



ISO 14064-1:2018 Verification Report

Revision 0

INSTITUTE

**Zorlu Enerji
Elektrik Üretim A.Ş.**

Report Author

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ISO 14064-1:2018 Verification Statement

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Lead Verifier	Okay Kayhanlı		
Verifier/s	Baycan Taşdelen		
Indipendent Reviewer	Bengi Çiftçi		
Statement No	SG-GNL-7501/2022		
Statement Date	11.07.2023		

Scope	Electricity production
Verification Period	01.01.2022 – 31.12.2022
Emissions Report Date	08.06.2023
Verification Criteria	ISO 14064-1:2018, ISO 14064-3:2019
The Aim & Scope of the Verification	Independently and objectively monitoring the compliance of the emissions, directly and indirectly controlled by the establishment, with the requirements of the greenhouse gas reporting standard EN ISO 14064-1:2018
Method Used	Based on Calculation
Consolidate Methode	<input checked="" type="checkbox"/> Operational Control <input type="checkbox"/> Financial Control <input type="checkbox"/> Equity Share
Level of Assurance & Materiality	<input checked="" type="checkbox"/> Verified at Reasonable Assurance Level (5%) <input type="checkbox"/> Verified at Limited Assurance Level
Evaluation by Verification Criteria	The evaluation made by the verification team suggests that the greenhouse gas report meets the verification criteria.
Verification Result	QSI confirms that the greenhouse gas statement report of the organization is prepared in accordance with the requirements of EN ISO 14064-1 for the above-mentioned verification period according to EN ISO 14064-3 standard & ISO 17029:2019 and ISO 14065:2020 principles.

1- Organisational Boundaries

- Bursa Doğalgaz Santrali / Organize Sanayi Bölgesi, Nilüfer, Bursa
- Lüleburgaz Doğalgaz Santrali / Yeni Mah. Büyükkarıştıran, Lüleburgaz, Kırklareli

2- Reporting Boundaries

The organization has developed a risk-based method to determine indirect greenhouse gas emissions by importance criteria.

For indirect emissions in the less important category, they are included in the calculation if sufficient data is available.

Following the materiality analysis made by the organization, the following emissions have been taken into account.

Bursa:

1- Direct greenhouse gas emissions and removals

- 1.1- Stationary combustion
- 1.2- Mobile Combustion / on-road
- 1.3- Mobile Combustion / off-road
- 1.4- Emission Leaks - Gases

2 - Indirect greenhouse gas emissions from imported energy;

- * Electricity consumption

3 - Indirect greenhouse gas emissions from transport;

- 3.3- Employee commuting to and from work
- 3-4 & 3-5- Business travel by clients and employees

Lüleburgaz:

- 1- Direct greenhouse gas emissions and removals
 - 1.1- Stationary combustion
 - 1.2- Mobile Combustion / on-road
 - 1.3- Mobile Combustion / off-road
 - 1.4- Emission Leaks - Gases
 - 1.4- Use of limestone
- 2 - Indirect greenhouse gas emissions from imported energy;
 - * Electricity consumption
- 3 - Indirect greenhouse gas emissions from transport;
 - 3.1- Transport of purchased products/capital good
 - 3.3- Employee commuting to and from work
 - 3-4 & 3-5- Business travel by clients and employees
- 4 - Indirect greenhouse gas emissions from products used by the organization;
 - 4.1- Production of purchased products/raw materials
 - 4.4- Purchased capital goods
 - 4.5- Supply of purchased energy
 - 4.6- Transport and disposal of waste from the operation

3- Exclusions from Reporting Boundary

During the verification, Category 5 was not calculated due to the fact that the company operates in the service sector, and Category 6 was not calculated because there was no other emission sources.

4- NCN's

There were no outstanding nonconformities.

5- Verification Explanation

The purpose of the verification is to establish a reasonable trust level opinion on the above-mentioned greenhouse gas statements, including:

- a)** Compliance with the requirements of TS EN ISO 14064-1 standard,
- b)** The acceptability of the calculated emissions.

The verification activities are based on TS EN ISO 14064-3:2019. In this context, the following verification activities were carried out;

- Reviewing of documentation, controls and methods, including other verification reports,
- Preparation of the risk assessment and verification plan,
- Evaluation of greenhouse gas information management, documentation, records, controls and methods of the organization,
- Documentation of verification findings and observations in the verification report,
- Assessment and documentation of non-conformities and reconciliations of observations in the verification report,
- Preparing the verification statement and completing the verification.

