



TEPEKISLA DAM & HYDROPOWER PLANT

Document prepared by

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(As Carbon Consultant)



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1 PROJECT DETAILS

1.1 Summary Description of the Project

Ark Enerji Üretimi Sanayi ve Ticaret A.Ş., (as project developer) was a subsidiary of Sanko Enerji A.S during the VCS registration of project. Ark Enerji was taken with all its liabilities by Sanko Rüzgar Enerjisi Sanayi ve Ticaret A.Ş. And then Sanko Rüzgar Enerjisi Sanayi ve Ticaret A.Ş has been transferred to SANKO Enerji Sanayi ve Ticaret A.Ş on 04/09/2019. Similarly, the shareholder structure was changed and the Project has been transferred to SANKO Enerji Sanayi ve Ticaret A.Ş¹.

Tepekisla HEPP, which is comprised of the construction of a green field 69.627 MWe (2 x 32.993 MWe and 3.641 MWe). hydroelectric power plant located in the Kelkit river which one is the longest tributary of the Yesilirmak river basin, in Turkey's Middle Black Sea Region. The plant has been projected to comprise Tepekisla Dam, cofferdam of upstream and downstream, penstock, a head pond, a spillway and a powerhouse, having 2 SAM turbines of horizontal axis with 32.993 MWe power each and one Francis turbines of horizontal axis with 3.641 MWe².

It is stated in the revised feasibility report dated January 2013 (the first feasibility report dated on October 2004) and generation license that the electricity production of the proposed project is going to be 241,098 MWh/year, with a plant load factor computed as 39.5% .Since the project activity is a clean energy project, it reduces greenhouse gases (GHGs) emissions that would have otherwise occurred in the absence of the project activity by avoiding electricity generation from fossil fuel sources. In the baseline scenario, the electricity delivered to the grid by the project would have otherwise been generated by the operation of grid-connected power plants. Since Turkey's grid mainly consists of thermal power plants, this would have resulted in GHG emissions. However, in the project scenario, the project will generate electricity from hydro power and will result in emission reductions in parallel with its electricity generation figures. The average annual emission reductions of the proposed project for the first crediting period are estimated to be 114,337 tonnes of CO₂e (tCO₂e). The average annual emission reductions of this project for the second crediting period are estimated to be 110,126 tones of CO₂e (tCO₂e).

The objective of the project is to generate zero emission electricity to be fed into the national grid. It shall be registered as a VCS project to facilitate the project implementation by means of financial inflows coming from the credit's sale. Due to its significant contribution to climate change mitigation and sustainable development in the region, this project is expected to fulfil the requirements of VCS rigorously.

The Project Activity is a hydropower plant with a total installed capacity of 69.627 MWe (2 x 32.993 MWe and 3.641 MWe). The main purpose of the project is to generate approximately 241,098 MWh/year² of electricity to supply the national grid using a renewable resource and tapping the significant hydropower potential in the region. The plant has been projected to comprise Tepekisla

¹ MR version 04 with issued date 18/06/2021.

² The Generation License has been provided to the VVB

Dam, cofferdam of upstream and downstream, penstock, a head pond, a spillway, and a powerhouse, having 2 SAM turbines of horizontal axis with 32.993 MWe power each and one Francis turbines of horizontal axis with 3.641 MWe.

The plant comprises Tepekisla Dam, cofferdam of upstream and downstream, penstock, a head pond, a spillway, and a powerhouse and having 2 SAM turbines of the horizontal axis and one Francis turbines of the horizontal axis. The clean energy is produced by utilizing water flow from the thalweg elevation of 216 meters to 255,50 meters of tailwater elevation. Water is transmitted through 214.00 meters tailwater elevation in the Tepekisla HEPP via two penstocks which have 130 m in length and 5.00 meters in diameter, after turbined here the water is given again Kelkit River. In this case, 37 meters between 252.50 meters and 215.0 of elevation of Kelkit River is evaluated therefore productive lands of Niksar plain are preserved. The length of the energy transmission line is about 15 km. The water is transferred which has 3 (2 horizontal axis SAM and one horizontal axis Francis) turbines with a total installed capacity of 69.627 MWe and a three-phased synchronous generator is used. The turbine and generator manufacturer are Alstom. The manufacturer is a French company, acclaimed for its integrated power plants, power production services and air quality control systems. Alstom has been selected as the equipment provider because of its reliable quality products and technology, which is a grid friendly technology with low maintenance needs as well as low noise and low environmental impacts. There has been no new reservoir formation within the context of the project activity.³

The project was expected to be commissioned on 31 March 2015. However, as the commissioning of the power plant was realized on 13 August 2015, the first crediting period was revised as 13/08/2015- 12/08/2025 (both days are included). Briefly, the start date of the project has changed as 13/08/2015 during first verification process of first crediting 10 years.

The Tepekisla Hydro Electric Power Plant contributes to the region's sustainable development in particular and Türkiye's sustainable development in general by:

- Displacing the electricity generated by fossil fuel fired power plants by utilizing the renewable resources to avoid environmental pollution and GHG emissions
- Contributing the economic development of the region by providing sustainable energy resources,
- Reducing emission of GHGs from the national electricity grid, thereby reducing the effects of global climate change in the medium and long term, and
- Increasing the income and local standard of living by providing job opportunities for the local people.

Since the project activity is a clean energy project, it reduces greenhouse gases (GHGs) emissions that would have otherwise occurred in the absence of the project activity by avoiding electricity generation from fossil fuel sources. In the baseline scenario, the electricity delivered to the grid by the project would have otherwise been generated by the operation of grid-connected power plants. Since Turkey's grid mainly consists of thermal power plants, this would have resulted in GHG emissions. However, in the project scenario, the project generates electricity from hydro power and

³ MR version 04 with issued date 18/06/2021.

result in emission reductions in parallel with its electricity generation figures and reducing the dependency on fossil fuels.

1.2 Audit History

Audit type	Period	Program	Validation/verification body name	Number of years
Validation	13-August-2015 - 12-August-2025	VCS	Re-Consult Rüzgar Enerjisi Danışmanlık İç ve Dış Tic. Ltd. Şti.	10 years
Verification (1st Monitoring Period)	13-August-2015 31-August-2020	VCS	Re Carbon Gözetim Denetim ve Belgelendirme Ltd. Şti.	5 years
Verification (2nd Monitoring Period)	01-September-2020 30-November-2023	VCS	RINA Services S.p.A.	3 years and 2 months
CP Renewal (Second Validation)	13-August-2025 - 12-August-2035	VCS	KBS Certification Services Limited	10 years

1.3 Sectoral Scope and Project Type

This is a voluntary project, but it follows the CDM rules. The approved baseline and monitoring methodology ACM0002-Version 22.0.0: “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” (“ACM0002”) is applied.

Sectoral Scope Number: 1 (Energy Industry – Renewable-/Non-renewable Sources)

The project is not a grouped project.

Sectoral scope⁴	Energy Industries
Project activity type	Renewable Energy

1.4 Project Eligibility

1.4.1 General eligibility

Tepekisla Hydro Electric Power Plant is with a total installed capacity of 69,627 MWe (2 x 32,99 MWe and 3,641 MWe), classified under the Renewable Energy Source category as a power plant

⁴ Projects, activities, or methodologies may be developed under any of the 16 VCS sectoral scopes: <https://verra.org/programs/verified-carbon-standard/vcs-program-details/#sectoral-scopes>.

that uses renewable energy sources in this case hydropower and supplies electricity to the grid, per CDM Methodology Booklet, Edition 12.⁵ Since the plant's installed capacity is larger than 15 MW, it is considered a large-scale renewable energy project activity.

As per the justifications provided above, the project is eligible under VCS.

1.4.2 AFOLU project eligibility

N/A

1.4.3 Transfer project eligibility

N/A

1.5 Project Design

Indicate if the project has been designed as:

- ☒ Single location or installation
- ☐ Multiple locations or project activity instances (but not a grouped project)
- ☐ Grouped project

1.5.1 Grouped project design

The project is not a grouped project.

1.6 Project Proponent

Ark Enerji Üretimi Sanayi ve Ticaret A.Ş., (as project developer) was a subsidiary of Sanko Enerji A.S during the VCS registration of project. Ark Enerji was taken with all its liabilities by Sanko Rüzgar Enerjisi Sanayi ve Ticaret A.Ş. And then Sanko Rüzgar Enerjisi Sanayi ve Ticaret A.Ş has been transferred to to SANKO Enerji Sanayi ve Ticaret A.Ş. Similarly, the shareholder structure was changed and the Project has been transferred to SANKO Enerji Sanayi ve Ticaret A.Ş. The following table show the project proponent's contact information:

Organization name	Sanko Enerji Sanayi ve Ticaret A.Ş.
Contact person	Muhsin Dervişoğulları
Title	Project Development Manager

⁵ https://cdm.unfccc.int/methodologies/documentation/meth_booklet.pdf#ACM0002

Address	15 Temmuz Mah. Gülbahar Cad. No: 43 K: 6-7 34212 Güneşli / İstanbul
Telephone	+90 444 87 65 / +90 212 410 46 66
Email	muhsin.dervisogullari@sankoenerji.com.tr

1.7 Other Entities Involved in the Project

Organization name	Rüzgar Karbon ve Enerji Danışmanlık Sanayi Ticaret Limited Şirketi
Role in the project	Consultant
Contact person	Mrs. Çağla Balcı Eriş
Title	Manager
Address	Göztepe Mah. Avcı Sok. Nursaray Apt. No:1 D:22 Kadıköy-İstanbul 34270 TURKEY
Telephone	+90 216 355 09 68
Email	cagla@ruzgardanismanlik.net

1.8 Ownership

Sanko Enerji Sanayi ve Ticaret A.Ş. holds all licenses, permits, and land use rights related to Tepekisla Hydro Electric Power Plant and has obtained and owns all equipment used for its implementation. Also Sanko company own carbon credits' revenues.

1.9 Project Start Date

Project start date	13-August-2015
Justification	The project was expected to be commissioned on 31 March 2015. However, as the commissioning of the power plant was realized on 13 August 2015, the first crediting period was revised as 13/08/2015- 12/08/2025 (both days are included). Briefly, the start date of the project has changed as 13/08/2015. This is the date on which the project started to produce emission reductions. This is the official start date of the project.

1.10 Project Crediting Period

Crediting period	☐ Seven years, twice renewable
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	☐ Ten years, fixed ☒ Other (state the selected crediting period and justify how it conforms with the VCS Program requirements) (10 years, once renewable)
Start and end date of first or fixed crediting period	13-August-2015 to 12-August-2025 (first crediting period) 13-August-2025 to 12-August-2035 (second crediting period)

The project applies a 10-year crediting period, renewable once, in accordance with VCS Version 3, Section 3.9.1, which allows non-AFOLU projects to have a maximum 10-year period that may be renewed at most twice. The project was initially registered under this rule in 2015, consistent with other VCS projects and remains compliant with the applicable VCS program requirements.

1.11 Project Scale and Estimated GHG Emission Reductions or Removals

Projects are categorized by size according to their estimated average annual GHG emission reductions or removals, as follows:

☒ < 300,000 tCO₂e/year (project)

☐ ≥ 300,000 tCO₂e/year (large project)

Calendar year of crediting period	Estimated GHG emission reductions or removals (tCO ₂ e)
13-August-2025 to 31-December-2025	42,542
01-January-2026 to 31-December-2026	110,126
01-January-2027 to 31-December-2027	110,126
01-January-2028 to 31-December-2028	110,126
01-January-2029 to 31-December-2029	110,126
01-January-2030 to 31-December-2030	110,126
01-January-2031 to 31-December-2031	110,126
01-January-2032 to 31-December-2032	110,126
01-January-2033 to 31-December-2033	110,126
01-January-2034 to 31-December-2034	110,126
01-January-2035 to 12-August-2035	67,584
Total estimated ERRs during the second crediting period	1,101,269

Total number of years	10 years
Average annual ERRs	110,126

1.12 Description of the Project Activity

The proposed project is claimed to be an emission free project since it will generate electricity from hydro power and will result in emission reductions in parallel with its electricity generation figures. Tepekisla HEPP will reduce greenhouse gas emissions that would otherwise occur by avoiding electricity generation from fossil fuel sources both in the operating margin and build margin of the national grid. The average annual emission reductions of the proposed Project are estimated to be 110,126 tones of CO₂e (tCO₂e) during second 10 years of the operation or second crediting period. The lifetime of the project has been defined as 49 years in parallel with the generation license period of the project.

VCS crediting period start date: 13-August-2015 (1st Crediting Period)

13-August-2025 (2nd Crediting Period)

Expected operational lifetime of the project activity: 49 years.

Tepekisla HEPP which is located in the village of Erbaa in the central county of Tokat on the Kelkit River (the longest tributary of the Yesilirmak river basin), clean energy production has been aimed by utilizing water flow from the thalweg elevation of 216 meters and 255.50 meters of crest elevation. Water has been transmitted through 214.00 meters tailwater elevation in the Tepekisla HEPP via two penstock which has 130 m in length and 5.00 meters in diameter, after turbined here the water has been given again Kelkit River. In this case, 37 meters between 252.50 meters and 215.0 of elevation of Kelkit River is evaluated therefore productive lands of Niksar plain has been preserved. The length of the energy transmission line is about 15 km. The water has been transferred which has 3 (2 horizontal axis SAM and one horizontal axis Francis) turbines with a total installed capacity of 69.627 MWe and three phased synchron generator have been used. The turbine and generator manufacturer of the project is ALSTOM.

