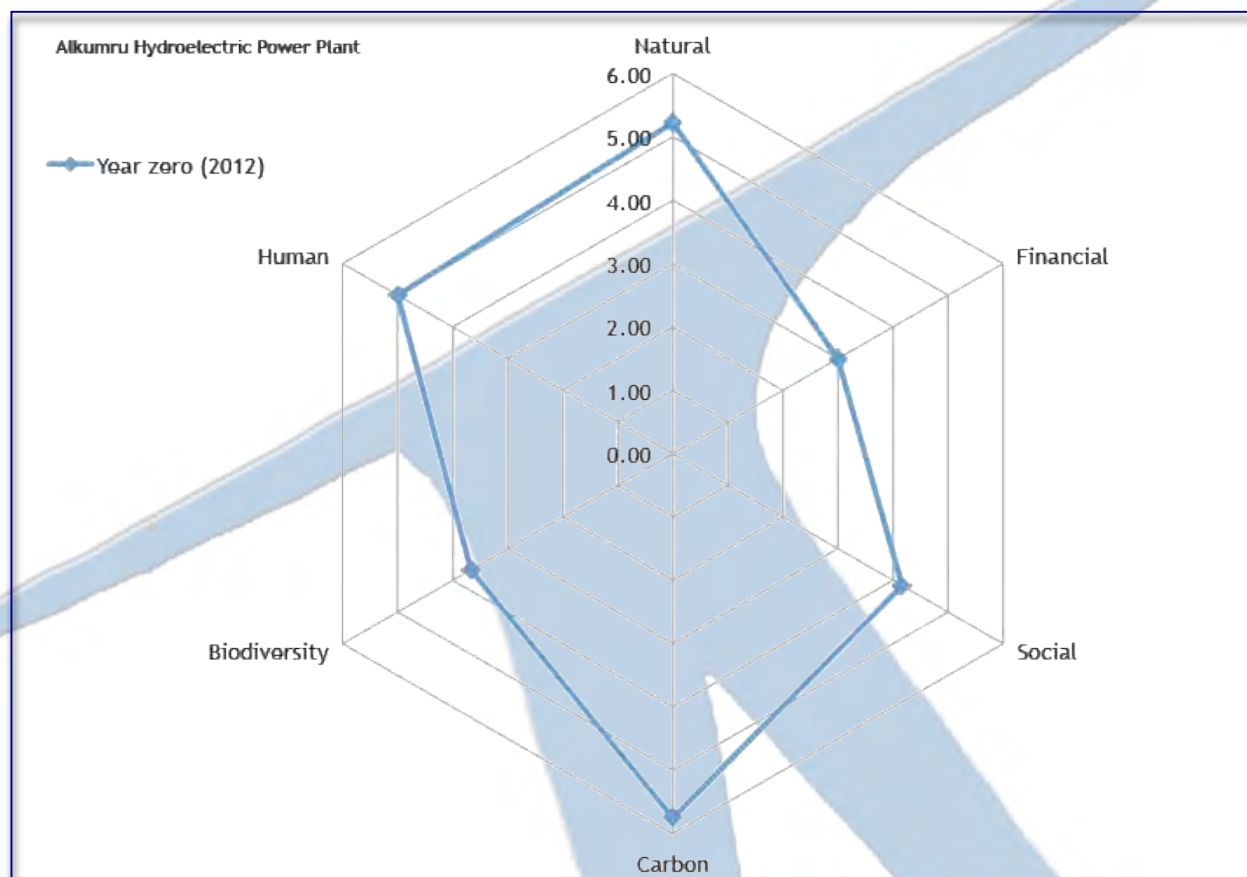


Figure 5: The hexagonal graphic with the results of application of Social Carbon Methodology, for the point zero year of Alkumru HPP project.

6. Perspectives

The following is a compilation of the immediate actions and the future activities that the project owner is intending to implement in order to:

1. Make sure the situation will be improved to sustainable for the critical indicators,
2. Sustain the situation for the indicators that acquired a score ≥ 5 .
3. And improve the situation for the satisfactory indicators so that they will become sustainable.

