

TEMPLATE

# MONITORING REPORT

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PUBLICATION DATE **14.10.2020**

VERSION **v. 1.1**

RELATED SUPPORT - **TEMPLATE GUIDE Monitoring Report v. 1.1**

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This document contains the following Sections

Key Project Information

0 - Description of project

0 - Implementation of project

0 - Description of monitoring system applied by the project

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## KEY PROJECT INFORMATION

### Key Project Information

|                                                                                  |                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GS ID (s) of Project (s)</b>                                                  | GS1173                                                                                                                                                                                                                                    |
| <b>Title of the project (s) covered by monitoring report</b>                     | CAMLICA II HEPP                                                                                                                                                                                                                           |
| <b>Version number of the PDD/VPA-DD (s) applicable to this monitoring report</b> | 15                                                                                                                                                                                                                                        |
| <b>Version number of the monitoring report</b>                                   | 4                                                                                                                                                                                                                                         |
| <b>Completion date of the monitoring report</b>                                  | 06 November 2024                                                                                                                                                                                                                          |
| <b>Date of project design certification</b>                                      | 01 August 2014                                                                                                                                                                                                                            |
| <b>Date of Last Annual Report</b>                                                | 28 December 2023                                                                                                                                                                                                                          |
| <b>Monitoring period number</b>                                                  | 1                                                                                                                                                                                                                                         |
| <b>Duration of this monitoring period</b>                                        | 01 January 2022 – 31 December 2023<br>(24 months both dates are included)                                                                                                                                                                 |
| <b>Project Representative</b>                                                    | Project Owner:<br>HGG Enerji Üretim Anonim Şirketi<br>Project Developer:<br>GTE Karbon Sürdürülebilir Enerji Eğitim Danışmanlık ve Tic. A.Ş.                                                                                              |
| <b>Host Country</b>                                                              | Türkiye                                                                                                                                                                                                                                   |
| <b>Activity Requirements applied</b>                                             | <input type="checkbox"/> Community Services Activities<br><input checked="" type="checkbox"/> Renewable Energy Activities<br><input type="checkbox"/> Land Use and Forestry Activities/Risks & Capacities<br><input type="checkbox"/> N/A |
| <b>Methodology (ies) applied and version number</b>                              | ACM0002 “Grid-connected electricity generation from renewable sources”<br>Version 20.0                                                                                                                                                    |
| <b>Product Requirements applied</b>                                              | <input checked="" type="checkbox"/> GHG Emissions Reduction & Sequestration                                                                                                                                                               |

|  |                                                                                 |
|--|---------------------------------------------------------------------------------|
|  | <input type="checkbox"/> Renewable Energy Label<br><input type="checkbox"/> N/A |
|--|---------------------------------------------------------------------------------|

**Table 1 - Sustainable Development Contributions Achieved**

| Sustainable Development Goals Targeted | SDG Impact                         | Amount Achieved        | Units/ Products           |
|----------------------------------------|------------------------------------|------------------------|---------------------------|
| 13                                     | CO <sub>2</sub> emission reduction | 30,563.00              | tCO <sub>2</sub> e        |
| 7                                      | Production of clean energy         | 62,007                 | MWh                       |
| 8                                      | Creating employment opportunities  | 12 people are employed | Number of people employed |

**Table 2 – Product Vintages**

|                 |                  | Amount Achieved              |
|-----------------|------------------|------------------------------|
| Start Dates     | End Dates        | VER                          |
| 01 January 2022 | 31 December 2022 | 16,205.00 tCO <sub>2</sub> e |
| 01 January 2023 | 31 December 2023 | 14,358.00 tCO <sub>2</sub> e |

## SECTION A. DESCRIPTION OF PROJECT

### A.1. General description of project

Çamlıca II Hydro Electrical Power Plant (HEPP) which is a run-of-river type project built on river Zamantı was designed with a capacity of 17.88 MWm / 17.58 MWe. The main principle behind the project design is to make use of the elevation difference of 69 m which is approximately 1500 m away from the Çamlıca Village<sup>1</sup>.

Prior to project implementation, there exists only one hydro power plant which is Çamlıca I HEPP, located upstream. Thus, the water utilization of the project does not affect Çamlıca I HEPP. The project utilizes tail water from Çamlıca I Regulator and HEPP. In the facility, the Zamantı river stream reaches from the water inlet structure to the surge tank by free flow passing through turbines at a power of 3x(5.96 MWm / 5.86 MWe) and converted to energy. Electricity generated within the project boundaries is transferred to the national grid via Çamlıca I HES OG switchyard.<sup>2</sup>

With the amended license (Licence no: EÜ/10214-13/04898) the output capacity of the plant is stated as 89.558 GWh/y and based on this figure, about 44,145 tCO<sub>2</sub>e annual emission reduction is estimated as stated in registered PDD. The total emission reduction for the second crediting period of 7 years (01 January 2022 – 31 December 2023) is estimated as 309,018 tonnes CO<sub>2</sub> as per registered PDD. The project owner name has been changed from Derin Enerji Üretim San. ve Tic. A.Ş to HGG Enerji Üretim Anonim Şirketi on 23 December 2020<sup>3</sup>.

Main purpose of the project is to produce clean, sustainable, and environment-friendly energy. Since the project activity involves generating electricity from renewable natural resources, the risks it bears are considerably low and the project is designed in the most efficient way possible while keeping the local sources and nature unharmed. All

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<sup>1</sup> ÇAMLICA HEPP PIF, page 8

<sup>2</sup> Generation licence

<sup>3</sup> 23 12 2020 DERİN BİRLEŞME KAPANIŞ

the necessary and legally mandatory documents are obtained, and environmental impact assessment proved that the project does not pose any threats for the nature.

Additionally, the project is expected to provide an impetus for the economic activities in the nearby regions, while increasing the awareness about environmental issues. The project is also expected to directly contribute to local area by creating job opportunities. On the macro scale, project activities will result in expanding the share of renewables in the national energy pool and reduce the dependency on the imports which immediately translates into saving currency.

Table 2 Milestones for Camlica II HEPP

| Milestone                                                  | Date                               |
|------------------------------------------------------------|------------------------------------|
| Water Right Utilization Agreement                          | 03 January 2011                    |
| License Issuance                                           | 09 February 2011                   |
| EIA Exemption Letter                                       | 21 February 2011                   |
| Carbon Certification Proposal                              | 08 June 2011                       |
| Project Consultancy Services Agreement                     | 12 July 2011                       |
| Bank Loan Agreement                                        | 25 July 2011                       |
| Construction Agreement                                     | 08 August 2011                     |
| Carbon Certification Agreement                             | 20 October 2011                    |
| LSC Meeting                                                | 26 January 2012                    |
| Equipment Agreement                                        | 23 February 2012                   |
| Start of Construction*                                     | 01 May 2012                        |
| State Hydraulic Works Project Approval                     | 27 December 2012                   |
| Ecosystem Assessment Report                                | 24 April 2013                      |
| Revised Exemption from EIA Certificate                     | 20 May 2013                        |
| System Connection Agreement                                | 07 August 2013                     |
| Energy Transmission Line Approval                          | 02 September 2013                  |
| Commissioning Date                                         | 02 May 2014                        |
| Crediting Period Renewal                                   | 02 May 2022                        |
| First Crediting Period                                     | 01 January 2015 – 31 December 2021 |
| Second Crediting Period                                    | 01 January 2022 – 31 December 2028 |
| 2 <sup>nd</sup> Crediting Period - First Monitoring Period | 01 January 2022 – 31 December 2023 |

\*Project start date as per GS Toolkit and Requirements v2.1

## A.2. Location of project

Project site is located in Kayseri Province of Turkey. Nearest settlement to the project site is Çamlıca village within the boundaries of Yahyalı district. Project site located approximately 120 km away to the south of Kayseri city centrum.