The following table shows a full detail of the project's technical specification

Table 1 Technical specifications of the project

Power Plant Building		
Length	M	58.3
Width	M	38.5
Turbines		
Brand/Model		Alstom-Kaplan and Francis
Type		Horizontal axis SAM and Francis
Number of Units		2+1
Unit Rated Power	MWe	2 * 32.993 + 1*3.641
Total Installed Capacity	MWe	69.627
Project rated discharge	m ³ /s	213.00
Transformer		
Type		Outdoor Type, oily, three phased
Number of Units		3
Power of a Unit	kVA	85,000
Voltage	kV	11/154 kV (+/- 2 x 2.5 %)
Efficiency	%	99
Type		Internal Type, dry or silicone oil, three phased
Number of Units		3
Power of a Unit	kVA	400
Voltage	kV	11 (+/- 2 x 2.5 %) / 0.4 kV
Penstock		
Number of Units		2
Inner Diameter	m	5
Steel Thickness	mm	14,09
Length	m	130
Generator		
Type		Horizontal axis, three phased synchron
Number of Units		3
Power Factor		0.90

Efficiency	%	98.5
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Table 2 Project Timeline

Milestone	Date
Final Project Description Report for EIA Process	April 2011
EIA approval (by the Ministry of Environment and Forestry)	08 June 2011
Water Usage Agreement	01 October 2012
Generation License	15 November 2012
Revised Feasibility Report	January 2013
Construction Contract	08 May 2013
Permission letter for the use of forestry lands	12 June 2013
Electromechanical Equipment Contract	28 June 2013- 17 July 2013
The letter related to credit condition from the financier	12 March 2013
The date for start of construction (Site delivery record)	04 June 2013
Partial Provisional Acceptance Date (3.755MWm/3.641MWe)	13 August 2015
Partial Provisional Acceptance Date (33.431MWm/32.993MWe)	04 September 2015
Partial Provisional Acceptance Date (33.431MWm/32.993MWe)	05 November 2015
1 st Monitoring Period	13/08/2015-31/08/2020
2 nd Monitoring Period	01/09/2020-30/11/2023
Second Crediting Period	13/08/2025-12/08/2035

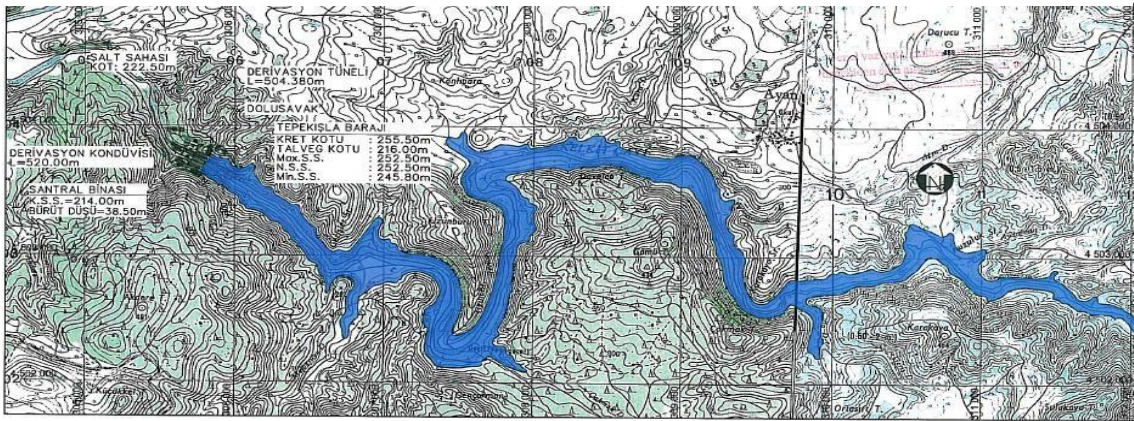
1.13 Project Location

The Project site is located Kelkit river which one is the longest tributary of the Yesilirmak river basin in Turkey's Middle Black Sea Region, approximately 3.5 km to the south of the Doganyurt Nahiye center and 5.5 km upstream of Tepekisla village of Tokat. The project area is located 40° 39' 34" N -36° 42' 13" E coordinates. The following figures show the project's location. Please see the table below:

Figure 1 Project Location



Figure 2 Plant Layout



1.14 Conditions Prior to Project Initiation

As the project activity is a greenfield project, the conditions prior to the project initiation are the continuation of the current situation, i.e. the equivalent amount of energy would have been produced by other grid-connected units, which are mainly thermal power plants, undertaking business as usual maintenance. In addition, since the project is a Greenfield project, emissions that occur during construction and operation are negligible and non-existent respectively.

1.15 Compliance with Laws, Statutes and Other Regulatory Frameworks

The applicable mandatory laws that have been applied for the project are:

- Electricity Market Law⁶: It was enacted on March 3rd, 2001. This Law aims at to ensure the development of a financially sound and transparent electricity market operating in a competitive environment under the provisions of the civil law. It also underlines the needs to produce a sufficient, high quality, low cost, and

⁶ Law Number: 4628 Ratification Date: 20.02.2001 Enactment Date: 03.03.2001

environmentally friendly electricity to consumers. The text also provides guidelines to structure the autonomous regulation and the supervision of the market.

- ii. The Renewable Energy Law⁷: It compels electricity selling companies to purchase from “Green” energy providers at a defined ratio and price. This ratio is based on previous year sales over total energy sold in the country. The price is based on a yearly average wholesale purchase price predetermined by the Energy Market Regulatory Authority (EMRA).
- iii. Environmental Law⁸: This law came into force in 1983, it considers the environment as a single domain, aiming not only to prevent and eliminate environmental pollution, but also to allow the management of land and natural resources in an integrated manner. According to its basic principles, and as also stated in the Constitution, citizens as well as the State bear responsibility for the environment protection. Furthermore, this law states that in all economic activities, every measure should be taken to minimize pollution.⁹
- iv. Regulation on procedures and principles of signing the agreement of water resources utilization to generate electricity for the electricity market¹⁰.

The project complies with all laws as its activity aims at generating electricity by using a renewable resource, hydroelectric power, in a sufficient, low-cost, and environmentally- friendly manner, using the latest technology available in the market. Due to its low impact to the environment the project was not required to conduct an EIA study by Ministry of Environment of Turkey. (See Annex 2 for the Positive EIA certificate). Please refer to Section 5 for detailed information.

Furthermore, in the project site, there are no National Parks, Nature Park, Nature Protection Zone, Wildlife Protection Zones, Special and Environment Protection Zones, Wet Land, Biogenetic Reserve Zone, Biosphere Reserves under protection in accordance with the legislation of Ministry of Environment and Forestry and Ministry of Culture and Tourism and no registered pasture lands.

1.16 Double Counting and Participation under Other GHG Programs

1.16.1 No Double Issuance

Is the project receiving or seeking credit for reductions and removals from a project activity under another GHG program?

☐ Yes

☒ No

1.16.2 Registration in Other GHG Programs

Has the project registered under any other GHG programs?

⁷ Law Number: 5346 Ratification Date: 10.05.2005 Enactment Date: 18.05.2005

⁸ Law Number 2872 Ratification Date: 09.08.1983 Enactment Date: 11.08.1983

⁹ Turkey’s Environment: a review and evaluation of Turkey’s environment and its stakeholders”, May 2002.

¹⁰ Official Gazette: #25150, on 26.6.2003 (<http://www.mevzuat.adalet.gov.tr/html/21493.html>)

☐ Yes ☒ No

Is the project active under the other program?

☐ Yes ☒ No.

1.16.3 Projects Rejected by Other GHG Programs

Has the project been rejected by any other GHG programs?

☐ Yes ☒ No

1.17 Double Claiming, Other Forms of Credit, and Scope 3 Emissions

1.17.1 No Double Claiming with Emissions Trading Programs or Binding Emission Limits

Are project reductions and removals or project activities also included in an emissions trading program or binding emission limit? See the VCS Program Definitions for definitions of emissions trading program and binding emission limit.

☐ Yes ☒ No

1.17.2 No Double Claiming with Other Forms of Environmental Credit

Has the project activity sought, received, or is planning to receive credit from another GHG-related environmental credit system? See the VCS Program Definitions for definition of GHG-related environmental credit system.

☒ Yes ☒ No

1.17.3 Supply Chain (Scope 3) Emissions

Do the project activities specified in Section 0 affect the emissions footprint of any product(s) (goods or services) that are part of a supply chain?

☐ Yes ☒ No

1.18 Sustainable Development Contributions

The project helps Turkey to stimulate and commercialize the use of grid-connected renewable energy technologies and markets. Furthermore, the project demonstrates the viability of grid-connected hydro farms which can support improved energy security, improved air quality, alternative sustainable energy futures, improved local livelihoods and sustainable renewable energy industry development. The specific goals of the project are to:

SDG-7 Clean and Affordable Energy

The project contributes to the Sustainable Development Goal, Affordable and Clean Energy. The annual estimated net electricity generation is 241,098 MWh.

SDG-8 Decent Work and Economic Growth

The project contributes to the Sustainable Development Goal, Decent Work and Economic Growth. Employment opportunities are provided for minimum 18 personnel during the operation phase of the project.

SDG-13 Climate Action

The project contributes to the Sustainable Development Goal, Climate Action. The annual estimated emission reduction is 110,126 tCO₂e.

1.19 Additional Information Relevant to the Project

1.19.1 Leakage Management

As suggested in ACM0002 / Version 22.0.0, the leakage emissions are not calculated and accepted as "0".

1.19.2 Commercially Sensitive Information

On behalf of SANKO Enerji Sanayi ve Ticaret A.S., there is no commercially sensitive information that needs to be excluded from the public version of the VCS PD which will be displayed on the VCS Project Database.

1.19.3 Further Information

The project is a renewable energy project for power generation that enables the substitution for fossil fuel-based electricity. The contribution of the project activity towards sustainable development in Turkey is regarded as follows:

Tepekisla HEPP contributes to the region's sustainable development in particular and Turkey's sustainable development in the following manner: (a) social well-being, (b) economic well-being, (c) environmental well-being and (d) technological well-being.

The Project activity contributes in:

- Increasing the use of renewable energy sources for generating electricity
- Meeting the need for electricity generation and supply in Turkey in a sustainable way,
- Decreasing the consumption of fossil fuels,
- Reducing emission of GHGs from the national electricity grid, thereby reducing the effects of global climate change in the medium and long term, and
- Contributing to local economy by providing better farming conditions and job opportunities by means of irrigation.
- Contributing to local economy by giving priority to the usage of regional sources and workforce.

Specifically, the Project contributes in the social and economic development in the project area significantly as the following:

1. Employment of the local people in the construction process has been provided. To the

extent possible, employments will be made from the region. Currently, 6 people, most of them are qualified personnel from the region or surrounding cities are working in the project.

2. Scholarships have been given to some local students and food supplies were donated to the local community.
3. The project company will pay energy expenses of Tepekışla pumped irrigation 1, Tepekışla pumped irrigation 2 and Erbaa-Karayaka pumped irrigation 1 during its license period. This will provide the economic benefits for locals.
4. Construction works of the local people have been helped.

In addition, the project activity contributes in the environmental and technological development in the project area significantly as the following:

1. The scheme will not alter any environmental or biological attributes of the area.
2. The project activity will not result in degradation of any natural resources, health standards, etc. in the project area.
3. As the project is hydro based it will generate clean energy, real, measurable, and long- term emissions reductions of greenhouse gases.
4. Project activity would utilize potential water resources available in the area for exploiting all possible resources for local development thus illustrating the effective utilization of renewable energy sources available in the area.
5. The project utilises environmentally safe and sound technology in the hydroelectric power sector.

Furthermore, it is important to note that within the geographical boundaries of the project activity, there are no national parks, cultural sites, hunting areas or wild animal reproduction areas.

2 SAFEGUARDS AND STAKEHOLDER ENGAGEMENT

2.1 Stakeholder Engagement and Consultation

2.1.1 Stakeholder Identification

Stakeholder Identification

According to the regulation declared by the Ministry of Environment and Forestry and published on the Official Gazette (dated 17th July 2008, numbered 26939), projects in which an EIA is not required from are not subject to an obligation to hold Stakeholder Meetings. Therefore, during the registration of the project, a stakeholder meeting was not planned. Nevertheless, mukhtars of local villages have been interviewed and continuously informed about the Project for understanding the general perspective about the HEPP. For the time being, it has been experienced that mukhtars and villagers of the region are the most cooperative about the exchange of information and

	opinions. Besides that, the contact details of the relevant plant responsible exist at the Mukhtar, the project owner and local community are always in touch. The project owner regularly checks with the Mukhtar if any complaint or a request exists. Any complaint or need from the local community could directly be received by the project owner and appropriate contributions or improvements are made to the local community. The "Positive Environmental Impact Assessment" certificate for this Tepekisla HEPP granted by the Ministry of Environment and Forestry stating that the proposed project does not cause any environmental damage. (The letters dated on 08/06/2011 and 04/12/2014) As a result of this request, this is still valid.
Legal or customary tenure/access rights	The project owner and local stakeholders have a good relationship, and they are always in touch. All stakeholders have access to provide feedback related with this project via phone or e-mail or mail or on-site project visit in person. And Stakeholders are allowed to make anonymous comments should they wish. The local stakeholders also reach to employees if whenever they have a request because all employees are local and from around project's villages. The project owner has made appropriate contributions or improvements to the local community every time. All stakeholders including Mukhtar makes sure that there's continuous communication between the two parties and happy about it.
Stakeholder diversity and changes over time	There is no stakeholder diversity and changes.
Expected changes in well-being	Not applicable
Location of stakeholders	The Project site is located in Kelkit river which one is the longest tributary of the Yesilirmak river basin in Turkey's Middle Black Sea Region, and 5.5 km upstream of Tepekisla village of Tokat, Turkey. The nearest village most affected by the project is Tepekisla Village. Furthermore, Ayan village was also effected only during the reservoir construction of the project.
Location of resources	Tokat city, Tepekisla Village.