The immediate actions cover mainly the issues the project owner will solve only by implementing some more monitoring and recording procedures, and those that they have already planned and started to do some activities. The others are future perspectives and targets that they are willing to achieve along the continued improvement of the project, but these targets need some more research to understand the resources needed for their realizations.

Below Table 7 provides a list of the immediate and future actions, and the relationship of each action with the selected indicators. The immediate actions are indicated as high priority at the last column and the others as normal priority.

Table 7: Future perspectives, list of the immediate and future actions, and the relationship of each action with the selected indicators

Resource	Indicator Name	Score	Target	Action	Who	When	Priority
Social Resource	Population Displacement	5	No Target Assigned	N/A	N/A	N/A	N/A
	Communication with stakeholders	3	The project owner will establish a platform to collect the opinions of different stakeholders about the project	Establish a platform to collect opinions	Central Management	within 2013	High
	Acceptance	6	No Target Assigned	N/A	N/A	N/A	N/A
	Social Demands	4	The entrepreneur is developing a policy that will cover the rules and other criteria to address voluntary social actions. Within one year the project owner is going to prepare an internal document that will outline the standard operating procedures to respond the social demands.	Prepare a standard operating procedure to be implemented in case of a social demand	Central management	within 2013	High
	Social programs	2	The Entrepreneur is going to be identifying such activities together with the local stakeholders. They will assess the situation taking into account socio economical characteristics of the area.	Identify the most suitable social program alternatives and implement one social program that will involve most of the local stakeholders.	Central management	within 2013	High
	Social benefits	5	The project owner will identify the social needs together with the stakeholders and local authorities and will determine actions that will benefit more people.	Identify the social needs and do one action that will benefit most of the population	Site management and Central Management	within 2013	High
Human Resources	Capacity Building Initiatives	6	No target assigned but it will be monitored that the project owner will be continuing in house and external trainings to maintain the high qualification level of their employee.	The project owner will maintain the situation	Central Management	Continuous action	Normal
	Health & Safety	6	The project owner will keep implementing the OSHA Management System and renew its certification as deemed necessary.	The project owner will maintain the situation	Central Management	within 2013	High

Resource	Indicator Name	Score	Target	Action	Who	When	Priority
	Benefits	5	The project owner will establish a workers satisfaction assessment questionnaire to be implemented once in a year.	Prepare a questionnaire to measure employee satisfaction and implement it to test employee satisfaction.	Site Manager and staff	Continuous action	Normal
	Involvement of Employees in the Project	3	The project owner is planning to organize a training session to inform the employee about the climate change and the carbon project.	Organize a training session that will cover information on climate change and carbon finance.	Central Management	within 2013	High
Financial Resources	Economic Performance	4	To be able to improve the efficiency of the project maximum care will be spent for the maintenance of the components of the project.	Improve the project production by regularly maintaining the project components	Site Manager and staff	Continuous action	Normal
	Market	3	The project owner is hoping to have an opportunity to bring the project into compliance market. However, this depends mainly on the change of the status of Turkey. No Target Can be assigned	Follow the developments in the carbon markets	Central Management	Continuous action	High
	Sale of Credits	2	The project owner is willing to improve the value of their VCUs by distinguishing their project by adding the social carbon standard and by emphasizing the distinctive aspects of the project.	Prepare commercial materials that will help selling the project tonnes.	Central Management	Continuous action	High
Natural Resources	Sustainability Principles	4	The project owner will make sure that their collaborators also adapt and implement their sustainability principles effectively.	Introduce company's sustainability principles to the sub contractors.	Central management	In the first half of 2013	High
	Environmental Management	6	The project owner will ensure the perfection of the Environmental Management system, and renew its certification periodically.	Make sure the system works efficiently and renew the third party certification when the time comes.	Central Management	Continuous action	Normal
	Environmental Legislation	6	The project owner will maintain the present situation.	No Target Assigned	N/A	N/A	N/A
	Legal Procedures	6	No target Assigned	No Target Assigned	N/A	N/A	N/A