Table 3 Coordinates

| Structure           | Latitude                | Longitude               |
|---------------------|-------------------------|-------------------------|
| Tunnel Inlet-Outlet | 37.9179036 - 37.9040153 | 35.4938434 - 35.4909861 |
| Forebay             | 37.9045992 - 37.9045096 | 35.4910740 - 35.4910483 |



Figure 1 Camlıca II HEPP project site

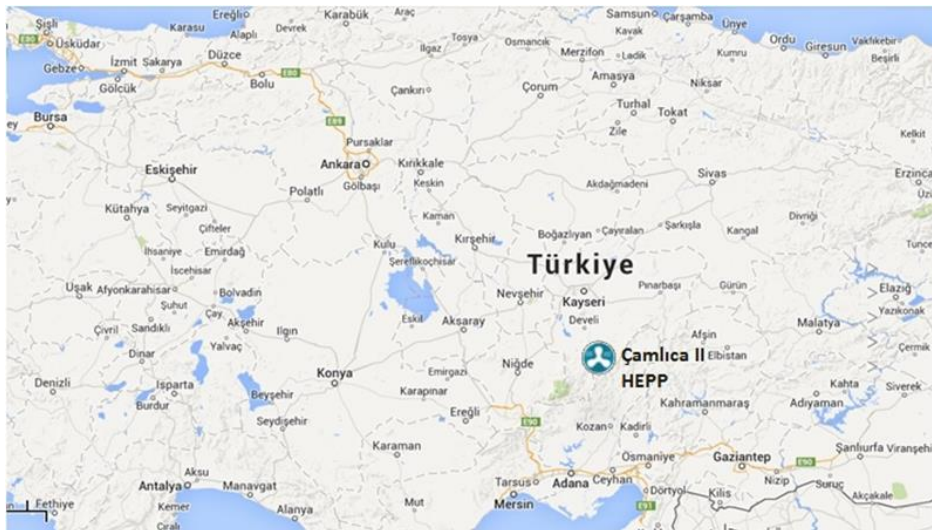


Figure 2 Çamlica II HEPP location

### A.3. Reference of applied methodology

The UNFCCC approved simplified baseline and monitoring ACM0002, version 20.0. ACM0002 refers to the following tools:

- Tool to calculate the emission factor for an electricity system, Version 07.0
- 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

### A.4. Crediting period of project

The crediting period start date is 01 January 2022 and the total length is 7 years. End date of crediting period is 31 December 2028.

## SECTION B. IMPLEMENTATION OF PROJECT

### B.1. Description of implemented project

The proposed project is located in central Anatolia within the boundaries of Kayseri province. Nearest settlement to the project site is Çamlıca village within the boundaries of Yahyalı district. Total installed power of the facility has been 17.58 MWe. Project has started its operation on 02 May 2014.

Released water from Çamlıca II HEPP is kept in the river basin. Water released from Çamlıca I HEPP is transferred to the energy transmission channel by 1500 m long and 50.00 m<sup>3</sup>/sec capacity water transfer channel. At 1347.50 m, the channel is connected to the surge chamber and at the end of surge chamber water is transferred to penstock. The penstock continues until the generation area. 30 m<sup>3</sup>/sec flow will enter the plant and the tail water will be transferred back to the river Zamanti. Even though, according to the initial estimations, gross energy output figure corresponds to 90.7 GWh, the project design was later finalized so that the annual electricity generation could be 89.558 GWh<sup>2</sup>.

Specifications for the built tunnel are as follows:

Table 4 Tunnel specifications

|                                    |                         |
|------------------------------------|-------------------------|
| Tunnel length                      | 1500 m                  |
| Progress rate                      | 1.25 m/shift            |
| Average drilling rate              | 6 cm/d                  |
| Time allocated for drilling        | 40% shift (168d)        |
| Cartridge diameter                 | 2.5 cm                  |
| Geological formation               | Limestone               |
| Air Conditioning                   | Ventilation             |
| Average length of sewage pit       | 1.40 m                  |
| Cross-sectional area of the tunnel | 7.5 m <sup>2</sup>      |
| Holes per unit drilling area       | 2.2/m <sup>2</sup>      |
| Total holes                        | 13                      |
| Unit amount of explosives          | 1.125 kg/m <sup>3</sup> |
| Ventilation duration               | 15 min                  |
| Explosives per hole                | 0.65 kg/hole            |

Specifications for the used turbines are as follows:

Table 5 Turbine specifications

|                              |                        |
|------------------------------|------------------------|
| <b>Turbine Type</b>          | Francis                |
| <b>Total Installed Power</b> | 17.58 MWe              |
| <b>Total Number of Units</b> | 3 x (5.96 MWm/5.86MWe) |
| <b>Gross Elevation</b>       | 69 m                   |
| <b>Maximum Net Elevation</b> | 66 m                   |
| <b>Minimum Net Elevation</b> | 66 m                   |

#### B.1.1 Forward Action Requests

##### FARs raised with Design Renewal Review

###### **FAR#1:**

In-line with GS4GG Principles and Requirements, VVB and PP shall consider the following rule after Design Renewal Certification is achieved:

5.1.29: 1<sup>st</sup> verification shall be completed within two years after the certification is achieved.

###### **Reply:**

Verification will be completed within two years after the design certification is completed.

###### **FAR#2:**

Validation site visit shall be resumed by VVB when Covid situation eases.

###### **Reply:**

The physical site visit was conducted on 25 January 2023.

###### **FAR#3:**

In-line with GS4GG Principles and Requirements, VVB and PP shall consider the following rule since Transition to GS4GG is finalized:

5.1.39: Transparent, annual update reports need to be provided for Projects that have achieved the Project Design Certification stage or have successfully transitioned to Gold Standard for the Global Goals. An annual report shall be submitted for each monitoring year by end of next calendar year for which verification is not completed. If a verification is in progress but not completed, then an Annual Report is still required by the end of calendar year.

###### **Reply:**

Annual Report has been submitted on 28 December 2023.

FARs raised with Performance Review

**FAR#1:**

In-line with § 5.1.39 to 5.1.44 GS4GG Principles and Requirements, GS VVB and PD shall consider the rule below for future monitoring activities:

5.1.39: An annual update report shall be provided to GS -when design certification is achieved- for each monitoring year by the end of next calendar year for which verification is not completed.

**Reply:**

Annual Report has been submitted on 28 December 2023.

**FAR#2:**

Remote audit shall be resumed by GS VVB when Covid situation eases in the host country.

**Reply:**

The physical site visit was conducted on 25 January 2023.

**FAR#3:**

As per Principle 4.3.5, records for hazardous waste disposal for 2020 and 2021 shall be verified during next verification by associated GS VVB. GS VVB shall provide its assessment opinion in this respect.

**Reply:**

Records for 2020 and 2021 are submitted to VVB.

**FAR#4:**

GS VVB shall compare the actual ERs with estimation value and verify the reason causing the difference regarding upstream projects and irrigation activities, other than weather conditions. In case the electricity generation is continuing > more than 40% less than ex ante estimation, GS VVB shall check how the factors incl. income support the project operation. Associated GS VVB shall provide its opinion in verification report during next monitoring period verification.