2.1.2 Stakeholder Consultation and Ongoing Communication

According to the regulation declared by the Ministry of Environment and Forestry and published on the Official Gazette (dated 17th July 2008, numbered 26939), projects which an EIA is not required from are not subject to an obligation to hold Stakeholder Meetings.

Therefore, a stakeholder meeting did not performed for the first crediting period. But PP has talked with headman of Tepekisla village as a local stakeholder and then given the logbook to him for second crediting period. All stakeholders have access to provide feedback or comment related with this project via this logbook too.

Date of stakeholder consultation	26/03/2025
Stakeholder engagement process	The project owner has given the logbook to the headman of Tepekisla village and taken their comment related with the project. And the stakeholders said that they were happy.
Consultation outcome	Not applicable
Ongoing communication	The project owner and local stakeholders have a good relationship, and they are always in touch. All stakeholders have access to provide feedback related with this project via phone or e-mail or mail or on-site project visit in person. And Stakeholders are allowed to make anonymous comments should they wish. The local stakeholders also reach to employees if whenever they have a request because all employees are local and from around project's villages. The project owner has made appropriate contributions or improvements to the local community every time. All stakeholders including Mukhtar makes sure that there's continuous communication between the two parties and happy about it.
Stakeholder input	The local stakeholders stated that they want a dam to be built next to the Kelkit stream where Tepekisla HEPP is located, but since the responsibility for this work is under the control of the State Hydraulic Works, the project owner supports the villagers by contacting DSI to get it done on 11 and 14/04/2025.

2.1.3 Free Prior and Informed Consent

There are no ongoing conflicts or issues with stakeholders.

Obtaining consent	Not applicable
Outcome of FPIC	Not applicable

2.1.4 Grievance Redress Procedure

Development process	The project owner and local stakeholders have a good relationship, and they are always in touch. All stakeholders have access to provide feedback related with this project via phone or e-mail or mail or on-site project visit in person. And Stakeholders
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	are allowed to make anonymous comments should they wish. the local stakeholders also reach to employees if whenever they have a request because all employees are local and from around project's villages. During the project development, the Project Proponent (PP) ensured transparent stakeholder engagement and established a mechanism for receiving and addressing concerns. Stakeholders were informed about accessible communication channels and the grievance procedure to ensure that any issues raised during project planning and implementation are managed fairly and promptly.
Grievance redress procedure	Project owner has made appropriate contributions or improvements to the local community every time. All stakeholders including Mukhtars makes sure that there's continuous communication between the two parties and happy about it. The logbooks were delivered to the village mukhtars' offices in Tepekisla Villages. The villagers can always access these logbooks from the mukhtars' offices and write their complaints and demands. In the logbooks reviewed, it was seen that there have been no complaints or requests for Tepekisla HEPP. The Project Proponent (PP) has established a formal grievance redress procedure to manage and resolve disputes or concerns raised by stakeholders. Stakeholders can submit grievances through accessible channels (e.g., phone, email, meetings, or official website). All grievances are acknowledged asap, reviewed by the designated committee, and resolved within 30 working days whenever possible. All actions and outcomes are documented.

2.1.5 Public Comments

No public comments were received for the project.

Comments received	Actions taken
Not applicable	Not applicable

2.2 Risks to Stakeholders and the Environment

2.2.1 Management Experience

The project is operated by SANKO Enerji Sanayi ve Ticaret A.S. which ensures the overall site management in accordance with Turkish Laws and technology providers' guidelines.

The monitoring will be performed in-house by the project proponent:

1. Electrical Engineers will undertake the specific actions required by the monitoring plan, i.e. they will measure the electricity generation, the electricity supplied to the Turkish grid by the power plant, the electricity imports and the amount of fuel consumed, if fuel is consumed. A representative from the group will also provide necessary training once a year in terms of monitoring and verification aspects.
2. Mechanical Engineers will ensure that all the instrumentations and devices to perform the monitoring are working properly.
3. Accounting Manager will be in charge of providing the electricity sales receipts to the Operations Manager of the plant.
4. Operations Manager will be the VER coordinator. He will be in charge of:
 - a) Ensuring that instrumentations and devices are available and properly suited to perform efficiently the monitoring.
 - b) Communicating and coordinating the monitoring tasks of all business units.
 - c) Developing, executing, analyzing and improving the VER Monitoring/Reporting Procedures. This includes the crosschecking and consolidation (with multiple sources whenever possible) of the data obtained from the electrical engineers and the accounting manager. He will also record this operation properly to be able to provide it to the DOE during the verification process.
 - d) Calculating and report the emission reductions, and
 - e) Organizing in-house seminars to inform and train the company staff to the monitoring procedures.

2.2.2 Risk Assessment

	Risks identified	Mitigation or preventative measure(s) taken
Natural and human-induced risks to stakeholders' wellbeing	No risk identified	Not applicable
Risks to stakeholder participation	No risk identified	Not applicable
Working conditions	No risk identified	Not applicable
Safety of women and girls	No risk identified	Not applicable
Safety of minority and marginalized groups, including children	No risk identified	Not applicable
Pollutants (air, noise, discharges to water, generation of waste, and release of hazardous materials and chemical pesticides and fertilizers)	No risk identified	The dusting problem was more of an issue during the construction phase, but the project activity is not causing

		any process emissions or fuel burning emissions except the auxiliary diesel generator, that was only operated for testing purposes during the monitoring period. Wastewater is collected in septic tanks which is emptied regularly. The wastewater is discharged in accordance with Water Pollution Control regulations of the host country. Solid waste is collected, and recyclables are separated to be sent to recycling centers. The rest is disposed to the nearest landfill site in coordination with Tokat Municipality.
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2.3 Respect for Human Rights and Equity

2.3.1 Labor and Work

Risks identified ¹¹		Mitigation or preventative measure(s) taken
Discrimination	No discrimination has occurred	Not applicable
Sexual harassment	No sexual harassment has occurred	Not applicable
Equal pay for equal work	Equal opportunities have been provided	Not applicable
Gender equity in labor and work	Equal opportunities have been provided in the context of gender equity and pay for labor and work	Not applicable
Forced labor	The project does not use forced labor	Not applicable
Child labor	The project does not use child labor.	Not applicable

¹¹ The identified risks and commensurate mitigation or preventative measure(s) for forced labor, child labor, and human trafficking, must be inclusive of staff and contracted workers employed by third parties.

Human trafficking	The project does not use victims of human trafficking	Not applicable
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2.3.2 Human Rights

Risks identified	Mitigation or preventative measure(s) taken
No risk identified.	There are not any risks related to recognizing, respecting, and promoting the protection of the rights of IPs, LCs, and customary rights holders in line with applicable international human rights law, and the United Nations Declaration on the Rights of Indigenous Peoples and ILO Convention 169 on Indigenous and Tribal Peoples.

2.3.3 Indigenous Peoples and Cultural Heritage

There are no cultural heritage or sensitive communities at or near the project site.

Risks identified	Mitigation(s) or preventative measure taken
No risk identified	There are not any risks related to recognizing, respecting, and promoting the protection of the rights of IPs, LCs, and customary rights holders in line with applicable international human rights law, and the United Nations Declaration on the Rights of Indigenous Peoples and ILO Convention 169 on Indigenous and Tribal Peoples.

2.3.4 Property Rights

Risks identified	Mitigation or preventative measure(s) taken
No risk identified	There are not any risks related to recognizing, respecting, and promoting the protection of the rights of IPs, LCs, and customary rights holders in line with applicable international human rights law, and the United Nations Declaration on the Rights of Indigenous Peoples and ILO Convention 169 on Indigenous and Tribal Peoples.

2.3.5 Benefit Sharing

Not applicable.

2.4 Ecosystem Health

Risks identified	Mitigation or preventative measure(s) taken
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Impacts on biodiversity and ecosystems	No risk identified	There are no risks on impacts on and ecosystems biodiversity and ecosystems. Necessary precautions are taken for the species under conservation by international conventions, if any found on the site.
Soil degradation and soil erosion	No risk identified	Not applicable
Water consumption and stress	No risk identified	Water for domestic use is supplied by tankers to the site and wastewater is collected in septic tanks which is emptied regularly.

2.4.1 Rare, Threatened, and Endangered Species

Is the project located in or adjacent to habitats for rare, threatened, or endangered species?

☐ Yes

☒ No

	Risks identified	Mitigation or preventative measure(s) taken
Habitats for rare, threatened, and endangered species	No risk identified.	Necessary precautions are taken for the species under conservation by international conventions, if any found on the site.
Areas for habitat connectivity	No risk identified	Necessary precautions are taken for the species under conservation by international conventions, if any found on the site.

2.4.2 Introduction of Species

Species introduced	Classification	Justification for use	Adverse effects and mitigation
Not applicable	Not applicable	Not applicable	There were no adverse effects because the species already existed in the area.

Existing invasive species	Mitigation measures to prevent the spread or continued existence of invasive species
Not applicable	There are no invasive species.

	Risks identified	Mitigation or preventative measure(s) taken
Invasive species	No risk identified	There are no invasive species.

2.4.3 Ecosystem Conversion

	Risks identified	Mitigation or preventative measure(s) taken
Ecosystem conversion	No risk identified	Project area was not cleared or drained of existing natural ecosystems. Necessary precautions are taken for the species under conservation by international conventions, if any found on the site.

3 APPLICATION OF METHODOLOGY

3.1 Title and Reference of Methodology

Type (methodology, tool or module).	Reference ID, if applicable	Title	Version
Methodology	ACM0002	Consolidated baseline methodology for grid-connected electricity generation from renewable sources	22.0
Tool	Tool 07	Tool to calculate emission factor for an electricity system	7.0
Tool	Tool 01	Tool for the demonstration and assessment of additionality	7.0
Tool	Tool 11	Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period	03.0.1

3.2 Applicability of Methodology

The above methodologies referred to under section 3.1 are applicable to this project activity under certain conditions. The applicability conditions of the approved methodology and how the project activity complies with them are described below:

Table 3 Justification of methodological choice

Methodology ID	Applicability condition	Justification of compliance
ACM0002	This methodology is applicable to project activities that: a) Install a Greenfield power plant; b) Involve a capacity addition to (an) existing plant(s); c) Involve a retrofit of (an) existing operating plants/units; d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or e) Involve a replacement of (an) existing plant(s)/unit(s). f) Install a Greenfield power plant together with a grid-connected Greenfield pumped storage power plant. The greenfield power plant may be directly connected to the PSP or connected to the PSP through the grid.	The project activity involves installation of a power plant at a site where there was no renewable energy power plant operating prior to the implementation of the project activity. The proposed project activity is a greenfield wind project activity.¹²
ACM0002	In case the project activity involves the integration of a BESS, the methodology is applicable to grid-connected renewable energy power generation project activities that a) Integrate BESS with a Greenfield power plant; b) Integrate a BESS together with implementing a capacity addition to (an) existing solar photovoltaic¹³ or wind power plant(s)/unit(s); c) Integrate a BESS to (an) existing solar photovoltaic or wind power plant(s)/unit(s) without implementing any other changes to the existing plant(s); d) Integrate a BESS together with implementing a retrofit of (an)	The proposed project activity is a hydro project activity. So, there is no BESS activity.

¹² EMRA Generation License

¹³ In case of retrofit or capacity addition for concentrated solar power projects, stakeholders may submit a request for revision to this methodology, providing an apportioning approach to calculate the project emissions due to any fossil fuel consumption attributed to the increased electricity generation from the BESS.

	existing solar photovoltaic or wind power plant(s)/unit(s); e) Integrate a BESS together with a Greenfield power plant that is operating in coordination with a PSP. The BESS is located at site of the greenfield renewable power plant	
ACM0002	The methodology is applicable under the following conditions: a) Hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit; b) In the case of capacity additions, retrofits, rehabilitations or replacements (except for wind, wind, wave or tidal power capacity addition projects the existing plant/unit 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, retrofit, or rehabilitation of the plant/unit has been undertaken between the start of this minimum historical reference period and the implementation of the project activity. c) In case of Greenfield project activities applicable under paragraph a) above, the project participants shall demonstrate that the BESS was an integral part of the design of the renewable energy project activity (e.g., by referring to feasibility studies or investment decision documents); d) The BESS should be charged with electricity generated from the associated renewable energy power plant(s). Only during exigencies¹⁴ may the BESS be charged with electricity from the grid or a fossil fuel electricity generator. In such cases, the corresponding GHG emissions shall be accounted for as project emissions following the requirements under section the charging using the grid or using fossil fuel electricity generator should not amount to more than 2 per cent of the electricity	a) The project activity is the installation of hydro power plant. Hence meets this creation b) The project activity does not involve capacity additions, retrofits, rehabilitations or replacements. Hence this criterion is not applicable to the project activity. c-d) The proposed project activity is a hydro project activity. So there is no BESS activity. e)The proposed project activity is a hydro project activity. So, this project does not involve PSP.

