

Greenhouse Gas Verification Opinion

The inventory of Greenhouse Gas emissions in year 2023 of

National University of Kaohsiung

No. 700, Gaoxiongda xue Rd., Nanzi Dist., Kaohsiung City, Taiwan

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

ISO 14064-1: 2018

Direct emissions

149.7564 tonnes of CO₂e

Indirect emissions

7,992.9040 tonnes of CO₂e

Direct emissions and indirect emissions

8,142.660 tonnes of CO₂e

Authorized by

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Authorized Agent of CPC Corporation, Taiwan

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【The emission of each category is described as below】

Unit: tCO₂e

Reporting Boundaries		GHG Emissions
Inventory Categories	Description	
Direct emissions (Category 1)	This direct GHG emissions are the sum of owned or controlled by the organization within the organization.	149.7564
Indirect Emissions	Imported Energy (Category 2) Use of electricity under control	5,776.3739
	Transportation (Category 3) 1. Emissions from employee commuting. 2. Emissions from business travel.	562.2858
	Products Used by the Organization (Category 4) 1. Emissions from purchased goods. 2. Emissions from disposal of solid and liquid waste.	1,291.3295
	Associated with the Use of Products from the Organization (Category 5) 1. Emissions from downstream leased assets	362.9148
	Other Sources (Category 6) Other sources	-
Direct emissions and indirect emissions		8,142.660

CPC/GTRI has been contracted by National University of Kaohsiung (hereinafter referred to as "(NUK)"; No. 700, Gaoxiongdaixue Rd., Nanzi Dist., Kaohsiung City, Taiwan), for the verification of direct and indirect Greenhouse Gas emissions in accordance with

ISO 14064-3: 2019

as provided by NUK in the Greenhouse Gas (GHG) Assertion in the form of GHG report covering GHG emissions for the period of 1 January 2023 to 31 December 2023 (hereinafter referred to as "REPORT PERIOD").

<Roles and responsibilities>

The management of NUK is responsible for the organization's GHG information system, the development and maintenance of records and reporting procedures in

accordance with

ISO 14064-3: 2019

as provided by NUK in the Greenhouse Gas (GHG) Assertion in the form of GHG report covering GHG emissions for the period of 1 January 2023 to 31 December 2023 (hereinafter referred to as "REPORT PERIOD").

<Roles and responsibilities>

The management of NUK is responsible for the organization's GHG information system, the development and maintenance of records and reporting procedures in accordance with that system, including the calculation and determination of GHG emissions information and the reported GHG emissions.

It is CPC/GTRI's responsibility to express an independent GHG verification opinion on the GHG emissions as provided by NUK for the REPORT PERIOD.

According to ISO 14064-3: 2019, CPC/GTRI has conducted a third-party verification of the provided GHG statement by NUK against the requirements of ISO 14064-1: 2018 in the period 15 July 2024 to 29 August 2024. The verification is based on the verification scope, objectives and criteria as agreed between NUK and CPC/GTRI on 8 April 2024.

<Level of Assurance>

The level of assurance for category 1 and category 2 agreed is that of reasonable assurance.

Category 3 till category 6 agreed is that of limited assurance.

<Scope>

NUK has commissioned an independent verification by CPC/GTRI in according to ISO 14064-3: 2019 to assure the reported GHG emissions of NUK, in conformance with ISO 14064-1: 2018 requirements within the scope of verification as outlined below. The data and information supporting the GHG statement is historical in nature.

This engagement covers verification of emission from anthropogenic sources of GHG included within the organization's boundary:

- Title or description activities: GHG verification for NUK in year 2023.
- Location/boundary of the activities :
 - No. 700, Gaoxiong daxue Rd., Nanzi Dist., Kaohsiung City, Taiwan
- GHG sources, sinks and/or reservoirs included: Sources as presented in the inventory spreadsheet provided by NUK.
- Types of GHGs included: CO₂、CH₄、N₂O、HFCs、PFCs、SF₆、NF₃
- The IPCC 2021 AR6 GWP values are applied in this inventory.
- Emission factor:
 - Direct emissions: Greenhouse Gas Emission Factor Table (6.0.4), MOENV.
 - Electricity emission factor in 2023 is 0.494 kgCO₂e/kwh (Announced by Energy Administration, Ministry of Economic Affairs, R.O.C.).
- GHG information for the following period was verified: 1 January 2023 to 31 December 2023.
- The version of inventory sheet: 03-溫室氣體排放盤查資料搜集表-國立高雄大學 2023 資料(S2)
- The version of GHG assertion: 2023 國立高雄大學溫室氣體盤查報告書(S2)-送件版 2
- Intended user of the verification statement: voluntary

<Objective>

The purposes of this verification exercise are, by review of objective evidence, to independently review:

- Whether the GHG emissions are as declared by the organization's GHG assertion.
- The data reported are accurate, complete, consistent, transparent and free of material error or omission.

<Criteria>

Criteria against which the verification assessment is undertaken are the principles of ISO 14064-3: 2019.

<Materiality>

The materiality required of the verification is considered by CPC/GTRI to 5%, based on the needs of the intended user of the GHG opinion.

<Conclusion>

NUK provided the GHG statement based on the requirements of ISO 14064-1: 2018. The GHG information for the REPORT PERIOD disclosing emissions of 8,142.660 tCO₂e and 0.000 tCO₂e emissions from the combustion of biomass are verified by GTRI to a reasonable level of assurance, consistent with the agreed verification scope, objectives and criteria.

【The emission of each category is described as below】

Unit: tCO₂e

Reporting Boundaries		GHG Emissions
Inventory Categories	Description	
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	Associated with the Use of Products from the Organization (Category 5)	1. Emissions from downstream leased assets 362.9148
	Other Sources	Other sources -



	(Category 6)	
Direct emissions and indirect emissions		8,142.660

CPC/GTRI conduct this verification with regard to the GHG statement of NUK which includes assessment of GHG information system and reporting plan/protocol. This assessment includes the collection of evidence supporting the reported data, and checking whether the provisions of the protocol reference, are consistently and appropriately applied.

We plan and perform our work to obtain the information, explanations, and evidence that we considered for the REPORT PERIOD,

- The GHG emissions for Categories 1 and 2 disclosed in the Report as summarized in table above are materially correct.
- Nothing has come to our attention that would cause us to believe that the GHG emissions for Category 3~6 disclosed in the Report as summarized in table above is not materially correct.
- The presented GHG statement is prepared in accordance with ISO14064-1: 2018 on GHG quantification, monitoring and reporting.

<Confidentiality>

The reports and attachments may contain relevantly confidential information of the clients. In addition to being submitted as governmental application or certification documents, the reports and attachments are not allowed to be edited, duplicated, or published without the clients' agreement in written form.

<Avoidance of Conflict of Interest>

The reports and attachments are completely complied with the standards and procedures that related authorities established. The reports and attachments of auditing process are conduct with fairness and honesty. If not, the auditing institution not only has to bear the relevant compensation duties, but also to receive legal charge and punishment.

This opinion shall be interpreted with the GHG statement of NUK as a whole.

<Verifier Group>

Above opinions coincide with auditing process with fairness and impartiality and aim at the emission of year 2023 of NUK.

Lead Verifier

Verifier *Pei Chun Lo*