**Reply:**

The actual electricity generation for this monitoring period (01/01/2022 – 31/12/2023) is calculated as 62,006.91 MWh. The ex-ante estimation for this monitoring period is 179,116 MWh. In this regard, the actual generation value is 65% lower than the ex-ante estimation.

Although it is mentioned in the FAR#4 that the difference should be explained with anything other than the weather conditions, since this is a HEPP project, the weather conditions affect the amount of water and consequently the electricity generation. According to 2022 Precipitation Evaluation Report issued by Directorate General of

Meteorology<sup>4</sup>, in Turkey the precipitation has decreased by 12% compared to normal precipitation figures. The number of rainy days for the Seyhan Basin, where the project reside in, has decreased by 9% according to the mentioned report. Similarly for the year 2023<sup>5</sup>, the areal precipitation for the Seyhan Basin has decreased by almost 20%.

The change in amount of water received by Bahçelik DAM and HEPP is shown by the Figure below<sup>6</sup>. As Other than weather conditions, there are two HEPP projects upstream of the Çamlıca II HEPP. One is Çamlıca I HEPP and the other one with a reservoir is Bahçelik Dam and HEPP. In this regard, the water released from Çamlıca I HEPP to the tailwater reaches Çamlıca II HEPP. On the upstream of the Çamlıca I HEPP there is Bahçelik Dam and HEPP. Bahçelik Dam has a reservoir, and it is used for both electricity generation and agricultural irrigation<sup>7</sup>. It should be mentioned that there are various irrigation and pond projects that retain water from Bahçelik Dam to Çamlıca II HEPP.

Already for agricultural activities the water is withdrawn and since there is a reservoir, the effect of evaporation also has a role in the amount of water released to the downstream HEPPs. In this sense, one can say that Çamlıca II HEPP does not have much control over the water amount it is receiving to generate electricity. it can be seen from the year 2013 to 2022 the water amount decreased by almost 40%. Since the Bahçelik DAM and HEPP receives less and less water, it is expected that the downstream HEPPs will receive less water as well. This decrease in water is a combined result of climate change, agricultural activities and presence of other upstream HEPPs.

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<sup>4</sup><https://www.mgm.gov.tr/FILES/arastirma/yagis-degerlendirme/2022AlansalYagisDegerlendirmesi.pdf> Please see MGM 2022 Water Year Areal Rainfall Assessment Report shared with VVB

<sup>5</sup><https://www.mgm.gov.tr/FILES/arastirma/yagis-degerlendirme/2023AlansalYagisDegerlendirmesi.pdf> Please see MGM 2023 Water Year Areal Rainfall Assessment Report shared with VVB

<sup>6</sup> The records are shared with VVB. Please see the file Çamlıca II HEPP Water Records

<sup>7</sup> <https://moluenerji.com.tr/bahcelik-hes/>

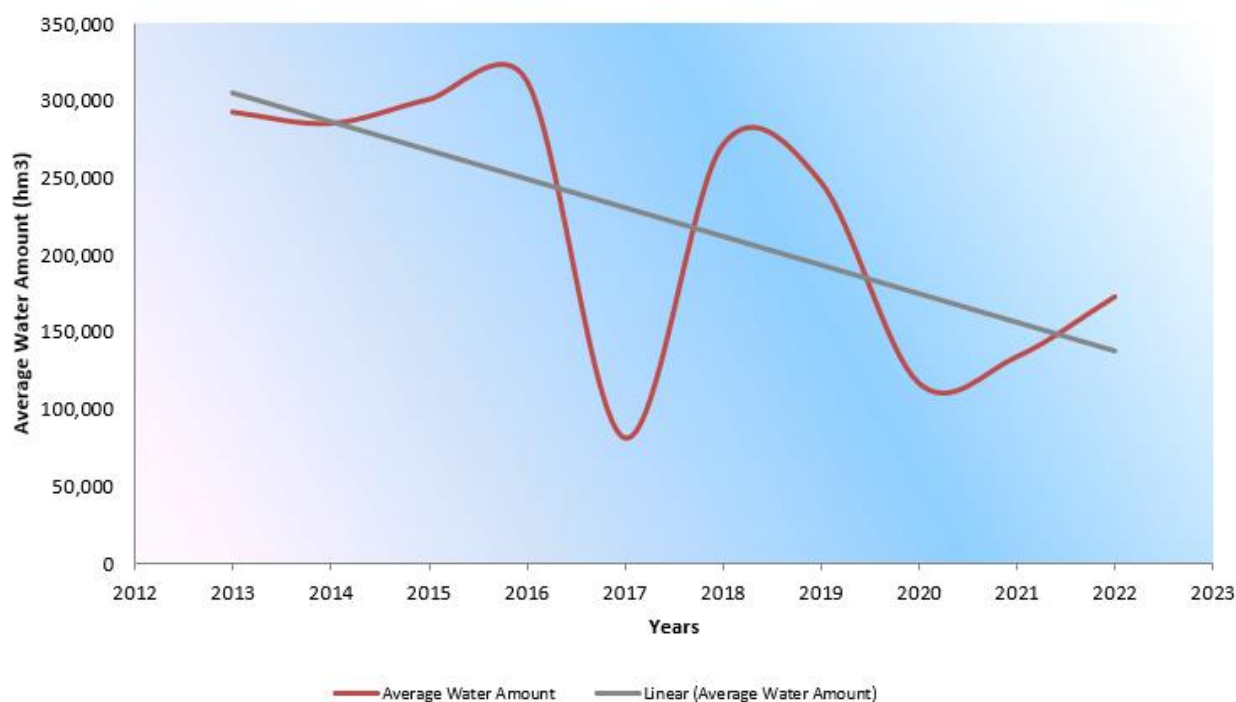


Figure 3 The change in water amount used for electricity generation through the years 2012 – 2023 (Bahçelik DAM and HEPP)

### **Ongoing Financial Need**

During the first crediting period (01/01/2015 - 31/12/2021), 189,794 GS VERs were issued. The monitoring periods and the related issued GS VERs are given below.

01/01/2015 – 28/02/2017: 78,606 GS VERs

01/03/2017 – 31/05/2019: 41,352 GS VERs

01/06/2019 – 31/12/2021: 69,836 GS VERs

Also, the first verification of the second crediting period is under preparation. The project conducts issuances due to its need of the revenue from carbon credits, even though the validation/verification fees have increased as well as issuance fees. Therefore, the project is willing to receive revenue from the carbon credits.

As of the end of year 2024, the project has completed ten-year fixed feed-in-tariff i.e. the YEK-DEM mechanism, income is lower due to lower market sales price (instead of fixed tariff) of electricity and increasing maintenance costs. The electricity is sold to grid at unpredictable, fluctuating unit price. The system uses and distribution fees has increased significantly, compared to the situation during implementation. Hence, significance of carbon revenues will be higher in the following years.

The implemented hydromechanical equipment have been operational since May 2014. The hydromechanical equipment is therefore, around 10 years old. The older the hydromechanical equipment get, their O&M costs and operational problems become more frequent. This also applies to other equipment which have been in operation for similar timelines. Also, the corporate tax rate in Turkey increased to 25%<sup>8</sup> in 2023.

The ongoing financial need derived from GS certification is necessary to reduce unattractiveness of the project and enhance the project's operation in the third crediting period. This GS finance helps to maintain project activity contributing to the development of local communities in terms of income and employment creation, worker quality increase and emission reductions.