¹⁴ For example, upon deep discharge of the batteries.

	generated by the project renewable energy plant during a monitoring period. During the time periods (e.g., week(s), months(s)) when the BESS consumes more than 2 per cent of the electricity for charging, the project participant shall not be entitled to issuance of the certified emission reductions for the concerned periods of the monitoring period. e) In case the project activity involves PSP, the PSP shall utilize the electricity generated from the renewable energy power plant(s) that is operating in coordination with the PSP during pumping mode.	
ACM0002	In case of hydro power plants, one of the following conditions shall apply: a) The project activity is implemented in an existing reservoir, with no change in the volume of reservoir; b) The project activity is implemented in existing single or multiple reservoirs, where the volume of the reservoir(s) is increased and the power density calculated using equation (7), is greater than 4 W/m²; or (c) The project activity results in new single or multiple reservoirs and the power density, calculated using equation (7), is greater than 4 W/m²; or (d) The project activity is an integrated hydro power project involving multiple reservoirs, where the power density for any of the reservoirs, calculated using equation (7), is lower than or equal to 4 W/m², all of the following conditions shall apply: (i) The power density calculated using the total installed capacity of the integrated project, as per equation (8), is greater than 4 W/m²; (ii) Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity; (iii) Installed capacity of the power plant(s) with power density lower than or equal to	The project activity involves a reservoir area of 2,319,000 m². The power density (PD) for this reservoir area is calculated as follows: $PD = 69,627,000 \text{ W} / 2,319,000 \text{ m}^2$ $PD = 30.02 \text{ W/m}^2$ $PD > 10 \text{ W/m}^2$, therefore, according to the methodology, there will be no emissions from the reservoir.

	4 W/m2 shall be: a. Lower than or equal to 15 MW; and b. Less than 10 per cent of the total installed capacity of integrated hydro power project.	
ACM0002	In the case of integrated hydro power projects, project proponent shall: (a) Demonstrate that water flow from upstream power plants/units spill directly to the downstream reservoir and that collectively constitute to the generation capacity of the integrated hydro power project; or (b) Provide an analysis of the water balance covering the water fed to power units, with all possible combinations of reservoirs and without the construction of reservoirs. The purpose of water balance is to demonstrate the requirement of specific combination of reservoirs constructed under CDM project activity for the optimization of power output. This demonstration has to be carried out in the specific scenario of water availability in different seasons to optimize the water flow at the inlet of power units. Therefore, this water balance will take into account seasonal flows from river, tributaries (if any), and rainfall for minimum five years prior to implementation of CDM project activity.	Tepekisla HEPP project activity is a Greenfield grid connected HEPP and located in the Kelkit river which one is the tributaries of Yesilirmak river basin, in Turkey's Middle Black Sea Region. The project comprises Tepekisla Dam, cofferdam of upstream and downstream, penstock, powerhouse, a head pond, spillway, having 2 Kaplan turbines of vertical axis with 31.79 MWe power each and 1 Francis turbines of horizontal axis with 3.77 MWe power. ?
ACM0002	In the case of PSP, the project participants shall demonstrate in the PDD that the project is not using water which would have been used to generate electricity in the baseline.	?
ACM0002	The methodology is not applicable to: (a) 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; (b) Biomass fired power plants/units	Project activity does not involve: •Switching from fossil fuels to renewable energy sources at the site of the project activity. •Biomass fired plants. Hence this criterion is not applicable.
ACM0002	In the case of retrofits, rehabilitations, 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 project is not a retrofit, rehabilitations, replacements or capacity addition; hence this

	“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.”	applicability criterion is not relevant.
ACM0002	In addition, the applicability conditions included in the tools referred to above apply.	Applicability conditions of the applied tool are justified
Tool 11	This tool provides a stepwise procedure to assess the continued validity of the baseline and to update the baseline at the renewal of a crediting period, as required by paragraph 49 (a) of the modalities and procedures of the clean development mechanism. The tool consists of two steps. The first step provides an approach to evaluate whether the current baseline is still valid for the next crediting period. The second step provides an approach to update the baseline in case that the current baseline is not valid anymore for the next crediting period.	Detailed assessment of the validity of the original baseline as per the Tool was carried out in Section 3.4 of this PD. Please see Section 3.4.
Tool 07	a) 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 that is where a project activity supplies electricity to a grid or a project activity that results in savings of electricity that would have been provided by the grid (e.g. demand-side energy efficiency projects) b) Under this tool, the emission factor for the project electricity system can be calculated either for grid power plants only or, as an option, can include off-grid power plants. In the latter case, two sub-options under the step 2 of the tool are available to the project participants, i.e. option IIa and option IIb. If option IIa is chosen, the conditions specified in “Appendix 1: Procedures related to off-grid power generation” should be met. Namely, the total capacity of off-grid power plants (in MW) should be at least 10 per cent of the total capacity of grid power plants in the electricity system; or the total electricity generation by off-grid power plants (in MWh) should be at least 10 per cent of the total electricity generation by grid power plants in the electricity system; and that factors which negatively affect the reliability and stability	a) This condition is applicable to the Project Activity since the project activity substitutes grid electricity, and thus, the Project results in savings of electricity that the grid would have provided. b) The emission factor used for this Project Activity has been calculated for grid power plants only. c) This Project is not a CDM Project. d) This Project Activity doesn't employ biofuels.

	of the grid are primarily due to constraints in generation and not to other aspects such as transmission capacity. c) In case of CDM projects the tool is not applicable if the project electricity system is located partially or totally in an Annex I country. d) Under this tool, the value applied to the CO₂ emission factor of biofuels is zero	
Tool 01	a) The use of the “Tool for the demonstration and assessment of additionality” is not mandatory for project participants when proposing new methodologies. Project participants may propose alternative methods to demonstrate additionality for consideration by the Executive Board. They may also submit revisions to approved methodologies using the additionality tool. b) Once the additionally tool is included in an approved methodology, its application by project participants using this methodology is mandatory.	a) Since this Project Activity does not propose a new methodology but uses the existing ACM002 Methodology this tool is applied and the details are provided in Section B.5 of this PDD. b) This tool is applied for this project activity and the details are provided in Section B.5 of this PDD.

Hence, the approved consolidated methodology ACM0002 / Version 22.0.0 is applicable to the project activity.

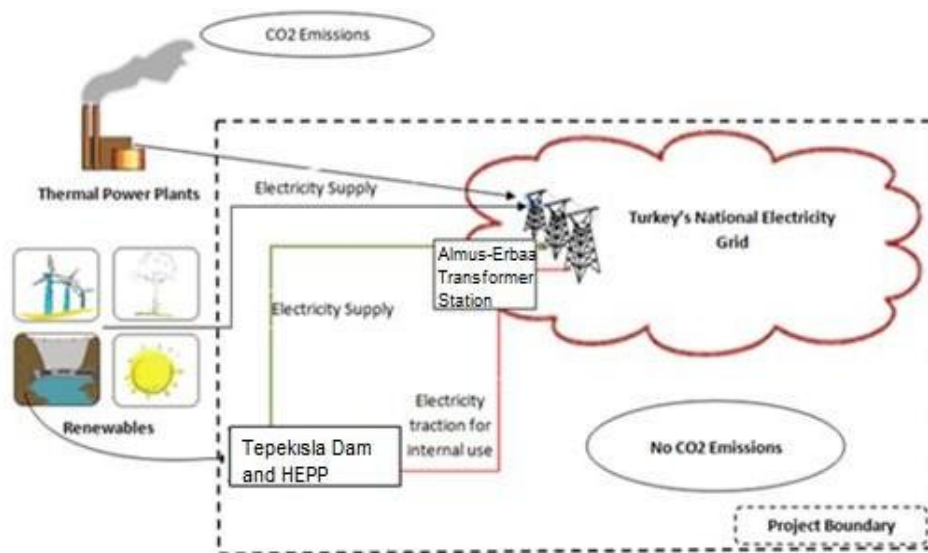
The project activity also complies with the applicability conditions of the “Tool to calculate the emission factor for an electricity system” (Version 07.0.0) as it displaces electricity generated by power plants in the Turkish electricity system. Moreover, it complies with the applicability criteria of the “Tool for the demonstration and assessment of additionality” (Version 07.0.0), as according to paragraph 4, this tool provides a general framework for demonstrating and assessing additionality and is applicable to a wide range of project types.

3.3 Project Boundary

Tepekisla HEPP entails the construction and operation of a 70.617 MWm (Only 69.627MWe will be operational) hydroelectric power plant. The project consists of 2 SAM turbines of horizontal axis with 32.993 MWe MW power each and one Francis turbines of horizontal axis with 3.641 MWe power.

The greenhouse gasses and emission sources are defined for the project activity and the baseline scenario. As per the methodology, “the spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to”. As a result, the project boundary for Tepekisla HEPP is as demonstrated in the figure below:

Figure 3: Physical delineation of the project boundary



The greenhouse gases and emission sources included in or excluded from the project boundary are listed in the table below

Table 4 Emissions sources included or excluded from the project boundary

Source	Gas	Included?	Justification/Explanation
Baseline	CO ₂	Yes	CO ₂ emission from fossil fuel fired power plant that are displaced since project activity was taken into account.
	CH ₄	No	Minor emission sources as suggested by ACM0002 Version 22.0.0
	N ₂ O	No	Minor emission sources as suggested by ACM0002 Version 22.0.0
Project	CO ₂	No	As net electricity approach is adopted, emissions that occur during construction and operation are negligible and non-existent respectively.
	CH ₄	Yes	Main emission source as suggested by ACM0002/Version 22.0.0. Emissions from the reservoir are negligible, since the power density is higher than 10 MW/m ²
	N ₂ O	No	Minor emission source as suggested by ACM0002/Version 22.0.0

Indirect emissions can result from project construction, transportation of materials and other upstream activities. In the case of the proposed project activity, these emissions are thought to be comparable or less than the life cycle emissions which would result from the eventual construction and operation of alternative capacity. The life cycle emissions of alternative power generation plants, in particular fossil fuel-fired power plants, are typically higher than those from hydroelectric power plants when including emissions due to mining, refining and transportation of fossil fuel. The project does not claim emissions reductions from these

activities. Therefore, no significant net leakage from the above activities was identified. This approach is stated to be conservative.

For the purpose of determining the electricity emission factor, the project electricity system is defined as the overall Turkish electricity network. There is an interconnected system for the electric distribution in Turkey. Thus, there is no independent regional electricity system or any significant transmission constraints. For electricity imports from neighbouring countries, the emission factor of 0 ton of CO₂ per MWh is applied.

No GHG sources in terms of sinks and reservoirs could be identified for this project.

3.4 Baseline Scenario

The baseline scenario is identified according to the "Baseline Methodology Procedure" of ACM0002 version 22. The project activity is the installation of a new grid-connected power plant and is not modification/retrofit of an existing grid-connected power plant. So, the first identification of this procedure is selected for the proposed project activity, which is described as:

"Electricity delivered to the grid by the project activity 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) calculation of Ministry of Energy and Natural Resources of Turkey".

The methodological tool 11 "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period" (version 03.0.1) is adopted to assess the continued validity of the baseline and to update the baseline. This Tool provides a stepwise procedure to determine the continued validity of the baseline and to update the baseline at the renewal of a crediting period, as required by paragraph 49 (a) of the modalities and procedures of the clean development mechanism. According to this tool the following steps are applied.

Step 1: Assess the validity of the current baseline for the next crediting period.

The validity of the current baseline is assessed using the following Sub-steps:

Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies.

The baseline scenario is defined according to the "ACM0002 Grid-connected electricity generation from renewable sources", as stated in the project's PDD registered for the first crediting period. During the First Crediting Period, the baseline scenario for the project had been defined as:

"Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants". The current baseline of the project is the same as the first crediting period and complies with the existing legal framework. No additional that came into force that has an impact on the project activity and the project activity is still in line with the available law and regulations.

Step 1.2: Assess the impact of circumstances.

The new national circumstances have an impact on the EF of the grid and thus on the project's current baseline emissions. Accordingly, the EF is updated for the second crediting period in conformity with the latest version of the Tool to calculate the emission factor for an electricity system. There has been no major deviation or change in the market characteristic during the first crediting period.

Step 1.3: Assess whether the continuation of use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested.

Turkey is an energy importing country and the electricity is mostly generated by fossil fuels, which also has the largest share in energy expenses. As a developing country with a fast-growing population, Turkey attaches a great deal of importance to its energy diversification and security to reduce energy dependence on fossil sources.

The baseline scenario identified at the validation of the project activity was the continuation of grid-connected electricity generation from renewable sources. Under this scenario, no investment from the project's proponent or third party (or parties) has been envisioned later specifically for the project.

Step 1.4: Assessment of validity of the data and parameters:

Emission reduction calculations are based on two main parameters; energy generation and grid emission factor. The grid emission factor has been updated. As a methodology requirement, the grid emission factor has been updated during the renewal of the crediting period.