During the verification process, a risk assessment was made, a sample plan and a verification plan were created, and within the framework of this planning, documents were reviewed and site visits were made for the following purposes;

- Selection and management of greenhouse gas information and data,
- Processes for collecting, processing, combining and reporting greenhouse gas information and data,
- Processes and systems created for the accuracy of greenhouse gas information and data,
- Studies conducted to design and maintain the greenhouse gas information system,
- Systems and processes that ensure the continuity of the greenhouse gas information system,
- Other systems supporting greenhouse gas information system
- Results of previous evaluations, if available and applicable

Findings determined during the document review and site visit were presented to the organization with the Greenhouse Gas Verification Correction Table. The purpose of presenting the verification findings is to agree on the greenhouse gas statement and to identify the issues that need to be clarified.

Correction actions (CA) have been reported and adjusted within the reporting period.

In addition, the verification team requested an explanation from the organization in cases where there was not enough or enough clear information to decide that the report meets the requirements of TS EN ISO 14064-1:2018.

The responses sent by the organization regarding the explanation and correction activities were evaluated and it was determined that the deficiencies that required explanation and correction were corrected.

The verification activity results and the verification report were subjected to a technical review and approved by the technical reviewer.

6- Greenhouse Gas Information System and Control

In order to carry out the greenhouse gas information system and controls by the organization, a document system that explains how to document and archive including information management system activities consistent with the intended use of the greenhouse gas statement, which ensures the accuracy and completeness of the greenhouse gas statement and complies with the relevant principles of EN ISO 14064-1:2018 has been prepared.

Data collection, processing and reporting processes have been verified by field audits.

7- Methodology

The calculation methodology is stated as multiplying the activity data by the emission factor.

TIER-1 is accepted in the calculation methods. However, TIER 2 approach is applied in electricity emission calculations.

Emission factors are compiled from IPCC and DEFRA 2022. The electricity emission factor was compiled from national inventory. Emission factors for indirect emissions, and intensity and sub-thermal values are compiled from internationally recognized sources.

Greenhouse gases covered include the seven (7) greenhouse gases covered by the Kyoto Protocol ISO 14064-1:2018, which are;

CO₂ carbon dioxide, CH₄ methane, N₂O nitrous oxide, NF₃ nitrogen trifluorid, HFCs hydrofluorocarbons, PFCs perfluorocarbons, SF₆ sulphur hexafluoride.

8- Evaluation of GHG Statement

The evidences obtained in the evaluation of the controls are sufficient according to the greenhouse gas data, information and the criteria of the current greenhouse gas program and support the greenhouse gas statement.

Total GHG Emissions : **150,628.00** t CO₂ eq

Direct Emissions

Category 1- Direct Emissions : 124,820.88 t CO₂ eq

Indirect Emissions

Category 2- Emissions from imported energy : 2,909.76 t CO₂ eq

Category 3- Emissions from transportation : 872.25 t CO₂ eq

Category 4- Emissions from products / service used : 22,025.09 t CO₂ eq

Category 5- Emissions from associated with the use of the product / service : Nil t CO₂ eq

Category 6- Other : Nil t CO₂ eq

Anthropogenic biogenic GHG emission

Biogenic Emissions : Nil t CO₂ eq

FACILITIES

Categories	Lüleburgaz t CO ₂ eq	Bursa t CO ₂ eq	Total t CO ₂ eq
Category 1	124,779.38	41.50	124,820.88
Category 2	2,840.11	69.64	2,909.76
Category 3	850.67	21.58	872.25
Category 4	22,025.09		22,025.09
Total	150,495.25	133.72	150,628

Approving The Report on Behalf Of QSI

Okay KAYHANLI

General Manager

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Greenhouse Gas Verification Statement

The inventory of Greenhouse Gas emissions of

Zorlu Enerji Elektrik Uretim A.S.

Organizational Boundaries

Pembe Cad. No:13 Organize San. Bol. Nilufer/Bursa 16110 Turkey
Yeni Mah. D-100 Karayolu 17/F Büyükkarıştırın/Lüleburgaz/KIRKLARELİ

has been verified in accordance with ISO 14064-3:2019 as meeting the requirements of

ISO 14064-1:2018

Direct GHG Emissions	: 124,820.88 t of CO ₂ eq
Indirect GHG Emissions from imported energy	: 2,909.76 t of CO ₂ eq
Indirect GHG Emissions from transportation	: 872.25 t of CO ₂ eq
Indirect GHG Emissions from products used by organization	: 22,025.09 t of CO ₂ eq
Indirect GHG Emissions associated with the use of products from the organization	: 0,00 t of CO ₂ eq
Indirect GHG Emissions from other sources	: 0,00 t of CO ₂ eq
Emissions from the combustion of biomass	: Nil
Total GHG Emissions	: 150,628 t of CO₂ eq
Level of Assurance	: Reasonable
Reporting Period	: 01.01.2022 - 31.12.2022
Verification Report Date	: 25.07.2023
Statement No	: SG-GNL-7501 / 2022

Authorized by
Okay Kayhanlı – Director