## **B.2. Post-Design Certification changes**

B.2.1. Temporary deviations from the approved Monitoring & Reporting Plan, methodology or standardized baseline

N/A

B.2.2. Corrections

N/A

B.2.3. Changes to start date of crediting period

N/A

B.2.4. Permanent changes from the Design Certified monitoring plan, applied methodology or applied standardized baseline.

N/A

B.2.5. Changes to project design of approved project

N/A

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<sup>8</sup> <https://www.pwc.com.tr/kurumlar-vergisi-orani>

## SECTION C. DESCRIPTION OF MONITORING SYSTEM APPLIED BY THE PROJECT

Monitoring is a key procedure to verify the real and measurable emission reductions from the proposed project. To guarantee the proposed project's real, measurable and long-term GHG emission reductions, the monitoring plan is established.

Net electricity generation is measured and recorded via meters sealed by TEIAS for billing purposes. Therefore, no new additional protocol is needed for monitoring emission reduction. Power Plant Manager is responsible for the electricity generated, gathering all relevant data and keeping the records.

Generation data collected during crediting period will be submitted to GTE who is responsible for calculating the emission reduction subject to verification. Generation data is used to prepare monitoring reports which will be used to determine the vintage from the project activity. These reports are submitted to the duly authorized and appointed Designated Operational Entity 'DOE' before each verification period.

VER Team Members is expected to include the following staff:

Plant Manager: Responsible for running the plant and compliance with VER monitoring plan.

Accounting Manager: Responsible for keeping data about generation and consumption.

GTE Karbon Sürdürülebilir Enerji Eğitim Danışmanlık ve Ticaret A.Ş.: Responsible for emission reduction calculations, preparing monitoring report and periodical verification process.

Installation of meter and data monitoring are carried out according to the regulations by TEIAS. Two metering devices (one of them used as spare) are used for monitoring the electricity generated by the power plant. Readings are done using main metering devices and spare metering device will be used for comparison only. Data from metering devices will be recorded by TEIAS monthly (through remote reading). In addition to the two metering devices, generation of the plant can be read from EPIAS web site (<https://www.epias.com.tr/>) which is accessible using a password provided to electricity generation companies. Site records are used for cross-check.

Calibration of the metering devices is made on 03 May 2014 and sealed before the commissioning of the power plant. The maintenance and test study on metering devices are done and controlled by TEIAS and when there is an inconsistency between two devices (main and spare one). The meters are EMH LZQJ-XC with serial numbers of 4241381 (main meter) and 4241382 (spare meter) with accuracy class of 0.5s. The testing of the meters are carried out once every two years<sup>9</sup>. These two meters are changed on 15 February 2021 because the stamp seal expired<sup>10</sup>.

Table 6 Replaced Meter Properties

|                          | <b>Çamlıca II HEPP</b>                        |
|--------------------------|-----------------------------------------------|
| <b>Brand</b>             | EMH                                           |
| <b>Model</b>             | LZQJ-XC                                       |
| <b>Standard/Class</b>    | 0.5s                                          |
| <b>Serial Number</b>     | 4241381 (Main Meter)<br>4241382 (Spare Meter) |
| <b>Calibration Date</b>  | 03 May 2014                                   |
| <b>Meter Replacement</b> | 15 February 2021                              |

Calibration of the new metering devices is made on 15 February 2021 and sealed before the commissioning of the power plant. According to the related regulation on calibration of metering devices, next calibration will be done in 2031. The maintenance and test study on metering devices are done and controlled by TEIAS and when there is an inconsistency between two devices (main and spare one). The testing of the meters is carried out once every two years<sup>11</sup>. The meters are EMH LZQJ-XC with serial numbers of 10773495 (main meter) and 10773496 (spare meter) with accuracy class of 0.5s.

<sup>9</sup> <https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=6381&MevzuatTur=7&MevzuatTertip=5>

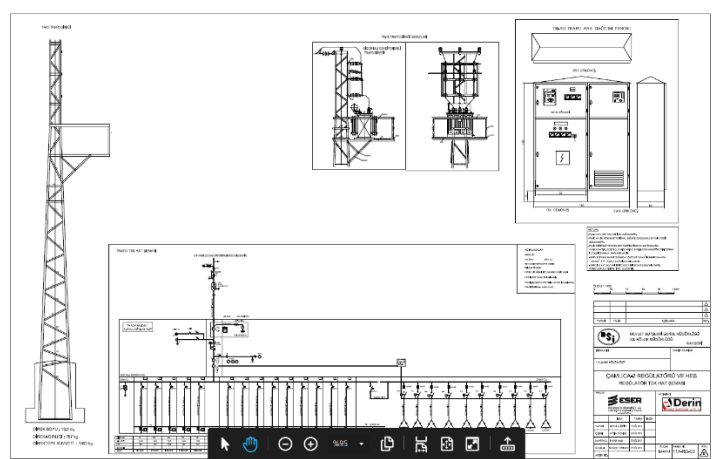
<sup>10</sup> Please see Meter Replacement Protocol

<sup>11</sup> <https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=6381&MevzuatTur=7&MevzuatTertip=5>

### Table 7 Meter Properties

|                                           |                                                 |
|-------------------------------------------|-------------------------------------------------|
|                                           | <b>Çamlıca II HEPP</b>                          |
| <b>Brand</b>                              | EMH                                             |
| <b>Model</b>                              | LZQJ-XC                                         |
| <b>Standard/Class</b>                     | 0.5s                                            |
| <b>Serial Number</b>                      | 10773495 (Main Meter)<br>10773496 (Spare Meter) |
| <b>First Index /<br/>Calibration Date</b> | 15 March 2021 <sup>12</sup>                     |
| <b>Testing of the meters</b>              | 29 March 2022 <sup>13</sup>                     |

Single line diagram of the project is below:



<sup>12</sup> Please refer to Meter Replacement - First Index Protocol

<sup>13</sup> Please refer to Test Report for the electricity meters

## SECTION D. DATA AND PARAMETERS

### D.1. Data and parameters fixed ex ante or at renewal of crediting period SDG13

|                  |                                                                                                                                                                                                                                                            |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data/parameter   | $EF_{CM, y}$                                                                                                                                                                                                                                               |
| Unit             | tCO <sub>2</sub> /MWh                                                                                                                                                                                                                                      |
| Description      | Combined margin CO <sub>2</sub> emission factor for the project electricity system in year y                                                                                                                                                               |
| Source of data   | Ministry of Energy and Natural Resources, OM & BM values <sup>14</sup>                                                                                                                                                                                     |
| Value(s) applied | <p>CM = (BM × 0.75) + (OM × 0.25)</p> <p>As given by the Ministry of Energy and Natural Resources, built margin is 0.4153 and operating margin is 0.7258.</p> <p><math>(0.4153 \times 0.75) + (0.7258 \times 0.25) = 0.4929</math> tCO<sub>2</sub>/MWh</p> |

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Document in .pdf is also provided:  
<https://enerji.gov.tr//Media/Dizin/EVCD/tr/%C3%87evreVe%C4%B0klm/%C4%B0klmDe%C4%9Fi%C5%9Fikl%C4%9Fi/T%C3%BCrkiyeUlusalElektrik%C5%9EebekesiEmisyonFakt%C3%B6r%C3%BC/Belgeler/EK-2.pdf>

|                                                      |                                                                                                       |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Choice of data or Measurement methods and procedures | The coefficients are taken as 0.75 and 0.25 for BM and OM, respectively according to the methodology. |
| Purpose of data                                      | To calculate baseline emission                                                                        |
| Additional comment                                   |                                                                                                       |