Step 2: Update the current baseline and the data and parameters:

This step is applicable since Step 1.4 showed that the emission factor needs to be updated accordingly with the new officially published national emission factor data. An update is necessary since the produced electricity has been changed with the capacity addition.

Step 2.1: Update the current baseline:

The baseline scenario is defined according to the "ACM0002 Grid-connected electricity generation from renewable sources", as stated in the project's PDD registered for the first crediting period. As confirmed in Step 1, the project baseline scenario for the new crediting period is the same as the first crediting period and complies with the existing legal framework. No additional that came into force that has an impact on the project activity and the project activity is still in line with the available law and regulations.

This is conformed to the provisions of the latest version of the approved applicable methodology to the project activity namely: ACM0002 version 22.0, "Grid-connected electricity generation from renewable sources".

Step 2.2: Update the data and parameters

The grid emission factor has been updated in compliance with the Energy and Natural Resources Ministry's publication, which includes emission factor values calculated for the year 2022.¹⁵

3.5 Additionality

The project's additionality has been demonstrated using the latest version of the "Tool for the demonstration and assessment of additionality"- Version 07.0.0.

The following steps from the additionality tool are completed below:

STEP 1 – Identification of alternatives to the project activity consistent with current laws and regulations

Sub-step 1a- Define alternatives to the project activity:

In the absence of the proposed project activity, plausible and credible project activities to the proposed project activity are as follows:

- Alternative 1 : Construction of a thermal power plant with the same annual power output
- Alternative 2 : The proposed project activity not undertaken as a VER project activity
- Alternative 3 : The same service of power supply is provided from the grid

Although the coal and natural gas reserves in Turkey is very limited, there are many thermal power plants that have been being commissioned in recent years and Turkey's grid mainly consists of thermal power plants. As they have become common practice in the energy sector due to off-take agreements provided by the government, these projects face easier circumstances in terms of financing and realization. In addition, these projects use imported coal, so they can be realized regardless of their geographic proximity to coal supply. Therefore, construction of a thermal plant with the same annual electricity output is a realistic alternative.

As mentioned above, the Turkish Electricity Sector is heavily dependent on fossil fuel plants. According to a new bill that passed in 2001(Electricity Market Law, Law No: 4628, Enactment Date: 20/02/2001) 30, the public funding in energy investments have stopped. The new bill allows incentives for private sector participation in energy investments. In addition to rehabilitation of existing plants, new capacities to be added to meet the increasing demand require mass amount of investments. Because the public funding of energy investments is no more legitimate, the new projects need to be accomplished by private sector. Yet, Tepekisla HEPP cannot influence the future fuel mix in the energy market but can only decide to invest on the project because Tepekisla HEPP has no influence on the domestic energy policy of the decision makers.

Outcome of Step 1a:

The realistic and credible alternatives for the project proponents are identified as:

Alternative 1: The project not registered as VCS Project activity

¹⁵https://enerji.gov.tr//Media/Dizin/EVCED/tr/ÇevreVeiklim/İklimDeğişikliği/TUESEmisyonFktr/Belgeler/Sebeke_EF_Bilgi_Formu_2022.pdf

Alternative 2: Continuation of current situation

Sub-step 1b- Consistency with mandatory laws and regulations:

The alternative, i.e. the prescribed baseline scenario, is realistic and feasible and complies with applicable laws and regulations¹⁶. (Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electrical Energy” is only applicable for renewable energy projects. Also, “Regulation on procedures and principles of signing the agreement of utilization of water resources for the purpose of electricity production in the electricity market” is only applicable for hydropower projects. The electricity Market Law structures the market in general. Therefore, it is applicable for all projects in the electricity market. On the other hand, Forest Law, Environment Law, energy efficiency Law and the Regulation on EIA are also applicable for all alternatives). Another alternative is implementation of the project without carbon revenue which is not financially attractive but consistency with renewable energy laws¹⁷ and regulations.¹⁸

STEP 2 – Investment analysis

The purpose of the investment analysis is to determine whether the proposed project activity is not:

- a) The most economically or financially attractive; or
- b) Economically or financially feasible, without the revenue from the sale of certified emission reductions (VCS-VERs).

To conduct the investment analysis, the following Sub-steps were used:

Sub-step 2a- Determine appropriate analysis method

The “Tool for the demonstration and assessment of additionality” (Version 07.0.0) recommends three analysis methods, namely simple cost analysis (Option I), investment comparison analysis (Option II) and benchmark analysis (Option III).

The proposed Project generates financial and economic benefits through the sales of electricity other than Voluntary Emissions Reduction (VCS-VER) related income. Therefore, the simple cost analysis (Option I) cannot be taken.

Investment comparison analysis (Option II) is only applicable to projects where alternatives should be similar investment projects. The alternative baseline scenarios of the proposed project are the proposed project activity undertaken without being registered as a VCS project activity, the continuation of the current situation and construction of a thermal power plant with equivalent installed capacity or annual electricity generation where the equivalent electricity will be provided by the existing power units connected to the national grid. Among the investment comparison analysis (Option II) and the benchmark analysis (Option III), the benchmark analysis

¹⁶ <http://www.resmigazete.gov.tr/eskiler/2013/03/20130330-14.htm>

¹⁷ <http://www.epdk.gov.tr/index.php/elektrik-piyasasi/mevzuat?id=143>

¹⁸ <http://www.epdk.gov.tr/index.php/elektrik-piyasasi/yekdem>

(Option III) is preferred. (As a result Option III: Benchmark Analysis is selected as the analysis method and the Equity IRR is selected as the financial indicator for the demonstration of the additionality of the project.)

Sub-step 2b- Option III. Apply benchmark analysis

When using the benchmark analysis option, the equity IRR has been used as the project owner's decision is based on the equity IRR. According to the "Tool for the demonstration and assessment of additionality" (Version 07.0.0), in the cases of projects which could be developed by an entity other than the project participant, the relevant benchmark for a Project's IRR should be based on publicly available data sources which can be clearly validated by the VVB. The benchmark for a Project's equity IRR shall, therefore, be derived from Turkish Eurobonds rates, plus a risk premium calculated by using the average market risk correlation factors (beta) of the equity returns of the publicly traded energy companies in the Istanbul Borsa Stock Exchange and Turkey's risk premium as explained below. The IRR inputs used are:

Table 5 List of IRR inputs

Input name	Input Value	Reference Document	Page Number	Date of Document
Capacity	69.627 MWe	The Amended Generation License		January,2015
Annual energy production	241,098 MWh/year	The Feasibility Report	38	January,2013
Operational life time	46 years	License agreement ³⁸		15/11/2012
Electricity sales price	7.3 USD cents/kWh	Guaranteed purchase price by law number: 6094 Ratification Date: 29.12.2010 ("Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electrical Energy") http://www.tbmm.gov.tr/kanunlar/k6094.html	2	29 December 2010
O&M expenses	1,748,094 \$	Revised Feasibility Report Tablo 9.4	361	January 2013
Renovation expenses	149,618 \$	Revised Feasibility Report Tablo 9.4	361	January 2013

Total investment	134,389,444 \$	Revised Feasibility Report Tablo 9.4	361	January 2013
Depreciation (as useful life)	Roads: 8 years Transmission line: 30 years Buildings: 40 years <i>Electromechanical equipment: 15 years</i>	State Revenue Admin: http://www.gib.gov.tr/fileadmin/user_upload/Yararli_Bilgiler/amortisman_oranlari2011.html		
Anticipated price of VCS- VERs	3-5.0 USD/tCO ₂	Assumption by the Consultant		
Average 3 month Libor rate	0.2819%%	http://www.global-rates.com/interest-rates/libor/american-dollar/2013.aspx	—	—
Interest on loan	3.75 %	The letter related to credit condition from the financier	—	12/03/2013
Other Loan Conditions	9 years	The letter related to credit condition from the financier	—	12/03/2013
Crediting period (carbon)	10 + (10) years	VCS Standard Version 3.2	Section 3- 8.1	4 October 2012
Rf, Risk-free rate		http://www.isyatirim.com.tr/WebMailer/files/es_att/2_20130603083910857_1.pdf	—	—
B, Beta.	5.50 %			
Used to measure level of risk.	1.035	The average of betas of the energy companies traded in ISE 100 from Reuters.	—	—
Risk premium	8.30 %	http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html	—	—
Benchmark Rate	14.09 %	$Re = R_f + \beta \times \text{Risk premium}$	-	-

For that reason, the IRR benchmark value has been selected as the Turkish Eurobonds rates, plus a risk premium as explained below.

The first assumption pertains to the cost of equity benchmark which is calculated as the Turkish risk premium plus risk free rate.

As the Turkish Eurobonds represent a risk-free rate, it must be increased by a suitable risk premium, which reflects the premium that investors demand for an investment with a comparable risk. The interest rate that we derive from the yield curve for a synthetic Turkish Eurobond with a term to maturity of 44 years at the decision-making date is 5.50%. The trading Eurobond with the longest duration of 30 years was US 900123BJ8-14.01.2041 with an interest rate of 4.93%.

According to Mr. Aswath Damodaran, professor of Finance at the Stern School of Business at New York University¹⁹, the suitable risk premium for Turkey can be estimated as 8.30% updated for Jan 2014.

The IRR benchmark value is then calculated using the interest rate derived from the Turkish Eurobonds rates, 5.50%, plus the risk premium, 8.30% as shown below:

¹⁹ Aswath Damodaran is a Professor of Finance at the Stern School of Business at New York University, where he teaches corporate finance and equity valuation. He also teaches on the TRIUM Global Executive MBA Program, an alliance of NYU Stern, the London School of Economics and HEC School of Management. Professor Damodaran is best known as the author of several widely used academic and practitioner texts on Valuation, Corporate Finance, and Investment Management

$$Re = R_f + \beta \times \text{Risk premium}$$

$$R_f + \beta \times \text{Risk premium} = Re$$

$$5.50\% + 1.035 \times 8.30\% = 14.09\%$$

The technical assumptions along with construction and M&E costs are calculated per DSI and other international standards by an independent advisor to the project owner. The feasibility study was the base for the investment decision.

The cash flow was prepared for 46 years, generation licence period minus the investment lag. Technical lifetime of the electromechanical equipment suggested by DSI is interpreted from the feasibility study's Table 9-5, where the first turbine reinvestment is made after 35 years.

Therefore, a reinvestment of USD 26,940,000 is foreseen at the end of year 35 (during the technical lifetime of the electromechanical equipment).

Electricity Selling Price was assumed to be 7.3 USD Cents/kWh which was the selling price of electricity to the Turkish Transmission Line Company according to the ("Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electrical Energy") "EMRA's board decision number 6094, dated 29.12.2010.

Operation and Maintenance expenses were calculated according to State Hydraulic Works criteria (O&M factors) based on their past experiences to be approximately 1% of the total construction and electromechanical costs.

In addition, as indicated in social and economic contributions of project, the project company will pay the energy expenses of Tepekışla pumped irrigation 1, Tepekışla pumped irrigation 2 and Erbaa-Karayaka pumped irrigation 1 during the license period. To be conservative side, these expenses are not included in General Production expenses.

Interest rate of LIBOR²⁰ + 3.75% (all in cost) was used with 9-year loan with a three-year grace period for the construction.

Sub-step 2c. Calculation and comparison of financial indicators (only applicable to options II and III):

The parameters needed for calculation of key financial indicators are given in Table 6. Based on the parameters above, the equity after-tax IRRs with and without the VCS-VERs sales revenue are calculated and shown in Table 6:

Table 6 Impact of VCS-VER revenues on the Proposed Project's IRR

	IRR
Without VCS-VERs revenues	11.06
With VCS-VERs revenues at USD 5/ton	11.44

Table 6 shows that the equity IRR of the total investment of the proposed project without VCS- VERs sales revenue is 11.06%, lower than the benchmark IRR of 14.09% which means that the proposed

²⁰ Average 3 months LIBOR rate for 2013: 0.2819% ; <http://www.global-rates.com/interest-rates/libor/american-dollar/2013.aspx>

project activity indeed faces significant financial barriers. Therefore, the project activity is not the most economically or financially attractive choice of investment.