Resource	Indicator Name	Score	Target	Action	Who	When	Priority
	Environmental Impacts	4	No Target Assigned	Implementation of the mitigation measures will be monitored.	N/A	Continuous action	Normal
	Environmental Risk Management	6	The project owner will maintain the good practice	Organize internal audits to make sure the existing ERM system is implemented.	N/A	Continuous action	Normal
	Reservoir and marginal areas management	5	The project owner will be in close co-operation with DSI and Forest authorities to improve fishery potential of the reservoir.	Co-operate with DSI to support aquatic life and with forest authority to support terrestrial wildlife.	Project Management	Continuous action	High
	Erosion, landslides, silting and floods.	6	The project owner will coordinate with the local stakeholders and DSI for implementing the erosion control programme.	Coordinate with DSI and Forestry department to improve erosion management alongside the water conveyance channel.	Central Management	Continuous action	High
	Water Resources	4	The project owner will maintain the existing situation and will keep existing water quality in coordination with the relevant public bodies.	Maintain the existing situation	Site Management	Continuous action	Normal
Biodiversity Resources	Recovery of Degraded Areas	4	The project owner is planning to implement a tree planting campaign together with the local inhabitants of the area, thus improving areas that are outside the project borders in coordination with the relevant public bodies.	Organize a local tree planting campaign in coordination with local forest authority	Site Management	To be implemented in Spring or Autumn of 2013	High
	Biodiversity Conservation	3	The project owner is seeking reasonable ways to support local wildlife in coordination with the forestry department and DSI.	Coordinate with local forestry authority and DSI to find out ways of supporting local wildlife.	Central Management	First half of 2013	High
	Ichthyofauna	4	The project owner is going to cooperate with local public bodies and/or local universities to monitor and/or research the state of the fish population in the river.	Cooperate with local public bodies and/or universities to monitor local fish populations.	N/A	N/A	N/A

Resource	Indicator Name	Score	Target	Action	Who	When	Priority
Carbon Resources	Additionality	6	The project is targeting to comply with the VCS rules and will be monitored to be in compliance with CDM approved emission reduction methodology.	The project is targeting to comply with the VCS rules and will be monitored to be in compliance with CDM approved emission reduction methodology.	Project Directors	Continuous Action	High
	Emissions Reductions Calculations & Monitoring	6	The project owner is targeting to keep complying with the VCS and CDM rules.	The project owner is targeting to keep complying with the VCS and CDM rules.	Project Directors	Continuous Action	High
	Validation & Verification	6	The project owner is targeting to keep complying with the VCS and CDM rules.	The project owner is targeting to keep complying with the VCS and CDM rules.	Project Directors	Continuous Action	High
	Project Performance	5	Project Management will do their best to improve project performance and keep their production targets.	Improve project performance by doing the necessary maintenance and repair works to reach the targeting electricity and ER production numbers	Site Manager	Continuous Action	High

ATTACHMENT 1- MEDIA NEWS AND EXAMPLES OF LIMAK'S SUSTAINABILITY ACTIONS IN THE ORIGINAL LANGUAGE WITH SUMMARY TRANSLATION TO ENGLISH

From the year 2008 Limak Annual Report Letter from the chairman: Nihat Özdemir - Sezai Bacaksız Mesajı

"Toplumsal sürdürülebilirliğine önem vermeden şirketimizin sürdürülebilirliğinden bahsetmenin olanaksız olduğunun bilinci ile hareket etmekteyiz. Oluşturduğumuz işbirlikleri ile topluma değer katacağına inandığımız sosyal sorumluluk projeleri geliştiriyor ve sürekliliğini sağlayacak yapılanmaları oluşturuyoruz."

We move with the consciousness of knowing that it is impossible to talk about our company's sustainability without taking into account the sustainability of the community we live in. With the consortiums we establish, we develop social corporate responsibility projects, and we make sure the continuity of these projects that we believe will contribute and add value to our community.