## D.2 Data and parameters monitored

### SDG 7

| Data / Parameter                                     | $EG_{PJ,grid,y}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                        |                                                    |        |                                                      |        |                                            |               |                                                    |               |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------|----------------------------------------------------|--------|------------------------------------------------------|--------|--------------------------------------------|---------------|----------------------------------------------------|---------------|
| Unit                                                 | MWh/yr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                        |                                                    |        |                                                      |        |                                            |               |                                                    |               |
| Description                                          | Quantity of electricity generated and supplied by the project power plant to the consumers/electricity consuming facility i in year y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                        |                                                    |        |                                                      |        |                                            |               |                                                    |               |
| Source of data                                       | Electricity meter(s) and EPIAS records will be used                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                        |                                                    |        |                                                      |        |                                            |               |                                                    |               |
| Value(s) applied                                     | <table border="1"> <thead> <tr> <th></th><th><math>EG_{PJ,grid,y}</math> (MWh)</th></tr> </thead> <tbody> <tr> <td><b>2022</b><br/><b>01 January 22-31 December 22</b></td><td>32,877</td></tr> <tr> <td><b>2023</b><br/><b>01 January 23 - 01 December 23</b></td><td>29,130</td></tr> <tr> <td><b>Total EG for this monitoring period</b></td><td><b>62,007</b></td></tr> <tr> <td><b>EG for per annum for this monitoring period</b></td><td><b>31,003</b></td></tr> </tbody> </table> <p>Total EG for this monitoring period is calculated to be 62,007 MWh. The EG per annum is found out to be 31,003 MWh.</p> |  | $EG_{PJ,grid,y}$ (MWh) | <b>2022</b><br><b>01 January 22-31 December 22</b> | 32,877 | <b>2023</b><br><b>01 January 23 - 01 December 23</b> | 29,130 | <b>Total EG for this monitoring period</b> | <b>62,007</b> | <b>EG for per annum for this monitoring period</b> | <b>31,003</b> |
|                                                      | $EG_{PJ,grid,y}$ (MWh)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                        |                                                    |        |                                                      |        |                                            |               |                                                    |               |
| <b>2022</b><br><b>01 January 22-31 December 22</b>   | 32,877                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                        |                                                    |        |                                                      |        |                                            |               |                                                    |               |
| <b>2023</b><br><b>01 January 23 - 01 December 23</b> | 29,130                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                        |                                                    |        |                                                      |        |                                            |               |                                                    |               |
| <b>Total EG for this monitoring period</b>           | <b>62,007</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                        |                                                    |        |                                                      |        |                                            |               |                                                    |               |
| <b>EG for per annum for this monitoring period</b>   | <b>31,003</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                        |                                                    |        |                                                      |        |                                            |               |                                                    |               |
| Measurement methods and procedures                   | EPIAS (which is one of the TEIAS association) records will be used for $EG_{PJ,grid,y}$ calculation. Records taken by metering devices will be used for cross-check purposes.                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                        |                                                    |        |                                                      |        |                                            |               |                                                    |               |
| Monitoring frequency                                 | Continuous measurement and at least monthly recording                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                        |                                                    |        |                                                      |        |                                            |               |                                                    |               |
| QA/QC procedures                                     | Two calibrated meters are back up each other. Maintenance and calibration of the metering devices are                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                        |                                                    |        |                                                      |        |                                            |               |                                                    |               |

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    | <p>made by TEIAS. If there is a noticeable difference between the readings of two devices, maintenance and tests of the metering devices and the associated equipment is done before waiting for the periodical maintenance.</p> <p>The meters also comply with EPDK regulations which define the accuracy class of the meters as 0.2 or 0.5 depending on the capacity of the circuit as given in document in link (<a href="http://www.epdk.gov.tr/web/elektrik-piyasasi-dairesi/44">http://www.epdk.gov.tr/web/elektrik-piyasasi-dairesi/44</a>) As per the regulations, calibration is valid for 10 years<sup>15</sup>. The testing of the meters are carried out once every two years<sup>16</sup>.</p> |
| Purpose of data    | To calculate the baseline emission value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Additional comment | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## SDG 13

|                  |                                                                                                                                                                                                                               |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter | Emissions Reductions in tCO2                                                                                                                                                                                                  |
| Unit             | tCO2                                                                                                                                                                                                                          |
| Description      | Reduction of CO2 emissions due to implementation of project activity                                                                                                                                                          |
| Source of data   | Electricity generated by the project and Turkey's national electricity grid emission factor which is provided by Ministry of Energy and Natural Resources will be used as reference in calculation of the emission reduction. |

<sup>15</sup> <http://www.resmigazete.gov.tr/eskiler/2008/08/20080807-3.htm>

<sup>16</sup> <https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=6381&MevzuatTur=7&MevzuatTertip=5>

|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Value(s) applied                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                                    | <b>ER (tCO<sub>2</sub>)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                                    | <b>2022</b><br><b>01 January 22-31 December 22</b> 16,205.00                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                    | <b>2023</b><br><b>01 January 23 - 01 December 23</b> 14,358.00                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                    | <b>Net Emission Reduciton (tCO<sub>2</sub>)</b> <b>30,563.00</b>                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                                    | <b>ER per annum (tCO<sub>2</sub>)</b> <b>15,281.00</b>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                    | For this monitoring period, net ER is calculated to be 30,563.00 tCO <sub>2</sub> which corresponds to 15,281.00 tCO <sub>2</sub> ER per annum.                                                                                                                                                                                                                                                                                                                                        |
| Measurement methods and procedures | The project will contribute to “Emissions Reductions or Removals and/or Adaptation to Climate Change” by reducing CO <sub>2</sub> emissions caused by fossil fuel-fired power plants that are displaced due to the project activity, in line with GS4GG principles. The Project will contribute to SDG Target 13.3 through an expected amount of 30,563.00 tonnes of CO <sub>2</sub> e for this monitoring period, which represent direct and quantifiable impact on climate security. |
| Monitoring frequency               | Continuous measuring, monthly recording                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| QA/QC procedures                   | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Purpose of data                    | To calculate the baseline emission value; and also to monitor the contribution to SDG 13 (Take urgent action to combat climate change and its impacts)                                                                                                                                                                                                                                                                                                                                 |
| Additional comment                 | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

|                  |                                                                                                                                          |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter | APJ                                                                                                                                      |
| Unit             | m <sup>2</sup>                                                                                                                           |
| 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 & maps & satellite data                                                                                                     |

|                                    |                                                                                                                                                             |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Value(s) applied                   | 7,903 m <sup>2</sup>                                                                                                                                        |
| Measurement methods and procedures | Measured from topographical surveys or maps                                                                                                                 |
| Monitoring frequency               | Once in each monitoring period                                                                                                                              |
| QA/QC procedures                   | -                                                                                                                                                           |
| Purpose of data                    | Maximum area is already calculated in feasibility report and considered in calculations. Annual measurements are not expected to be higher than this value. |
| Additional comment                 | -                                                                                                                                                           |