Sub-step 2d. Sensitivity Analysis

The sensitivity analysis shall show whether the conclusion regarding the financial attractiveness is robust under reasonable variations in the critical assumptions. For the project four basic parameters have been selected as sensitive factors to test the financial attractiveness of the project under different scenarios:

- ❖ Amount of electricity production
- ❖ Electricity selling price
- ❖ Annual operational costs
- ❖ Investment costs

Table 7 below shows the variation of IRR when the four parameters fluctuate from -10% to +10% with respect to their base levels:

Table 7 Sensitivity analysis with respect to electricity production

	IRR Sensitivity with Electricity Production				
Change in %	-10.0%	-5.0%	0.0%	5.0%	10.0%
Without VER	9.50%	10.28%	11.06%	11.85%	12.64%
IRR @3 US\$/ton VER	9.68%	10.48%	11.29%	12.10%	12.91%
IRR @4 US\$/ton VER	9.74%	10.55%	11.36%	12.18%	13.00%
IRR @5 US\$/ton VER	9.81%	10.62%	11.44%	12.27%	13.10%

Table 8 Sensitivity analysis with respect to electricity selling price

	IRR Sensitivity with Electricity Selling Price				
Change in %	-10.0%	-5.0%	0.0%	5.0%	10.0%
Without VER	9.50%	10.28%	11.06%	11.85%	12.64%
IRR @3 US\$/ton VER	9.70%	10.49%	11.29%	12.09%	12.89%
IRR @4 US\$/ton VER	9.77%	10.57%	11.36%	12.16%	12.97%
IRR @5 US\$/ton VER	9.84%	10.64%	11.44%	12.25%	13.05%

Table 9 Sensitivity analysis with respect to annual operational costs

	IRR Sensitivity with Annual Operational Costs				
Change in %	-10.0%	-5.0%	0.0%	5.0%	10.0%
Without VER	11.22%	11.14%	11.06%	10.98%	10.90%
IRR @3 US\$/ton VER	11.45%	11.37%	11.29%	11.21%	11.13%
IRR @4 US\$/ton VER	11.53%	11.45%	11.36%	11.28%	11.20%
IRR @5 US\$/ton VER	11.60%	11.52%	11.44%	11.36%	11.28%

Table 10 Sensitivity analysis with respect to investment costs

	IRR Sensitivity with Investment Cost				
Change in %	-10.0%	-5.0%	0.0%	5.0%	10.0%

Without VER	12.05%	11.54%	11.06%	10.61%	10.19%
IRR @3 US\$/ton VER	12.30%	11.78%	11.29%	10.83%	10.40%
IRR @4 US\$/ton VER	12.39%	11.86%	11.36%	10.90%	10.47%
IRR @5 US\$/ton VER	12.48%	11.94%	11.44%	10.97%	10.54%

Sensitivity analysis has been carried out for the stated costs and assumptions. It shows that under none of those scenarios the IRR of the project exceeds the Benchmark.

Outcome of Step 2: Hence, the above figures have demonstrated that the project activity is not the most economically or financially attractive alternative.

The registration of the project as a VCS project will provide the following benefits that will help overcome the above-mentioned barriers:

- ❖ Additional revenues from the sale of VERs which will provide financial visibility, contributing significantly to the project's financial sustainability.
- ❖ Enhanced corporate green image of the project developer through its contribution to a clean source of electricity and the diversification of electricity sources in Turkey, which broadens stakeholder confidence.

The timetable below demonstrates the workflow to achieve VER registration:

Table 11 Project timeline

Project Timeline and Timeline of events and actions which have been taken to achieve VCS- VER registration events and action	Date	Evidence
Final Project Description Report for EIA Process	April 2011	EIA Report
EIA approval (by the Ministry of Environment and Forestry)	08 June 2011	Positive EIA Certificate
Water Usage Agreement	01 October 2012	Water Usage Agreement with DSI
Generation Licence	15 November 2012	The Generation Licence
Revised Feasibility Report	January 2013	The Feasibility Report
Construction Contract	08 May 2013	Construction Agreement
Permission letter for the use of forestry lands ⁴⁷	12 June 2013	Permission Letter
Electromechanical Equipment Contract ⁴⁸	28 June 2013 - 17 July 2013	Electromechanical Agreement
The letter related to credit condition from the financier	12 March 2013	Loan Agreement

STEP 3 – Barrier Analysis

Not applicable.

STEP 4 – Common Practice Analysis

Sub-step 4a - Analyze other activities similar to the proposed project activity

Since the project is a renewable project, it applies the second measure (ii) of the 4 measures listed in the Definition section in the Tool for the demonstration and assessment of additionality version 07.0.0 stated below:

(ii) Switch of technology with or without change of energy source including energy efficiency improvement as well as use of renewable energies (example: energy efficiency improvements, power generation based on renewable energy);

As the project applies one of these measures, the tool at this point refers to the latest version of the “Guidelines on common practice” available on the UNFCCC website and therefore sub- step 4b of the additionality tool does not apply.

The following steps in the EB69 Annex 8- Guidelines on Common Practice (Version 02.0) are followed.

Step 1: Calculate applicable capacity or output range as +/-50% of the total design capacity or output of the proposed project activity.

The installed capacity of the project is 69.627 MWe. Therefore, the lower limit of the applicable output range is 34.8135 MWe and the upper limit is 104.4405 MWe.

Step 2: Identify similar projects (both CDM and non-CDM) which fulfill all of the following conditions:

(a) The projects are located in the applicable geographical area.

The most up-to-date list of the plants operating in Turkey given by Annex-I in the TEIAS Capacity projection report for 2013 was considered. The report lists the plants in operation as of the end of 2012.

There are 752 such plants (Please also refer to the Common practice excel sheet)

(b) The projects apply the same measure as the proposed project activity.

Renewable energy projects were chosen. There are 451 such projects.

(c) The projects use the same energy source/fuel and feedstock as the proposed project activity if a technology switch measure is implemented by the proposed project activity.

Hydro projects were chosen. There are 353 such projects.

(d) The plants in which the projects are implemented produce goods or services with comparable quality, properties and applications areas (e.g. clinker) as the proposed project plant;

All the plants chosen produce electricity.

(e) The capacity or output of the projects is within the applicable capacity or output range calculated in Step 1;

The plants whose capacities are between 34.8135 MWe and 104.4405 MWe were chosen. There are 55 such projects.

All the plants chosen started operation before the project as they were already in operation in 2011.

Step 3: within the projects identified in Step 2, identify those that are neither registered CDM project activities, project activities submitted for registration, nor project activities undergoing validation. Note their number N_{all} and $N_{all} = 55$.

Step 4: within similar projects identified in Step 3, identify those that apply technologies that are different to the technology applied in the proposed project activity. Note their number $N_{diff} = 55$

Step 5: calculate factor $F = 1 - N_{diff}/N_{all}$ representing the share of similar projects (penetration rate of the measure/technology) using a measure/technology similar to the measure/technology used in the proposed project activity that deliver the same output or capacity as the proposed project activity. Calculating F with the formula is meaningless as $N_{all} = 55$, and thus $N_{similar}$ is zero,

The proposed project activity is a “common practice” within a sector in the applicable geographical area if the factor F is greater than 0.2 and Nall-Ndiff is greater than 3. Therefore the project is not common practice as Nsimilar is zero.

3.5.1 Regulatory Surplus

Is the project located in an UNFCCC Annex 1 or Non-Annex 1 country?

☒ Annex 1 country ☐ non-Annex 1 country

Are the project activities mandated by any law, statute, or other regulatory framework?

☒ Yes ☐ No

3.5.2 Additionality Methods

The method to describe and calculate the baseline is clearly specified by the Baseline Methodology. CDM Executive Board has already provided a consolidated tool for appraising and demonstrating the additionality feature of the projects.

In the implementation of the project the revenues from VER credits were taken into account before the electromechanical equipment order agreement and credit agreement. analysis that was made at the time indicated that the project was not financially feasible without the incentive coming from the VER revenues.

The energy sector in Turkey has been privatized and the installation of hydro power plants is under the initiative of private companies and legislation, law or regulatory framework in Turkey does not oblige hydro power plant installations. The private sector can only provide clean energy with the incentive carbon credits provide. Thus, the project activity is not mandated by any state or national laws. The project proponent is not bound by any legislative mandate to implement the project activity.

As the carbon markets have become more active and higher in volume, future verifications are expected to provide a source of income for the operation and continuation of the plant. Thus, the project activity is still in need of carbon revenue.

In the end there is no change in the additionality since it is a renewal of the crediting period.

3.6 Methodology Deviations

There are no methodology deviations.

4 QUANTIFICATION OF ESTIMATED GHG EMISSION REDUCTIONS AND REMOVALS

4.1 Baseline Emissions

The project contributes to climate change mitigation by displacing fossil fuels while meeting the host country's growing energy demand. The impact is measured via the calculation of ERY emission reductions per year, in line with the applied methodology.

$$ER_y = BE_y - PE_y$$

Where:

ER_y = Emission reductions for the year y (tCO₂)

BE_y = Baseline emissions for the year y (tCO₂)

PE_y = Project emission for the year y (tCO₂)

And,

$$BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$$

BE_y = Baseline emissions in year y (t CO₂/yr)

EG_{PJ,y} = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)

EF_{grid, CM,y} = Combined margin CO₂ emissions factor for grid-connected power generation in year y calculated using the latest version of "Tool to calculate the emission factor for an electricity system (t CO₂/MWh)

Electricity Generation of Tepekisla HEEP = Electricity supplied to the grid (MWh) - Electricity consumption from the grid (MWh)

The proposed project uses Turkey's Energy and Natural Resources Ministry's factsheet for the emission factors to measure estimated emission reductions. The publication demonstrates "Turkey's National Electricity Grid Emission Factor" for 2021 and includes Operating Margin (OM), Build Margin (BM), and Combined Margin (CM) emission factor values. To calculate these figures, the ministry bases the factsheet off Clean Development Mechanism's "Tool to calculate the emission factor for an electricity system" Version 07.

The data set used for the calculation of emission factors are as follows:

- Turkey's electricity generation, consumption, and loss statistics from TEİAŞ,
- Common Reporting Format (CRF) prepared in the scope of Turkey's National GHG Inventory Report and emission values for electricity generation (1.A1.a.i) from CRF tables,

- Chronological order of electricity generation plants' s commissioning dates, their names, fuel types, installed power values, and electricity generation for the calculated year from TEİAŞ's Load Dispatch Department,
- Current status for Voluntary Emission Reductions (VER) certificate ownership from Gold Standard (GS) and Verified Carbon Standard (VCS) websites, and
- Efficiency figures for power plants are used from CDM's "Tool 9: Determining the baseline efficiency of thermal or electric energy generation systems.

Calculated emission factors for 2022 from the ministry's factsheet are provided below.

OM = 0.7108 BM = 0.3721 CM = 0.4568

Calculation of Operating Margin Emission Factor

With respect to the data provided above, Turkey's Energy and Natural Resources Ministry calculated the OM emission factor as:

$EF_{grid,OM,y} = 0.7108 \text{ tCO}_2/\text{MWh}$

Calculation of Build Margin Emission Factor

The ministry used data concerning the chronological order of electricity generation plants' commissioning dates, their names, fuel types, installed power values and electricity generation for the calculated year to measure the BM emission factor. The following is the result:

$EF_{grid,BM,y} = 0.3721 \text{ tCO}_2/\text{MWh}$

Calculation of Combined Margin Emission Factor

According to Tool 7's stipulations, the combined margin emission factor should be calculated as:

$$EF_{grid,CM,y} = EF_{grid,OM,y} \times w_{OM} + EF_{grid,BM,y} \times w_{BM}$$

Where

$EF_{grid,BM,y}$ = Build margin CO₂ emission factor in year y (t CO₂/MWh)

$EF_{grid,OM,y}$ = Operating margin CO₂ emission factor in year y (t CO₂/MWh)

w_{OM} = Weighting of operating margin emissions factor (per cent)

w_{BM} = Weighting of build margin emissions factor (per cent)

as,

$w_{OM} = 0.25$ and $w_{BM} = 0.75$

Thus,

$EF_{grid,CM,y} = 0.7108 \times 0.25 + 0.3721 \times 0.75$

$EF_{grid,CM,y} = 0.4568 \text{ tCO}_2/\text{MWh}$

4.2 Project Emissions

The project emissions shall be accounted using the following equation:

$$PE_y = PE_{EF,y} + PE_{GP,y} + PE_{HP,y}$$

Where:

PE_y : Project emissions in year y (tCO₂e/yr)

$PE_{FF,y}$: Project emissions from fossil fuel consumption in year y (tCO₂/yr)

$PE_{GP,y}$: Project emissions from the operation of geothermal power plants due to the release of non-condensable gases in year y (tCO₂e/yr)

$PE_{HP,y}$: Project emissions from water reservoirs of hydro power plants in year y (tCO₂e/yr)

Project emission from Fossil fuel consumption ($PE_{FF,y}$)

The project internal consumption is approximately 500 kVA, which can be considered negligible. This consumption will be satisfied from the electricity generation when the plant is in operation or from the grid when the plant is not in operation. Eventually, if there is no electricity available in the grid and the plant is not in operation the internal consumption will be satisfied from a diesel generator, but this would rarely occur. If diesel engines would be used, emissions associated would be calculated according to the “Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion” and considered as project emissions.

Therefore:

$$PE_{FF,y} = 0$$

Emissions of non-condensable gases from the operation of geothermal power plants ($PE_{GP,y}$)
Since the project activity does not involve the operation of a geothermal power plant,

$$PE_{GP,y} = 0$$

Emission from water reservoirs:

Emission from hydro power plants has to be considered following the procedure described in most recent version of ACM0002 Version 22.0.0. For hydro power project activities that result in new single or multiple reservoirs and hydro power project activities that result in the increase of single or multiple existing reservoirs, project proponents shall account for CH₄ and CO₂ emissions from the reservoirs, estimated as follows:

If the power density of the single or multiple reservoirs (PD) is greater than 4 W/m² and less than or equal to 10 W/m²:

$$PE_{HP,y} = \frac{EF_{Res} \cdot TEG_y}{1000}$$

Where:

$PE_{HP,y}$ = Emission from reservoir expressed as tCO₂e/year

EF_{Res} = Default emission factor for emissions from reservoirs of hydro power plants in year y (tCO₂e /MWh) = 0.09

TEG_y = Total electricity produced by the project activity, including the electricity supplied to the grid and the electricity supplied to internal loads, in year y (MWh).

However, again according to ACM0002 version 22.0.0 if the power density (PD) of the hydro power plant is above 10 W / m² , PE_y is 0.