FROM THE YEAR 2011; LETTER OF THE CHAIRMAN:

[http://www.limak.com.tr/index.php?lang=en&pid=130:](http://www.limak.com.tr/index.php?lang=en&pid=130)

"...We have determined the investments that fall within our field of activities in the territories where we would like to engage in activities until 2015. Among the territories we have been tracking are Eastern Europe and the Balkans, the Middle East and Gulf Countries, Caucasians and Indian Peninsula and vicinity. The Balkans is among the territories where we want to be strong. In addition to Kosovo, we are also active in Macedonia, Croatia and Montenegro. During the new period we will continue to move ahead under the frame of the stable and sustainable growth in all sectors where we carry out activities in order to achieve our new targets..."

<http://hurarsiv.hurriyet.com.tr/goster/ShowNew.aspx?id=18514124>

Çimento'ya 300 milyon dolar ayırdı, çevreci baca Ergani'yi şaşırttı Hürriyet / 18.08.2011

Limak Holding Başkanı Nihat Özdemir, Ergani Çimento'ya kurdukları 10 milyon dolarlık bacayı tanıtırken, "Bu bacadan sonra Erganilileri fabrikanın çalıştığına inandırmakta zorlandık" dedi. Özdemir, sektöre 3 yılda 300 milyon dolar yatıracaklarını açıkladı. LİMAK Holding Yönetim Kurulu Başkanı Nihat Özdemir, çimento sektöründe 3 yılda toplamda 300 milyon dolarlık yatırım hedeflediklerini açıklarken, Tasarruf Mevduatı Sigorta Fonu'ndan (TMSF) aldıkları Ergani Çimento Fabrikası'nın kapasitesini de 2 katına çıkaracaklarını belirtti. Diyarbakır'ın Ergani ilçesindeki bu fabrikaya 10 milyon dolarlık yatırımla kurdukları "toz tutucu baca sistemini" tanıtan Özdemir, bacadan duman çıkmadığını gören Erganililer'i fabrikanın çalıştığına inandırmakta zorlandıklarını anlattı. Erganili çok çekmiş Limak bünyesine 2006 yılında katılan Ergani fabrikasındaki tören sonrasında soruları yanıtlayan Özdemir, şunları söyledi: "Ergani halkı bizden evvel bu fabrikadan çok çekmiş. 2006'den bu yana hem kapasiteyi artırmak için hem de çevreye en az zarar vermek için 12 bin ağaç diktik. Yaklaşık 10 milyon dolarlık bir yatırım yaparak, dünyada kullanılan en son teknoloji olan 'torbalı filtre' sistemi kurduk. Böylece, yasal zorunluluk olan 1 normal metre küpteki atmosfere atılan toz miktarı olan 120 mg yerine 10 mg değer altına düşüldü. Bu da Diyarbakır Ergani Çimento Fabrikası'nı Türkiye'nin en çevreci çimento fabrikalarından biri haline getirdi. Bu sistemden sonra Erganililer 'siz bizi kandırıyorsunuz fabrika çalışmıyor' dediler. ...

Summary: Limak acquired the Ergani Cement Factory from the TMSF , and improved both the efficiency (they have doubled the production) and reduced the emissions of the factory by investing 10 million USD to the installation of the best available chimney filter. This way they have achieved to reduce their air born emissions way below the allowed limits of 120 mg/m³, they achieved 10mg/m³. This way there was no visible smoke coming from the chimney that public thought the factory was stopped. In addition to this they have planted 12,000 trees around the factory, to improve and support environment.

<http://www.zaman.com.tr/haber.do?haberno=1170024&keyfield=6C696D616B>

Diyarbakır'a 100 milyon TL'lik yatırım yapacak Zaman / 17.08.2011

Diyarbakır'a 100 milyon TL'lik yatırım yapacak

Türkiye'nin en büyük 3'üncü çimento üreticisi olan Limak Çimento Grubu, 2010'da Diyarbakır Ergani Çimento Fabrikası'nda 1 milyon ton üretim gerçekleştirdi.