## SDG 8

|                                    |                                               |
|------------------------------------|-----------------------------------------------|
| Data / Parameter                   | Quantitative employment and income generation |
| Unit                               | Number of employed staff                      |
| Description                        | Creating job opportunities                    |
| Source of data                     | Social Security Records                       |
| Value(s) applied                   | 12 people are employed.                       |
| Measurement methods and procedures | -                                             |
| Monitoring frequency               | Annually                                      |
| QA/QC procedures                   | -                                             |
| Purpose of data                    | To monitor the contribution to SDG 8          |
| Additional comment                 | -                                             |

|                  |                                                                                                               |
|------------------|---------------------------------------------------------------------------------------------------------------|
| Data / Parameter | Qualitative employment                                                                                        |
| Unit             | Number of trainings provided                                                                                  |
| Description      | The project owner will give HSE trainings and/or vocational trainings (when needed)                           |
| Source of data   | Training records, attendance lists and/or certificates                                                        |
| Value(s) applied | The staff was given H&S training during the monitoring period as shown in participation documents provided by |

|                                    |                                                                                                                                 |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
|                                    | the project owner. <sup>17</sup> 12 people from the staff was given a 16-hour H&S training according to the documents provided. |
| Measurement methods and procedures | Training records, attendance lists and/or certifications will be evaluated.                                                     |
| Monitoring frequency               | Annually                                                                                                                        |
| QA/QC procedures                   | -                                                                                                                               |
| Purpose of data                    | To assess the contribution to Principle 3                                                                                       |
| Additional comment                 | -                                                                                                                               |

### D.3. Comparison of monitored parameters with last monitoring period

| Data/Parameter               | Value obtained in this monitoring period (01/01/22 – 31/12/23) | Value obtained last monitoring period (01/06/2019 – 31/12/2021) |
|------------------------------|----------------------------------------------------------------|-----------------------------------------------------------------|
| Net Electricity Generation   | 62,007 MWh                                                     | 126,515 MWh                                                     |
| EG <sub>PJ,grid,y</sub>      | 31.003 MWh/y                                                   | 48,974 MWh/y                                                    |
| Emission Reduction           | 30,563.00 tCO <sub>2</sub>                                     | 69,836 tCO <sub>2</sub>                                         |
| ER                           | 15,281.50 tCO <sub>2</sub> /y                                  | 27,033 tCO <sub>2</sub> /y                                      |
| Reservoir Area               | 7,903 m <sup>2</sup>                                           | 6,776 m <sup>2</sup>                                            |
| A <sub>PJ</sub>              |                                                                |                                                                 |
| Number of employees (people) | 12                                                             | 12                                                              |
| Number of trainings provided | H&S training is given (2022) H&S training is given (2019)      |                                                                 |

### D.4. Implementation of sampling plan

N/A

<sup>17</sup> Training certificates given to the staff (Personeler Verilen Eğitim Sertifikaları 2022)

## SECTION E. CALCULATION OF SDG IMPACTS

### E.1. Calculation of baseline value or estimation of baseline situation of each SDG Impact

#### SDG 7: Affordable and Clean Energy

There is no clean energy generation for baseline situation of the project site. No natural gas would be avoided in “no project” case.

#### SDG 8: Decent Work and Economic Growth

There is no employment opportunity as project created within the project area and nearby settlements for baseline situation.

#### SDG 13: Climate Action

There is no similar activity to combat with climate change on project site and nearby area for baseline situation.

### Baseline emissions

Baseline emission is calculated according to the formula

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

Where:

EG<sub>y</sub> = Net electricity delivered to the grid by the project activity in year y excluding transmission losses of the grid. Which is calculated by subtracting internal consumption from the gross electricity generation. (Gross electricity generation – Internal consumption = Net electricity delivered to grid)

EF<sub>y</sub> = Emission factor calculated according to selected methodology. Emission factor has been calculated ex-ante in PDD which is also used in calculating the baseline emissions. EF value used is 0.4929 tCO<sub>2</sub>/MWh.

As it can be seen detail in excel spread sheet used for calculations.

|                                                          | Gross Generation (MWh) | Internal Consumption (MWh) | Net Generation (MWh) |
|----------------------------------------------------------|------------------------|----------------------------|----------------------|
| <b>2022</b><br><b>01 January 2022 – 31 December 2022</b> | 32,942                 | 65.00                      | 32,877               |
| <b>2023</b><br><b>01 January 2023 – 31 December 2023</b> | 29,199                 | 69.49                      | 29,130               |
| <b>Total</b>                                             | 62,141                 | 134.49                     | 62,007               |

Realized baseline emissions are calculated as follows:

$$EG_y = 62,007 \text{ MWh}$$

$$EF_{\text{grid,CM,y}} = 0.4929 \text{ tCO}_2/\text{MWh}$$

$$BE_y = (62,007 \text{ MWh}) \times (0.4929 \text{ tCO}_2/\text{MWh}) = 30,563.00 \text{ tCO}_2\text{e}$$

Vintage wise breakdown is;

|                                                          |                  |
|----------------------------------------------------------|------------------|
| Net Emission Reduction in 2022                           | 16,205.00        |
| Net Emission Reduction in 2023                           | 14,358.00        |
| <b>Total Emission Reduction during Monitoring Period</b> | <b>30,563.00</b> |

## E.2. Calculation of project value or estimation of project situation of each SDG Impact

### SDG 7: Affordable and Clean Energy

The project has generated 62,007 MWh clean electricity for this monitoring period while it is calculated as 179,116 MWh per annum.

### SDG 8: Decent Work and Economic Growth

The project has created 12 employment opportunities.

### SDG 13: Climate Action

The project has mitigated 30,563 tCO<sub>2</sub> in this monitoring period

The UNFCCC approved simplified baseline and monitoring ACM0002, version 20.0. ACM0002 refers to the following tools:

- Tool to calculate the emission factor for an electricity system, Version 07.0
- 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

The proposed project activity involves the generation of electricity by a hydroelectric power plant which has power density higher than 10 W/m<sup>2</sup> therefore emissions from reservoir is ignored as per the applied methodology.

Details of the PD calculation are below.

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

$$PD = \text{Cap}_{PJ} - \text{Cap}_{BL}$$

$$A_{PJ} - A_{BL}$$

Where:

PD = Power density of the project activity (W/m<sup>2</sup>)

Cap<sub>PJ</sub> = Installed capacity of the hydro power plant after the implementation of the project activity (W)

Cap<sub>BL</sub> = 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<sub>PJ</sub> = Area of the reservoir measured in the surface of the water, after the implementation of the project activity, when the reservoir is full (m<sup>2</sup>)

A<sub>BL</sub> = Area of the reservoir measured in the surface of the water, before the implementation of the project activity, when the reservoir is full (m<sup>2</sup>). For new reservoirs, this value is zero.

Although about half of the reservoir area is already river bed, A<sub>BL</sub> has been assumed as zero. A<sub>PJ</sub> had been estimated as 6776 m<sup>2</sup> in the as per the reservoir map

For proposed project HEPP,

Cap<sub>PJ</sub> = 17,580,000 W

Cap<sub>BL</sub> = 0.0 W

A<sub>PJ</sub> = 7,903 (m<sup>2</sup>)<sup>18</sup>

A<sub>BL</sub> = 0.0 (m<sup>2</sup>)

Therefore, PD is calculated as;

$$PD = \frac{17,580,000 - 0}{7,903 - 0}$$

$$PD = \sim 2,224 \text{ W/m}^2$$

Since 2,224 W/m<sup>2</sup> is far greater than 10 W/ m<sup>2</sup>, project emissions are considered 0.

---

<sup>18</sup> Measured from satellite maps and using Google Earth

### E.3. Calculation of leakage

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, transport). These emissions sources are neglected.

Also, the energy generating equipment is not transferred from or to another activity. Therefore, leakage is considered as "0".