The power density of the project activity is calculated as follows:

$$PD = \frac{Cap_{PJ} - Cap_{BL}}{A_{PJ} - A_{BL}}$$

Where:

PD = Power density of the project activity, in W/m²

Cap_{PJ} = Installed capacity of the hydro power plant after the implementation of the project activity (W)

Cap_{BL} = Installed capacity of the hydro power plant before the implementation of the project activity (W). For new hydro power plants, this value is zero

A_{PJ} = Area of the reservoir measured in the surface of the water, after the implementation of the project activity, when the reservoir is full (m²)

A_{BL} = Area of the reservoir measured in the surface of the water, before the implementation of the project activity, when the reservoir is full (m²). For new reservoirs, this value is zero.

Emissions from water reservoirs of hydro power plants

($PE_{HP,y}$) The project has a reservoir area of 2,319,000 m².

The power density (PD) for this regulation pond is calculated as follows:

$$Cap_{PJ} = 69,627,000 \text{ W}$$

$Cap_{BL} = 0$ (Justification: The project is a new hydro power plant)

$$A_{PJ} = 2,319,000 \text{ m}^2$$

$A_{BL} = 0$ (Justification: The project is a new hydro power plant))

$$PD = 69,627,000W / 2,319,000 \text{ m}^2$$

$$PD = 30.02 \text{ W/m}^2$$

$$PD > 10 \text{ W/m}^2$$

Therefore, $PE_{HP,y}=0$

Hence, $PE_y= 0$

4.3 Leakage Emissions

No leakage emissions are considered. The main emissions potentially giving rise to leakage in the context of electric sector projects are emissions arising due to activities such as power plant construction and upstream emissions from fossil fuel use (e.g. extraction, processing and transport). These emissions sources are neglected.

4.4 Estimated GHG Emission Reductions and Carbon Dioxide Removals

Accordingly, the baseline emissions BE_y is calculated as following:

$$BE_y = EG_{PJ,y} \times EF_{grid, CM, y}$$

Where:

BE_y = Baseline emissions (tCO₂/yr)

$EG_{PJ,y}$ = Annual electricity supplied by the project to the grid (MWh)

$EF_{grid, CM, y}$ = Combined margin CO₂ emission factor for grid connected power generation in year

y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system (tCO₂/MWh)

The project activity is the installation of a new grid-connected renewable power plant/unit at a site where no renewable power plant was operated prior to the implementation of the project activity, then:

$$EG_{PJ,y} = EG_{facility,y} = 241,098 \text{ MWh/year}$$

Where:

$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)

$EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr)

Therefore, the expected baseline emission for the full year production of the project is:

$$BE_y = 241,098 \text{ MWh/year}$$

According to the ACM0002 version 22.0.0, the generic equation for the calculation of emission reduction is:

$$ER_y = BE_y - PE_y$$

Where:

ER_y = Emission reductions for the year y (tCO₂)

BE_y = Baseline emissions for the year y (tCO₂)

PE_y = Project emission for the year y (tCO₂)

Annual estimation of $ER_y = 110,126 - 0 = 110,126 \text{ tCO}_2\text{e}$

Concluding results for GHG emission reductions are summarized below:

The calculation is based on the number of days included in the credit period. Since the start date is 13-August-2025 and the end date is 12-August-2035, a partial calculation is made in these months. The total number of days in the calculation for 2025 is 141 days. 141 days is divided by the number of days in 1 year (365 days) and multiplied by the annual electricity generation value of 241,098 MWh. In this way, the electricity generation value for the year 2025 is 93,136.488 MWh. Since all other years are included in the loan period, the electricity generation value for each year is calculated as 241,098.000 MWh. In the last year, 2035, the period until 12-August-2035 is included in the credit period. Therefore, 224 days of electricity production value was calculated by making calculations again. As a result, the amount of electricity to be generated in 2035 is calculated as 147,961.512 MWh. Considering the entire credit period, the total generation amount is estimated as 2,410,980 MWh.

To find the estimated emission reduction amount, these calculated electricity generation values are multiplied by the emission factor CM value (0.4568 tCO₂/MWh). As a result, the estimated emission reduction values for the year and the entire credit period are obtained.

For projects required to assess permanence risk:

i) Provide the requested information using the table below:

State the non-permanence risk rating (%)	
Has the non-permanence risk report been attached as either an appendix or a separate document?	☐ Yes ☒ No
For ARR and IFM projects with harvesting, state, in tCO₂e, the Long-term Average (LTA).	
Has the LTA been updated based on monitored data, if applicable?	☐ Yes ☐ No If no, provide justification.
State, in tCO₂e, the expected total GHG benefit to date.	
Is the number of GHG credits issued below the LTA?	☐ Yes ☐ No If no, provide justification.

Table 12 Summary of GHG Emission Reductions and Removals

Vintage period	Estimated baseline emissions (tCO ₂ e)	Estimated project emissions (tCO ₂ e)	Estimated leakage emissions (tCO ₂ e)	Estimated buffer pool allocation (tCO ₂ e)	Estimated reduction VCU (tCO ₂ e)	Estimated removal VCU (tCO ₂ e)	Estimated total VCU issuance (tCO ₂ e)
13-August-2025 to 31-December-2025	42,542	0	0	0	42,542	0	42,542

01-January-2026 to 31-December-2026	110,126	0	0	0	110,126	0	110,126
01-January-2027 to 31-December-2027	110,126	0	0	0	110,126	0	110,126
01-January-2028 to 31-December-2028	110,126	0	0	0	110,126	0	110,126
01-January-2029 to 31-December-2029	110,126	0	0	0	110,126	0	110,126
01-January-2030 to 31-December-2030	110,126	0	0	0	110,126	0	110,126
01-January-2031 to 31-December-2031	110,126	0	0	0	110,126	0	110,126
01-January-2032 to 31-December-2032	110,126	0	0	0	110,126	0	110,126
01-January-2033 to 31-December-2033	110,126	0	0	0	110,126	0	110,126
01-January-2034 to 31-December-2034	110,126	0	0	0	110,126	0	110,126
01-January-2035 to 12-August-2035	67,584	0	0	0	67,584	0	67,584
Total	1,110,126	0	0	0	1,110,126	0	1,110,126

5 MONITORING

5.1 Data and Parameters Available at Validation

Data / Parameter	EF _{grid} , OM,y
Data unit	tCO ₂ /MWh

Description	The Energy and Natural Resources Ministry's factsheet, defining Turkey's National Electric Grid Emission Factor for 2022, was used for the OM emission factor. The publication includes calculated Emission Factor values, which are Operating Margin (OM), Build Margin (BM) and Combined Margin (CM), measured via UNFCCC 's Clean Development Methodology Tool 07 Version 0 7.
Source of data	Turkey's National Electric Grid Emission Factor https://enerji.gov.tr//Media/Dizin/EVCED/tr/ÇevreVeİklim/İklimDeğişikliği/TUESEmisyonFktr/Belgeler/Sebeke_EF_Bilgi_Formu_2022.pdf
Value applied	0.7108
Justification of choice of data or description of measurement methods and procedures applied	The OM represents the presence of a component of the baseline scenario. It is needed to refer to a cohort of existing power plants whose electricity generation amount is likely to be affected by the proposed project activity.
Purpose of data	Used for baseline emissions
Comments	-

Data / Parameter	EF _{grid,BM,y}
Data unit	tCO ₂ /MWh
Description	The Energy and Natural Resources Ministry's factsheet, defining Turkey's National Electric Grid Emission Factor for 2022, was used for the BM emission factor. The publication includes calculated Emission Factor values, which are Operating Margin (OM), Build Margin (BM) and Combined Margin (CM), measured via UNFCCC 's Clean Development Methodology Tool 07 Version 0 7.
Source of data	Turkey's National Electric Grid Emission Factor https://enerji.gov.tr//Media/Dizin/EVCED/tr/ÇevreVeİklim/İklimDeğişikliği/TUESEmisyonFktr/Belgeler/Sebeke_EF_Bilgi_Formu_2022.pdf
Value applied	0.3721
Justification of choice of data or description of measurement	BM refers to a cohort of power units reflecting the type whose construction/commissioning would be affected by the proposed project activity. .

methods and procedures applied	
Purpose of data	Used for baseline emissions
Comments	-

Data / Parameter	$EF_{grid, CM, y}$
Data unit	tCO ₂ /MWh
Description	The Energy and Natural Resources Ministry's factsheet, defining Turkey's National Electric Grid Emission Factor for 2022, was used for the CM emission factor. The publication includes calculated Emission Factor values, which are Operating Margin (OM), Build Margin (BM) and Combined Margin (CM), measured via UNFCCC 's Clean Development Methodology Tool 07 Version 0 7.
Source of data	Turkey's National Electric Grid Emission Factor according to tool 7-version 07-section 6.6.1 CM for second crediting period hydro project is calculated
Value applied	0.4568
Justification of choice of data or description of measurement methods and procedures applied	Data is retrieved from the Host Country's Energy and Natural Resources Ministry's official calculations. According to Tool 7's stipulations, the combined margin emission factor for the second crediting period should be calculated as: $EF_{grid, CM, y} = EF_{grid, OM, y} \times w_{OM} + EF_{grid, BM, y} \times w_{BM}$ Thus, $OM = 0.7108$ $BM = 0.3721$ $w_{OM} = 0.25$ $w_{BM} = 0.75$ $EF_{grid, CM, y} = 0.7108 \times 0.25 + 0.3721 \times 0.75$ $EF_{grid, CM, y} = 0.4568 \text{ t CO}_2 \text{ /MWh}$
Purpose of data	The data is utilized to calculate baseline emissions, which demonstrates the proposed project activity's contribution to SDG Target 13.2
Comments	This parameter is fixed ex-ante for the second crediting period.

5.2 Data and Parameters Monitored

Data / Parameter	$EG_{facility, y}$
Data unit	MWh/yr

Description	Quantity of net electricity generation supplied by the project to the grid in year y.																									
Source of data	Main source is the monthly meter readings records (EPIAŞ data, also known as PMUM in the past). Invoicing of the electricity production is carried out according to EPIAŞ data; thus, rendering the EPIAŞ data official source of electricity generation.																									
Description of measurement methods and procedures to be applied	The produced and consumed electricity are continuously measured by the meters attached to the power plant. This continuous measurement is recorded in a monthly basis. The meter measurements are read and checked by the company and the purchaser. At the end of each month and a protocol on the electricity generation amount is signed by both parties. This protocol includes both the produced electricity and the electricity traction from the grid. As a result, net electricity supplied to the grid is calculated.																									
Frequency of monitoring/recording	Continuous measurement and at least monthly recording.																									
Value applied	241,098																									
Monitoring equipment	The specification of electricity meters is provided below: <table><tr><th>Name</th><th>Serial Number</th><th>Brand-Model</th><th>Date of Last Calibration</th><th>Transformer Information</th></tr><tr><td>Main Meter</td><td>12744468</td><td>EMH LZQJ-XC</td><td>12/10/2023</td><td>TM1</td></tr><tr><td>Backup Meter</td><td>12744469</td><td>EMH LZQJ-XC</td><td>12/10/2023</td><td>TM1</td></tr><tr><td>Main meter</td><td>12744470</td><td>EMH LZQJ-XC</td><td>12/10/2023</td><td>TM2</td></tr><tr><td>Backup Meter</td><td>12744471</td><td>EMH LZQJ-XC</td><td>12/10/2023</td><td>TM2</td></tr></table> Date of the latest meter calibration: 12/10/2023 The accuracy of meters is given as 02s class.	Name	Serial Number	Brand-Model	Date of Last Calibration	Transformer Information	Main Meter	12744468	EMH LZQJ-XC	12/10/2023	TM1	Backup Meter	12744469	EMH LZQJ-XC	12/10/2023	TM1	Main meter	12744470	EMH LZQJ-XC	12/10/2023	TM2	Backup Meter	12744471	EMH LZQJ-XC	12/10/2023	TM2
Name	Serial Number	Brand-Model	Date of Last Calibration	Transformer Information																						
Main Meter	12744468	EMH LZQJ-XC	12/10/2023	TM1																						
Backup Meter	12744469	EMH LZQJ-XC	12/10/2023	TM1																						
Main meter	12744470	EMH LZQJ-XC	12/10/2023	TM2																						
Backup Meter	12744471	EMH LZQJ-XC	12/10/2023	TM2																						
QA/QC procedures to be applied	Measurements are undertaken using energy meters. According to the Article 2 of the Communiqué of Meters in Electricity Sector10: ‘The meters to be used in the electricity market shall be compliant with the standards of Turkish Standards Institute or IEC and have obtained “Type and System Approval” certificate from the Ministry of Trade and Industry.’ Therefore, Ministry of Trade and Industry																									

	(Ministry) is responsible from control and calibration of the meters. - Paragraph b) of the Article 9 of the 'Regulation of Metering and Testing of Metering Systems' (Regulation) of Ministry states that: 'b) Periodic tests of meters of electricity, water, coal gas, natural gas and current and voltage transformers are done every 10 years.' Therefore, periodic calibration of the meters has been done every 10 years. - As above mentioned, the data acquisition and management and quality assurance procedures that are anyway in place, no additional procedures have to be established for the monitoring plan. In addition to that the quantity of net electricity delivered to the grid will be cross checked with the meter reading records (OSF forms) provided to the company by TEIAS and internal reports provided to the head of the company by the plant manager. - The net electricity export/supplied to a grid is the difference between the measured quantities of the grid electricity export and the import. Main source is the monthly meter readings records (EPIAŞ data, was known as PMUM in the past). Data from remote automatic meter reading system (OSOS) is used for crosschecking. Invoicing of the electricity production is carried out according to EPIAŞ data; thus, rendering the EPIAŞ data official source of electricity generation.
Purpose of data	Calculation of net electricity supplied to the grid and thus baseline emission
Calculation method	The net electricity is calculated by: a) Subtracting self-consumption value from gross generation value for each month to find the net electricity supplied to the grid. b) Adding up all monthly net electricity values to calculate the total net electricity supplied to the grid during the monitoring period. c) Multiplying the total net electricity value with the CM emission factor.
Comments	N/A

Data / Parameter	A _{PJ}
Data unit	m ²
Description	Area of the reservoir measured in the surface of the water, after the implementation of the project activity, when the reservoir is full.