Çimentonun yüzde 30'unu Kuzey Irak'a ihraç ederek 25 milyon dolar ihracat geliri elde eden grup, Diyarbakır'da 100 milyon TL'lik kapasite artırma yatırımı yapmaya karar verdi. Limak Yönetim Kurulu Başkanı Nihat Özdemir, 2006 yılında Ergani Çimento Fabrikası'nı satın aldıklarında yıllık 500 bin ton üretim kapasitesine sahip olduğunu belirterek, şunları aktardı: "O dönemlerde en büyük sıkıntımız fabrikanın çevreye verdiği atık tozdan oluşan zarardı. Ergani halkı bu durumdan çok şikâyetçiydi. Satın aldığımız yıl elektrofiltre sistemi kurduk. Çimento üretim şartnamesine uygun 1 metreküpte atmosfere atılan toz miktarı olan 120 mg'ye indirdik. Çevre ve insana verdiğimiz önemden ötürü doğayı korumak için 10 milyon dolarlık bir yatırım yaptık. Şimdi atılan gaz miktarı 1 metreküpte 10 mg'ye düştü. Bacadan toz duman çıkmadığı için yöre halkı bize 'Fabrikanızı kapattınız mı?' diye sorular soruyor." ...

Summary: Same as above. In addition to the emphasis on how the cement factory turned into an environmentally friendly facility the contribution to the factory to provide jobs for 5000 people is also mentioned in this article.

Please note that the cement utilized in the completion of Alkumru HPP came from this environmentally friendly factory.

<http://www.kureselanhaber.com/kurtalancimento070211.html>

Kurtalan Çimento Fabrikası modernize oldu Küresel Haber / 07.02.2011

"Kurtalan Çimento Fabrikası Modernizasyon Yatırımı ve Kapasite Artırımı" projesine ilişkin hazırlanan ÇED raporunun olumlu sonuçlandı.

Kurtalan'da kurulu bulunan Limak Çimento Sanayi ve Ticaret A.Ş. tarafından gerçekleştirilmesi planlanan "Kurtalan Çimento Fabrikası Modernizasyon Yatırımı ve Kapasite Artırımı" projesine ilişkin hazırlanan ÇED raporunun olumlu sonuçlandığı bildirildi. Çevre ve Orman İl Müdürlüğü'nden yapılan açıklamada, ÇED Yönetmeliğinin gereğince, "Kurtalan Çimento Fabrikası Modernizasyon Yatırımı ve Kapasite Artırımı" projesine ilişkin hazırlanan ÇED raporu, Çevre ve Orman Bakanlığı'nca "Çevresel Etki Değerlendirmesi Olumlu" kararının verildiği belirtildi. Olumlu rapor alan fabrikanın üretim kapasitesini 2 katına çıkaracağı öğrenildi.

Summary:

The Kurtalan Cement factory was a former government factory. After Limak acquired it, they have undergone the EIA process for the modernization and capacity increase of the factory,

and improved the environmental state of the factory, by implementing environmental management and OSHA systems. (More information can be found in : <http://www.limak.com.tr/index.php?lang=en&pid=510>).

<http://www.aksam.com.tr/limak,-sosyal-sorumlulugu-vakifla-yerine-getirecek--2782h.html>

Limak, sosyal sorumluluğu 'Vakıf'la yerine getirecek Akşam / 12.12.2010

Eğitim, spor, çevre ve kültür-sanatta 'sosyal sorumluluk' projelerine ağırlık veren Limak, daha çok projeyi kurumsal bir şekilde hayata geçirmek için Limak Vakfı'nı kuruyor. Limak Yönetim Kurulu Üyesi Ebru Özdemir, 'Bizim için verilen bu desteğin yerini bulması çok önemli' diyor

Toplumdan aldığını topluma vermek. Elini taşın altına koymak. Sahile vurmuş bir deniz yıldızını yeniden denize atmak. Adına ne dersanız deyin, 'sosyal sorumluluk' şirketlerin her geçen gün ajandasında daha fazla yer kaplıyor, bütçeden daha fazla pay alıyor. Peki şirketler 'ev ödevleri'ni nasıl yapıyor, nelere öncelik veriyor? Bu sorunun yanıtını Limak Holding Yönetim Kurulu Üyesi Ebru Özdemir'e sorduk. 2011 gündemine sosyal sorumluluk projelerini daha kurumsal bir yapıya oturtmak için Limak Vakfı'nın hayata geçirme projesinin öncelikli yer aldığını söyledi. 'Bugüne kadar birçok sosyal sorumluluk projesinde yer aldık. Limak için hepsi öncelikli, yeter ki proje hedefine ulaşsın' diyen Özdemir, Limak Holding'in sosyal sorumluluk karnesini AKŞAM Ekonomi'ye anlattı...

Öncelikle merak ettiğim şu, Limak Grubu'nun sosyal sorumluluk stratejisi ne üzerine kurulu? Limak Şirketler Grubu olarak sosyal sorumluluk projelerine, verdiğimiz desteğin gerçekten bir ihtiyaca cevap verdiğini görmek şartıyla ve elimizden geldiğince destek olmaya çalışıyoruz. Bizim için verilen desteğin yerini bulması çok önemli. Genelde, eğitim, spor, çevre, kültür, sanat ve sosyal alanlarda çalışıyoruz. Bugüne kadar birçok sosyal sorumluluk projesinde yer aldık. Çeşitli eğitim projeleri, okul inşaatları, öğrenci bursları, dernek ve vakıf yararına eğitim katkıları, kültürel ve sanatsal aktiviteler, birçok spor etkinliği, Cumhurbaşkanlığı Senfoni Orkestrası konserleri gibi sıralamak mümkün bunları. Limak için hepsi öncelikli, yeter ki proje hedefine ulaşsın...

Paydaş arttıkça proje başarısı büyüyor

Siz Endeavor Türkiye'nin de yönetim kurulu üyelerindensiniz. Dolayısıyla yurtdışındaki sosyal sorumluluk projelerini çok yakından takip ediyorsunuz. Türkiye ile kıyasladığınızda ortaya nasıl bir tablo çıkıyor? Yurtdışında özellikle Amerika'da sosyal sorumluluk projelerinin boyutları çok büyük. Mesela Warren Buffett ve Bill Gates varlıklarının yarısını bağışladılar ve kısa bir zaman içinde de 'Forbes 400' listesinde yer alan 38 işadamını da bağış yapmak üzere ikna ettiler. Sosyal sorumluluk projelerinde bir araya gelip, ortak projeler üretmek önemli. Çünkü ne kadar büyük ölçekte yapılabilir, ne kadar çok paydaş dahil edilebilirse o kadar başarılı oluyor projeler. Ben de yurtdışındaki ünlü hayırseverlerin yaptıkları projeleri büyük bir merakla takip ediyorum.

Peki sosyal sorumluluk açısından 2010'da neler yaptınız?

2010 yılında özellikle Cumhurbaşkanlığı Senfoni Orkestrası konserlerine ağırlık verdik. Ayrıca bir de Afyon-Şuhut'ta Kız Meslek Lisesi inşaatını tamamlayarak eğitime açtık. Uçan Süpürge Kadın Filmleri Festivali açılış törenine ve Demokrasi'de Kadın İzleri paneline destek verdik. Tabii ki Pakistan sel felaketi ve diğer bazı dernek ve vakıflara vermiş olduğumuz destekler de mevcut.

Limak Vakfı 2011'e

2011'e gelecek olursak, ajandanızda neler var sosyal sorumluluk adına?

2011'de öncelikle tüm bu projelerimizi kuracağımız Limak Vakfı altında toplamak istiyoruz. Yine öncelikli konularımız; eğitim, kültür-sanat ve çevre konuları olacak. Bu konuda şimdilik detay vermek istemiyorum ama yeni projelerimiz var; inşallah hepsini gerçekleştireceğiz...

Çalışanlarımız projeler için gönüllü oluyor

Limak'ta bir sosyal sorumluluk projesi nasıl gerçekleşiyor? Bu sürecin detaylarını merak ediyorum. Bir ekibimiz var. Şirketimizde çeşitli departmanlarda çalışan arkadaşlarımızdan oluşuyor bu ekip ve bu işi gönüllü yapıyor. Bazen kendimiz bir proje geliştiriyoruz, bazen de dışarıdan öneriler geliyor. Ama söylediğim gibi öncelikli hedefimiz önce Limak Vakfı'nı kurmak, onun ardından yeni projelerimizi hızla ve organize şekilde hayata geçirmek...

Sonuç keyif verici ama bir projeyi hayata geçirirken zorlandığınız noktalar oluyor mu?

Biz, her sosyal projemize 4 elle sarılıyoruz. Dolayısıyla bazen vakit sıkıntımız oluyor. Limak Grubu'nda çalışan arkadaşlarımız profesyonel görevlerinin yanı sıra bu işleri de gönüllülük esasına göre yapıyor. Şimdi tüm bu projeleri kurumsal olarak yapmayı istiyoruz. En büyük hedefimiz bu...

Kızlarımız eğitilsin

Sizi en çok heyecanlandıran proje hangisiydi peki? Siirt Kurtalan'da yaptığımız kız yurdu beni çok mutlu ediyor. O bölgedeki kızlarımızın okumasında desteğimiz olduğunu bilmek çok güzel. Yine benzer şekilde bu yıl eğitime açtığımız Afyon-Şuhut'taki kız meslek lisesi de çok önemli. O okuldaki tüm kızlarımıza bir meslek edindirmiş oluyoruz.

KIZ YURDU'NDA OKUYANLAR BELLETMEN OLDU

LİMAK'IN beş yıl önce Kurtalan'da hayata geçirdiği öğrenci yurdunun özellikle kız öğrencilere yönelik olması konusunda ısrarlı olduklarını belirten Ebru Özdemir, 'Şu anda orada 100 kadar kız ortaokul ve lise eğitimi alıyor. Zamanında orada okuyan öğrenciler şimdi 'belletmen' sıfatıyla etüt derslerine girip, diğer öğrencilere yardımcı oluyor. Kızların okuması konusunda bir misyon edindik. Bunu her yıl yeni projelerle sürdürülebilir hale getirmek istiyoruz' diyor.

Summary:

This is a detailed news about the social Corporate responsibility strategy of Limak. It emphasizes that Limak SCR projects are going to be implemented via the help of the Limak Foundation. These projects are result oriented and target to reach numerous stakeholders. They are mainly concentrated in the fields of education, support of female students, and environmental and cultural projects.

Kurtalan Mikro Kredi Şubesi İlk Kredilerini Verdi NetHabercilik / 06.01.2009

Siirt'in Kurtalan ilçesindeki Nihat Özdemir Mikro Kredi Şubesi, ilk kredilerini düzenlenen törenle dağıttı.

Türkiye İsrافی Önleme Vakfı ile Siirt Valiliği arasında yapılan bir protokolle ilçede açılan mikro kredi şubesi, düzenlenen törenle ilk kredilerini verdi.

Törene Kaymakam Mustafa Gündüz, Kurtalan Çimento Fabrikası Genel Müdürü Hamza Oduncu, Milli Eğitim Müdürü Halit Pala, Mikro Kredi Merkezi Müdürü İdris Tuaç, Şube Müdiresi Fatma Asubay ve kurum amirleri katıldı. İlk krediler Kaymakam Gündüz ve Çimento Fabrikası Genel Müdürü Hamza Oduncu tarafından hak sahiplerine verildi.

Törende konuşan Kaymakam Gündüz, "İnsanlarımıza faizsiz uygun vadeli iş edindirme kredisi verilerek ilçemizin üretimine ve istihdamına katkı sağlayacak olan mikro kredi şubesinin ilçemizde açılmasını sağlayan başta Sayın Valimiz Necati Şentürk'e, Prof. Dr. Aziz Akgül'e ve milletvekillerimiz Afif Demirkıran ve Yılmaz Helvacıoğlu ve emeği geçen herkese teşekkür ediyoruz. Ayrıca mikro kredi şubemize 250 bin TL bağışta bulunarak kredilerin finansmanını sağlayan Limak Holding Yönetim Kurulu başkanı Nihat Özdemir'e de teşekkür ediyorum" dedi.