### E.4. Calculation of net benefits or direct calculation for each SDG Impact

| SDG | SDG Impact                         | Baseline estimate  | Project estimate           | Net benefit                |
|-----|------------------------------------|--------------------|----------------------------|----------------------------|
| 13  | CO <sub>2</sub> emission reduction | 0 tCO <sub>2</sub> | 30,563.00 tCO <sub>2</sub> | 30,563.00 tCO <sub>2</sub> |
| 7   | Production of clean energy         | 0 MWh              | 62,007 MWh                 | 62,007 MWh                 |
| 8   | Creating employment opportunities  | No employment      | 12 employments             | 12 employments             |

### E.5. Comparison of actual SDG Impacts with estimates in approved PDD

| SDG | Values estimated in ex ante calculation of approved PDD for this monitoring period | Actual values achieved during this monitoring period |
|-----|------------------------------------------------------------------------------------|------------------------------------------------------|
| 13  | 88,290 tCO <sub>2</sub>                                                            | 30,563.00 tCO <sub>2</sub>                           |
| 7   | 179,116 MWh                                                                        | 62,007 MWh                                           |
| 8   | At least 11 people                                                                 | 12 employments                                       |

E.5.1. Explanation of calculation of value estimated ex ante calculation of approved PDD for this monitoring period

Average yearly emission reductions have been calculated by proportioning expected annual generation to the months included by this monitoring period. Average yearly

emission reduction has been multiplied by monitoring period (in months) to calculate estimated emission reduction.

(Expected annual generation x emission factor) x (months included / 12)

#### E.6. Remarks on increase in achieved SDG Impacts from estimated value in approved PDD

Ex-ante emission reduction was calculated as 88,290 tCO<sub>2</sub> for this monitoring period while actual reductions was found as 30,563.00 tCO<sub>2</sub> for this monitoring period. Therefore, 65% difference occurred between ex-ante and actual emission reductions. On the other hand, the total electricity generation is 62,007 MWh while it would be 179,116 MWh according to PDD. The same percent difference of 65% occurred in electricity generation.

For each vintage, the actual and the estimated generations are provided below:

Table 8 Ex-ante vs. actual ER and EG

|              | Electricity Generation |               | Emission Reduction |                  | % difference |
|--------------|------------------------|---------------|--------------------|------------------|--------------|
|              | Ex-ante Estimation     | Actual        | Ex-ante Estimation | Actual           |              |
| <b>2022</b>  | 89,558                 | 32,877        | 44,145             | 16,205.00        | 65%          |
| <b>2023</b>  | 89,558                 | 29,130        | 44,145             | 14,358.00        | 65%          |
| <b>Total</b> | <b>179,116</b>         | <b>62,007</b> | <b>88,290</b>      | <b>30,563.00</b> | 65%          |

Both actual electricity generation and actual emission reduction values are lower than the estimated values. The value in the registered PDD is calculated ex-ante for duration of one complete year and assuming a certain incoming flow rate. Since the project is a HEPP, seasonal effects are significant on the monthly generation rates.

According to 2022 Precipitation Evaluation Report issued by Directorate General of Meteorology<sup>19</sup>, in Turkey the precipitation has decreased by 12% compared to normal

<sup>19</sup> <https://www.mgm.gov.tr/FILES/arastirma/yagis-degerlendirme/2022AlansalYagisDegerlendirmesi.pdf> Please see MGM 2022 Water Year Areal Rainfall Assessment Report shared with VVB

precipitation figures. The number of rainy days for the Seyhan Basin, where the project reside in, has decreased by 9% according to the mentioned report. Similarly for the year 2023<sup>20</sup>, the areal precipitation for the Seyhan Basin has decreased by almost 20%.

The change in amount of water used for electricity generation in upstream HEPP Bahçelik DAM and HEPP is shown by the Figure below<sup>21</sup>. As it can be seen from the year 2013 to 2022 the water amount decreased by almost 40%.

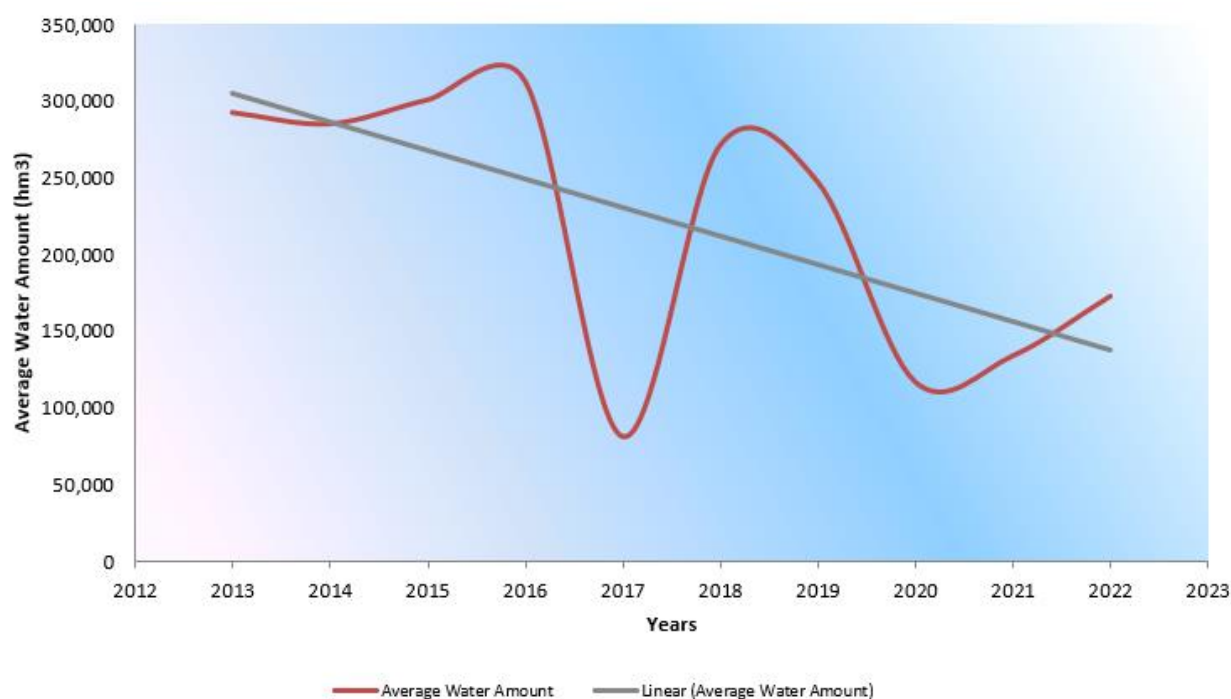


Figure 4 The change in water amount used for electricity generation through the years 2012 – 2023 (Bahçelik DAM and HEPP)

Other than weather conditions, there are two HEPP projects upstream of the Çamlıca II HEPP. One is Çamlıca I HEPP and the other one with a reservoir is Bahçelik Dam and HEPP. In this regard, the water released from Çamlıca I HEPP to the tailwater reaches

<sup>20</sup> <https://www.mgm.gov.tr/FILES/arastirma/yagis-degerlendirme/2023AlansalYagisDegerlendirmesi.pdf> Please see MGM 2023 Water Year Areal Rainfall Assessment Report shared with VVB

<sup>21</sup> The records are shared with VVB. Please see the file Çamlıca II HEPP Water Records

Çamlıca II HEPP. On the upstream of the Çamlıca I HEPP there is Bahçelik Dam and HEPP. Bahçelik Dam has a reservoir, and it is used for both electricity generation and agricultural irrigation<sup>22</sup>. It should be mentioned that there are various irrigation and pond projects that retain water from Bahçelik Dam to Çamlıca II HEPP.