Source of data	Project site.
Description of measurement methods and procedures to be applied	Measured from topographical surveys, maps, satellite pictures, etc.
Frequency of monitoring/recording	If the regulator area is changed.
Value applied	2,319,000 m ²
Monitoring equipment	N/A
QA/QC procedures to be applied	The readings will be done during the period when the water flow is made to have the largest reservoir area
Purpose of data	-
Calculation method	-
Comments	-

Data / Parameter	Cap _{PJ}
Data unit	MWe
Description	Installed capacity of the hydro power plant after the implementation of the project activity
Source of data	Project site
Description of measurement methods and procedures to be applied	Supplier information on the equipment and the number of turbines will be checked on site visits
Frequency of monitoring/recording	Yearly
Value applied	69.627
Monitoring equipment	N/A
QA/QC procedures to be applied	Supplier information on the related equipment and the existence of the equipment will be checked.
Purpose of data	Calculation of project emissions. Also, this information may be checked from the EMRA website.
Calculation method	N/A

Comments

The current Generation License have been submitted to VVB.

5.3 Monitoring Plan

The purpose of the monitoring plan is to ensure that the monitoring and calculation of emission reductions of the proposed Project within the crediting period is complete, consistent, clear and accurate. The project is operated by SANKO Enerji Sanayi ve Ticaret A.S. which ensures the overall site management in accordance with Turkish Laws and technology providers' guidelines.

The Project Proponent is responsible to implement the monitoring report according to the UNFCCC rules and procedures. According to the Turkish Law and Regulations, the methods of monitoring the net electricity fed to the grid and quality control and assures are explained below:

Monitoring data is collected in accordance with the agreement done between the project owner and Turkish Electricity Transmission Company (TEIAS) which provides the infrastructure for the connection to the national grid. The metering system is defined in the agreement as two groups: main meter and spare meter. The design of the metering system is checked and approved by TEIAS before commissioning of the plant. The technical specifications of the power meters should be in line with Measure and Metering Devices Regulation by Ministry of Industry and Trade. In addition, the Communiqué for Power Meters announced by Energy Market Regulations Authority (EMRA) requires all meters to be in line with either Turkish Standards Institution or International Electro technical Commissions Standards. The meters are placed at the point the electricity is fed to the grid and sealed on behalf of both parties. This prevents any intervention and assures the accuracy and quality of the measurements. Concerning metering system accuracy, project participants have to comply with relevant national legislation According to b) paragraph of the 9th Article of the Regulation of Metering and Testing of Metering Systems "periodic tests of meters of electricity, water, coal gas, natural gas and current and voltage transformer are done every 10 years.

Data is stored electronically, during the crediting period and at least two years after the last issuance of credits for the wind farm project activity in the concerning crediting period. The Project Proponent is responsible for the storage of data received from the measuring devices.

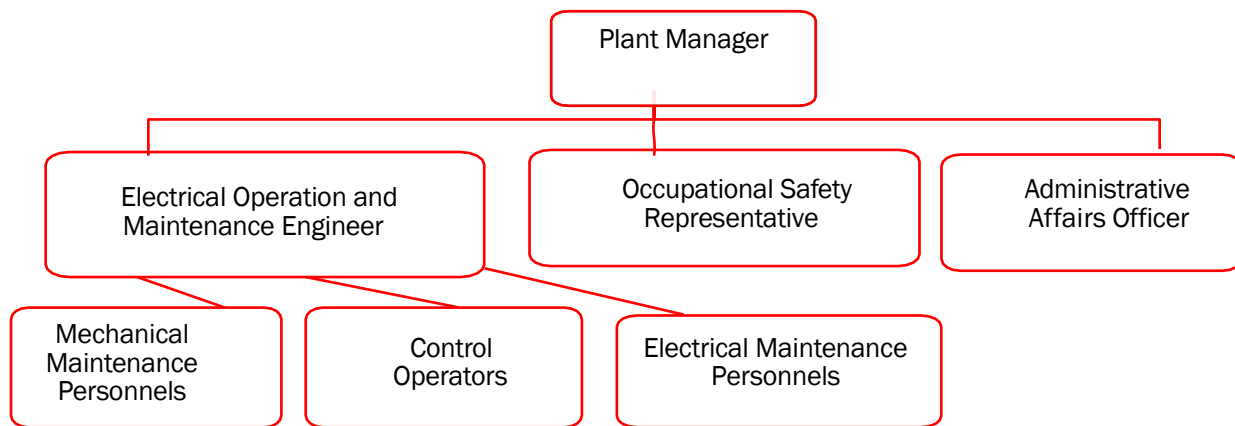
Two main and two spare meter readings are recorded monthly remote automatic meter reading system and cross-checked whether calibration is required. The capacity of the transmission line connected is medium voltage of 154 kVA, the accuracy class for power meters have been defined in the Communiqué for Power Meters as 0.2S class. The calibration will be implemented in accordance with the related standard procedures. The periodical maintenance is under the responsibility of TEIAS and has been fixed as once in 10 years as mentioned above. Since the meters are within TEIAS' province, TEIAS executes all the procedures for handling non-conformities. Therefore, the Project Participant does not have any internal auditing for this purpose.

Operational and Management Structure

As described before, there are two main factors important for the calculation of emission reductions. The only relevant data that have to be monitored is only net electricity generation (EG_{facility,y}) per year. Since project emission is zero no additional monitoring is required. The generation data are subject to the strict internal quality control systems of both parties.

The monthly meter reading documents are stored by SANKO Enerji Sanayi Ve Ticaret. A.S. and TEİAŞ. The settlement notification, which is issued by TEİAŞ and includes the meter reading data, is stored on a TEİAŞ file server and accessible for SANKO Enerji Sanayi Ve Ticaret. A.S. via a secured website. The meters themselves can always be read as plausibility check for verification. The other important parameter is the emission factor. It is approved according to strict quality control parameters from an independent external party. With this, no additional structures or processes have to be implemented to insure the availability and high quality of the necessary data for monitoring.

The Project Manager is responsible for all issues related to the project and operation of the plant. On the other hand, plant manager is responsible for daily operational processes of the plant, management of the plant personnel, and other technical and management issues for the plant. Operation and maintenance engineer ensures that all the instrumentations and devices to perform the monitoring work properly. Electrical maintenance team undertakes the specific actions required by the monitoring plan, i.e. they measure the electricity generation, the electricity supplied to the Turkish grid by the power plant, the electricity imports and the amount of fuel consumed, if fuel is consumed. Administrative Officer act as the point of contact for all employees, providing administrative support and managing their queries. In total, there are twenty employees within the scope of the project. Roles and responsibilities have been summarized in the following chart.



Measuring

The Electrical Engineers will obtain the readings from the meters, report them in the spreadsheet for measurement control and store the data discharged from the meters electronically.

All relevant baseline emission factors are defined ex-ante. Please see the baseline estimations - Section 3.1 - for Operating and Build Margin estimations. Hence, there are four sets of data to be monitored during the project activity.

The first one is the amount of electricity fed into the grid. There are four meters attached to the power plant for measurement of the generated electricity. Two of the meters are the main meters and the others are the control meters. The role of two control meters is to check if the main meters measure the generated electricity accurately. (In addition, the control meters will be used if the main meters are out of order.)

On the other hand, EPIAŞ records are accepted as the source for calculating the emission reductions, as these records are the basis of the invoices between the company and TEİAŞ.

EPIAŞ records are the basis of main check and monthly meter reading protocol is prepared for each month for crosscheck. The project developer is not responsible for the transmission losses; therefore, transmission losses are not included. During each monitoring period, the invoices are presented to the VVB, together with the calculation details.

The second data to be monitored is the installed capacity of the project activity. The installed capacity only changes if the project design is changed. If there are any changes regarding the installed capacity of the project, EMRA has to be informed about this change. The company will report the installed capacity changes in each monitoring period, if there is any and this information will be checked from EMRA website. The plant manager will be responsible to provide the data.

The third data to be monitored is the reservoir area. The reservoir area is calculated by a computer program which is processed with the drawings received from the project design company as a result of the topographical surveys. The possible maximum surface area of the reservoir is calculated.

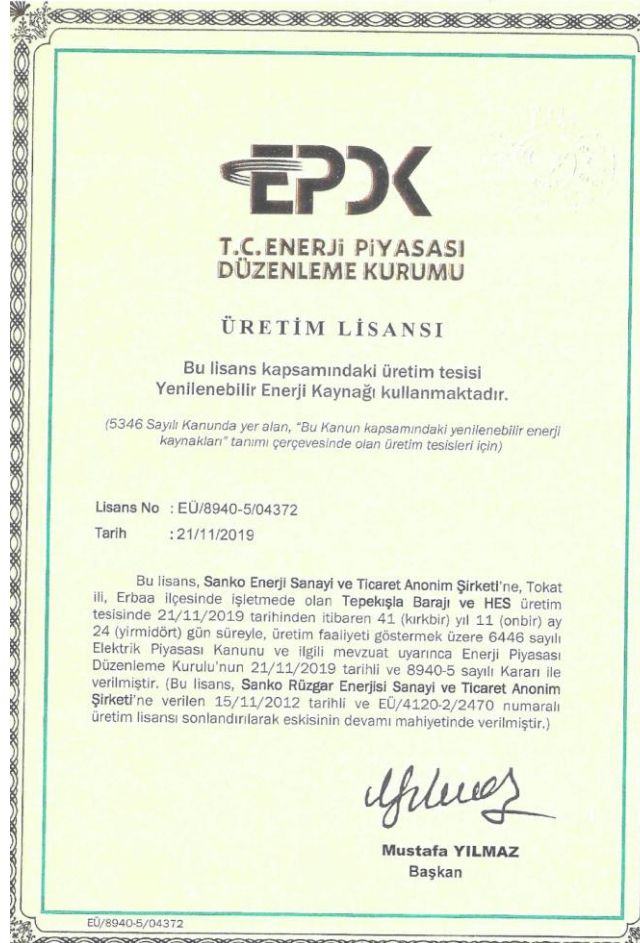
ID Number	Data Variable	Source of Data	Data Unit	Measured (m) Calculated (c) Estimated (e)	Recording Frequency	Proportion of data to be monitored	How will the data be achieved? (electronic or paper)	Comment
1.EG _{facility,y}	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y	Project activity site	MWh/y	m	Continuous measurement and monthly recording	100%	Electronic and paper	The data is obtained the EPIAŞ records, as these records are the basis for invoicing.
2.Cap _{PJ}	Installed capacity of project activity after implementation	Project activity site	W	m	Yearly	100%	Electronic and paper	Supplier information on the related equipment and the existence of the equipment will be checked. Also, this information may be checked from EMRA website.
3.A _{PJ}	Area of the reservoir measured in the surface of the water, after implementation of project activity, when reservoir is full	Project activity site	m ²	c	Yearly	100%	Electronic and paper	Data is obtained from project design documents and recalculated if the design changes.

APPENDIX 1: COMMERCIALLY SENSITIVE INFORMATION

N/A

APPENDIX 2: GENERATION LICENCE

The Licence for Electric Generation for Tepekisla HEPP, which justifies the permission of EPDK (EMRA) granted to the company to generate energy for 49 years.



APPENDIX 3: EIA NOT REQUIRED

The "Positive EIA" certificate for the proposed project granted by the Ministry of Environment and Forestry stating that the proposed project does not cause any environmental damage.

	T.C. ÇEVRE ve ORMAN BAKANLIĞI ÇEVRESEL ETKİ DEĞERLENDİRMESİ VE PLANLAMA GENEL MÜDÜRLÜĞÜ	Karar Tarihi: 08.10.2011 Karar No : 2200
ÇED OLUMLU BELGESİ		
17.07.2008 tarih ve 26939 sayılı Resmi Gazete’de yayımlanarak yürürlüğe giren Çevresel Etki Değerlendirmesi Yönetmeliği’nin 14. maddesi gereğince; “Tepekışla Barajı, HES (34,01 MWm - 33 MWe), Malzeme Ocakları, Kırma-Elleme Tesisi ve Hazır Beton Santrali” projesi hakkında “Çevresel Etki Değerlendirmesi Olumlu Kararı” verilmiştir.		
		 Feyzi İŞBİLİR Bakan a. Genel Müdür
Proje Sahibi	: Ark Enerji Üretimi Sanayi ve Ticaret A.Ş.	
Projenin Yeri	: Tokat İli, Erbaa ve Niksar İlçeleri, Kelkit Çayı üzerinde	