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Summary: This is a news about the Kurtalan Micro Credit branch, and the first credits delivered to the beneficiaries. More information about the micro crediting can be found in the following link:

<http://www.limak.com.tr/index.php?lang=en&pid=940&q=1>

More information about the other corporate social responsibility activities of Limak can be found in the following link.

<http://www.limak.com.tr/index.php?lang=en&pid=940&q=1>

These activities are chosen to support culture, art and the environment to be able to improve the quality of life in the society Limak co-exists and to support sustainability of the communities Limak is operating.

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Attachment 2- Sustainability Policy and General Goals Set For Alkumru HEPP Project

A summary of the Limak's operations and Sustainability Approach

Limak Yatirim has 11 hydropower plants in Turkey: 5 operational HPP with a total capacity of 435 MW, 3 under construction and the remaining under final design phase. When all is complete, Limak's total installed renewable energy generation capacity will reach to 1100 MW with over 4 billion kWh of annual green energy generation. Currently Limak's energy generation portfolio is 100% hydro, however Limak is continuously looking for the opportunities to enrich and diversify its generation portfolio with other renewable energy sources primarily wind, solar and geothermal energy and to some extent with the traditional energy resources such as natural gas and coal, to fulfill the base load needs.

Limak's investment and growth philosophy follows a sustainable and environmentally friendly path. Especially for those projects that Limak does the design and develops the project from the scratch, Limak makes sure that the project is in harmony with nature and society. Limak makes sure that while enriching and diversifying its energy generation resources, it also supports and protects the bio diversity and helps to enhance the quality of life of the society where Limak is operating. Limak is also looking for ways to operate in different geographies.

Sustainability and Alkumru HEPP

Regarding the operations for the Alkumru hydropower plant, Limak Energy generation team has set the following targets under the global Limak sustainability scheme. As Limak Energy has an operating license of 49 years, its targets are set on the basis of maintaining its operations efficiently, reducing its operating costs and protecting the surrounded ecological area in the long run (not only today or tomorrow):

Goals Set For the operation of the Power Plant:

- Use the water efficiently during the annual cycle of the river
- Make sure to Prevent the floods over the annual cycle of the river (river management linked to flood management)
- Make sure to Improve energy production efficiency by using the latest technology in the electro-mechanical equipment of the power plant and making the periodical repair and maintenance works on time
- Make sure to have high employee satisfaction to keep up the quality and efficiency of the operation:
 - Make sure that the management team has regular visits to the project site and communicates with the employee to hear about the wishes/complaints of the employees.
 - Allow room for the employees to think about and improve the quality of the operation

Goals Set for the Alkumru Team

- Make sure to reduce environmental footprint of the operation:
 - Make sure that the septic tank is working and avoids contamination of water resources, and collects the waste-water of the people working and living in the project site.
 - Reduce domestic water usage: Do not use excess water (e.g. be efficient in your shower times) and don't leave any dripping plumbs.
 - Reduce solid waste production: Make sure to reduce your solid waste, re-cycle and re-use whenever possible.
 - Reduce energy usage: Make sure there are no unnecessary computers or lighting left open when you leave your work area.
 - Protect the biodiversity:
 - ❖ Prevent the illegal hunting
 - ❖ Cooperate with DSI for protecting and improving fish population
- Do your best to commit to improve the quality of life in the society you are living in:
 - Buy local: Try to buy all your dairy products and goods locally to support local economy.
 - Help your neighbors to live in a secure environment make sure to cooperate with the local gendarme forces for improved security.
 - Support education in your local community: actively join the SCR campaigns and engage to the voluntary campaigns such as helping out the students living near by the Alkumru hydropower plant.

Limak Energy is proud of its accomplishments so far and still looks for ways to enhance its environment.