Already for agricultural activities the water is withdrawn and since there is a reservoir, the effect of evaporation also has a role in the amount of water released to the downstream HEPPs. In this sense, one can say that Çamlıca II HEPP does not have much control over the water amount it is receiving to generate electricity.

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<sup>22</sup> <https://moluenerji.com.tr/bahcelik-hes/>

## SECTION F. SAFEGUARDS REPORTING

|                                                      |                                                                                                                                                                                                                                           |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Relevant SDG Indicator/Safeguarding Principle</b> | Principle 9.4 Release of Pollutants                                                                                                                                                                                                       |
| <b>Data / Parameter</b>                              | Water Quality and Quantity                                                                                                                                                                                                                |
| <b>Unit</b>                                          | -                                                                                                                                                                                                                                         |
| <b>Description</b>                                   | Wastewater will be collected in a septic tank and then transported to a treatment plant where it will be treated according to guidelines and national regulations.                                                                        |
| <b>Source of data</b>                                | Assessing collection methods during site visits and checking wastewater disposal records.                                                                                                                                                 |
| <b>Value(s) applied</b>                              | In this monitoring period, wastewater had been disposed of as required by the Law on Water Pollution Control <sup>23</sup><br><br>Invoice (dated 2023 January) for septic tank discharge has been shared with VVB as supporting document. |
| <b>Measurement methods and procedures</b>            | Domestic wastewater generated at the project site is handled according to the national regulations on handling domestic waste                                                                                                             |
| <b>Monitoring frequency</b>                          | Frequently                                                                                                                                                                                                                                |
| <b>QA/QC procedures</b>                              | Operation is in line with national regulations                                                                                                                                                                                            |
| <b>Purpose of data</b>                               | To monitor the contribution to Principle 9.4                                                                                                                                                                                              |
| <b>Additional comment</b>                            | -                                                                                                                                                                                                                                         |

|                                                      |                                                                                                                         |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>Relevant SDG Indicator/Safeguarding Principle</b> | Principle 9.4 Release of Pollutants                                                                                     |
| <b>Data / Parameter</b>                              | Water Quality and Quantity                                                                                              |
| <b>Unit</b>                                          | -                                                                                                                       |
| <b>Description</b>                                   | Amount of water released as minimum flow                                                                                |
| <b>Source of data</b>                                | Records taken by accredited firm/organization who is approved by The General Directorate of State Hydraulic Works (DSI) |

<sup>23</sup> Environmental and Social Impact Assessment of Uluborlu WWP, 2014, Isparta Turkey, page 59, 177

|                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Value(s) applied</b>                   | <p>According to Water Utilization Agreement with the Directorate, the amount of minimum water at least should be the 10% of the last 10 years' average flow. The mentioned Water Utilization Agreement is shared with VVB as well<sup>24</sup>.</p> <p>And according to Water Utilization Agreement item 4, only Directorate can make changes on the water utilization plan considering changing conditions within the basin i.e., change in hydrological data recorded in the basin. The mentioned changes on the agreement can be done 20 years after the year Water Utilization Agreement signed. So, one can say that the minimum flow is applicable for 20 years after the year Water Utilization Agreement signed.</p> <p>Although the water amount has decreased by 40% (as shown under Section E.6, for upstream Bahçelik Dam and HEPP), the level determined for the minimum flow did not change. The minimum flow is measured instantly and followed by General Directorate of State Hydraulic Works. As per the water utilization agreement, the PO must follow the requirements stated in the agreement. The flow records are signed by both Directorate's personnel and the PO, and there aren't any inconveniences between Directorate and the PO during this monitoring period.</p> <p>The minimum flow records taken by General Directorate of State Hydraulic Works' personnel are shared with VVB<sup>25</sup>.</p> |
| <b>Measurement methods and procedures</b> | <p>Flow is monitored continuously and recorded by the gauging device. Records are kept by the Project Owner. The minimum flow is measured instantly and followed by General Directorate of State Hydraulic Works.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Monitoring frequency</b>               | Continuous                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

<sup>24</sup> Please see DSI Water Utilization Agreement page 2 item 4

<sup>25</sup> Please see the DSI Minimum Water Records

|                           |                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| <b>QA/QC procedures</b>   | Records taken by accredited firm/organization which are approved by The General Directorate of State Hydraulic Works (DSI). |
| <b>Purpose of data</b>    | To monitor the contribution to Principle 9.4                                                                                |
| <b>Additional comment</b> | -                                                                                                                           |

|                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Relevant SDG Indicator/Safeguarding Principle</b> | Principle 9.5 Hazardous and Non-hazardous Waste                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Data / Parameter</b>                              | Other Pollutants                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Unit</b>                                          | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Description</b>                                   | Proper management of hazardous and non-hazardous wastes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Source of data</b>                                | Assessing disposal methods during site visits and checking waste oil disposal records.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Value(s) applied</b>                              | <p>In 2022, 10 kg contaminated packages, 10 kg contaminated filter materials, cleaning cloths and protective gear and 3 kg of fluorescent lamps and other materials with mercury were collected to dispose in accordance with the relevant regulations. Waste declaration form for the year 2022 is shared with VVB as a supporting document.</p> <p>In 2023, 20 kg contaminated packages, 10 kg contaminated filter materials, cleaning cloths and protective gear and 1 kg of fluorescent lamps and other materials with mercury were collected to dispose in accordance with the relevant regulations. Waste declaration form for the year 2023 is shared with VVB as a supporting document.</p> <p>As it can be seen from the waste declaration forms the hazardous wastes are collected properly in line with the relevant regulation and disposed via accredited abatement companies.</p> |
| <b>Measurement methods and procedures</b>            | Waste declaration forms show the hazardous wastes are collected properly in line with the relevant regulation and disposed via accredited abatement companies.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Monitoring frequency</b>                          | Annually                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>QA/QC procedures</b>                              | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Purpose of data</b>                               | To monitor the contribution to Principle 4.3.5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Additional comment</b>                            | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

## SECTION G. STAKEHOLDER INPUTS AND LEGAL DISPUTES

### **G.1. List all Inputs and Grievances which have been received via the Continuous Input and Grievance Mechanism together with their respective responses/mitigations.**

There is no problem with the project owner and local stakeholders in terms of project implementation. During this monitoring period, no grievances were received. Four pages of grievance book is shared with VVB as a supporting document. The logbooks are also present at Yesilkoy Neighborhood village heads' office and Camlica Neighborhood village head's office.

### **G.2. Report on any stakeholder mitigations that were agreed to be monitored.**

No such demand was made in this monitoring period.

### **G.3. Provide details of any legal contest that has arisen with the project during the monitoring period**

No legal contest had arisen with the project in this monitoring period.

## Revision History

| Version | Date            | Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.1     | 14 October 2020 | <p>Hyperlinked section summary to enable quick access to key sections</p> <p>Improved clarity on Key Project Information</p> <p>Section for POA monitoring</p> <p>Forward action request section</p> <p>Improved Clarity on SDG contribution/SDG Impact term used throughout</p> <p>Clarity on safeguard reporting</p> <p>Clarity on design changes</p> <p>Leakage section added for VER/CER projects</p> <p>Addition of Comparison of monitored parameters with last monitoring period</p> <p>Provision of an <a href="#">accompanying Guide</a> to help the user understand detailed rules and requirements</p> |
| 1.0     | 10 July 2017    | Initial adoption                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |