



Add value.  
Inspire trust.

## VERIFICATION REPORT GREENHOUSE GAS EMISSIONS AND ENERGY CONSUMPTION

Lenovo, June 2023



Slovakia

## VERIFICATION REPORT GREENHOUSE GAS EMISSIONS AND ENERGY CONSUMPTION

TÜV SÜD Slovakia s.r.o has prepared this Verification Report for Lenovo Group (Lenovo), through which it confirms that Lenovo's global reported direct and indirect greenhouse gas (GHG) emissions and energy consumption have received reasonable verification for Scope 1 & Scope 2 emissions and energy consumption and limited verification for Scope 3 emissions in accordance with the requirements of the ISO 14064-3:2019: Greenhouse gases – Part 3 Standard. The verification covers Lenovo's stated historic emissions for one reporting fiscal year – the 12 months period starting April 1<sup>st</sup>, 2022 and ending March 31<sup>st</sup>, 2023. This Verification Report applies to the related information included within the scope of work described below.

Addressee of this report is Lenovo Group.

Our opinion on the results of the Inventory, with respect to the verification objectives and criteria, is provided in this report.

### ROLES & RESPONSIBILITIES:

It is Lenovo sole responsibility to maintain its GHG information system and data related to Lenovo energy consumption, Scope 1, Scope 2 and Scope 3 GHG emissions reported. The Lenovo Management is responsible for the development and maintenance of records and reporting procedure in accordance with that system, including the calculations and determination of GHG emissions information and fair presentation of the resulting GHG report in accordance with the criteria.

It is TÜV SÜD Slovakia s.r.o. sole responsibility to express verification opinion on the energy consumption, Scope 1, Scope 2 and Scope 3 GHG emissions reported in GHG report, and on the underlying systems and processes used to collect, analyze and review the information.

### VERIFICATION SCOPE:

The scope of this verification assignment covers Lenovo FY 2022/2023 GHG Emissions Inventory, which includes Lenovo energy consumption and carbon dioxide (CO<sub>2</sub>) emissions from Scope 1, Scope 2 and Scope 3 for:

- Operational Control
- Worldwide

**Report on Lenovo Group Energy Consumption and GHG Emissions for FY 2022/2023**

**Total Direct and Indirect Energy Consumption – Reasonable Assurance**

392,825 Megawatt Hours (MWh)

Scope 1 and 2 Emissions – Reasonable Assurance	
<b>Scope 1 Emissions</b>	6,303 metric tons (mt) of CO <sub>2</sub> equivalent (CO <sub>2</sub> e)
<b>Scope 2 Emissions: Location Based</b>	202,440 mt CO <sub>2</sub> e
<b>Scope 2 Emissions: Market Based (total)</b>	19,540 mt CO <sub>2</sub> e (Includes 2,384 mt CO <sub>2</sub> e from purchased steam in China)
Scope 3 Emissions – Limited Assurance	
Category 1: <b>Purchased Goods and Services</b> (Limited to Purchased Goods)	8,662,378 mt CO <sub>2</sub> e
Category 2: <b>Capital Goods</b>	833,800 mt CO <sub>2</sub> e
Category 3: <b>Fuel &amp; Energy Related Activities</b> (Limited to Transportation & Distribution Losses)	12,924 mt CO <sub>2</sub> e
Category 4: <b>Upstream Transportation &amp; Distribution</b>	538,156 mt CO <sub>2</sub> e
Category 5: <b>Waste Generated in Operations</b>	1,808 mt CO <sub>2</sub> e
Category 6: <b>Business Travel (air travel and rental cars)</b>	38,846 mt CO <sub>2</sub> e
Category 7: <b>Employee Commuting</b>	45,568 mt CO <sub>2</sub> e
Category 11: <b>Use of Sold Products</b>	8,451,000 mt CO <sub>2</sub> e
Category 12: <b>End of Life Treatment of Sold Products</b>	157,000 mt CO <sub>2</sub> e
<b>Scope 3 Emissions (total):</b>	18,741,480 mt CO <sub>2</sub> e

*Energy Consumption and Scope 1 & Scope 2 GHG Emissions:*

Most energy consumption and Scope 1 & Scope 2 GHG emissions data were historical in nature, data consisting of metered consumption, though some Scope 2 emissions were estimated based on square feet of leased area and an assumed electric consumption rate.

*Scope 3 GHG Emissions:*

Data and information supporting the Scope 3 GHG Report were in many cases estimated rather than historical in nature.

**VERIFICATION PERIOD:**

April 1<sup>st</sup>, 2022 to March 31<sup>st</sup> 2023 (FY 2022/2023)

**VERIFICATION CRITERIA:**

The Lenovo Inventory was prepared using and verified against:

- ISO 14064-1:2018: Greenhouse gases. Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals.
- World Resources Institute (WRI)/World Business Council for Sustainable Development (WBCSD) Greenhouse Gas (GHG) Protocol, Corporate Accounting and Reporting Standard, Revised Edition (Scope 1 and 2) and the GHG Protocol Scope 2 Guidance, an amendment to the GHG Protocol Corporate Standard;
- WRI/WBCSD Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (Scope 3); and
- Greenhouse Gas Inventory Management Plan; LDL Document – GHG IMP; May 2<sup>nd</sup>, 2022; EMS-00044 revision: 9.0.

TÜV SÜD Slovakia s.r.o. conducted verification activities in alignment with the principles of:

- ISO 14064-3:2019: Greenhouse gases. Part 3: Specification with guidance for the verification and validation of greenhouse gas statements; and
- International Standard on Assurance Engagements (ISAE) 3000 Revised, Assurance Engagements Other than Audits or Reviews of Historical Financial Information (effective for assurance reports dated on or after Dec. 15, 2015), issued by the International Auditing and Assurance Standards Board.

**LEVEL OF ASSURANCE AND MATERIALITY:**

*Energy Consumption and Scope 1 & Scope 2 GHG Emissions:*

The level of assurance agreed is **reasonable**.

*Scope 3 GHG Emissions:*

The level of assurance agreed is **limited**.

*Materiality:*

The materiality required of this verification was considered by TÜV SÜD Slovakia s.r.o to be below 5% for deviations in sampled data.

## GHG AND ENERGY VERIFICATION METHODOLOGY:

- Agreement on the level of verification, objectives, criteria, organizational scope and materiality thresholds;
- Review of the processes and procedures for establishing the organizational boundary, ensuring relevance in emissions reporting across direct and indirect emissions sources;
- Facility On-site data verification audits in China:
  - Site 1:**  
**China, Shanghai:** 15.05. – 17.05.2023  
Zhangjiang Songtao Road 696, Shanghai, China 201203
  - Site 2:**  
**China, Hefei (LCFC):** 18.5. – 19.5.2023  
No. 3188-1 (Hefei Export Processing Zone), YunGu Road, Hefei Economic and Technological Development Area, Anhui, Hefei, China 230000
- Assessment of the GHG data collection system and controls through interviews and documents review provided by Lenovo;
- Interviews with Lenovo's employees (teleconference and in-person);
- Inspection of completeness of the inventory;
- Review of data and information systems and methodology for gathering, analysis and review of information used to determine energy consumption and GHG emissions at Lenovo's office in Bratislava, Slovakia; and
- Audit of data samples used by Lenovo to determine energy consumption and GHG emissions.

## UNMODIFIED OPINION:

Based on the above-described verification conducted in accordance with ISO 14064-3:2019 standard and review of all available documentation, TÜV SÜD Slovakia s.r.o. comes to the conclusion that the Lenovo energy consumption and Scope 1 and Scope 2 GHG reports are made in accordance with the requirements of ISO 14064-1:2018 standard and the voluntary WRI/WBCSD GHG Protocol Corporate Accounting and Reporting Standard. TÜV SÜD Slovakia s.r.o. concludes with reasonable assurance that **reviewed documents are materially correct and fairly represent the required parameters without material discrepancies.**

Based on the data and information provided by Lenovo and the processes and procedures conducted, TÜV SÜD Slovakia s.r.o. concludes with limited assurance there is no evidence that the Scope 3 GHG statement:

- is not materially correct;
- is not a fair representation of the GHG emissions data and information; and
- is not prepared in accordance with the WRI/WBCSD Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

It is our opinion that Lenovo has established appropriate systems for the collection, aggregation, and analysis of quantitative data for determination of its energy consumption and Scope 1, Scope 2 & Scope 3 GHG emissions for the stated period and boundaries. The GHG emissions information for the period 04/01/2022 – 03/31/2023 is

verified by TÜV SÜD Slovakia s.r.o. to a reasonable level of assurance for Lenovo energy consumption and Scope 1 & 2 GHG emissions, and limited level of assurance for Scope 3 GHG emissions, consistent with the agreed verification scope, objectives, and criteria.

### CONFLICTS OF INTEREST AND COMPETENCE:

TÜV SÜD Slovakia s.r.o. is an independent professional services company with over 150+ years of business success.

TÜV SÜD Slovakia s.r.o. avoids conflicts of interest. Independence, integrity and transparency of our services are the foundation of our customers' trust in us.

TÜV SÜD Slovakia s.r.o. has implemented a Code of Ethics (Directive on the TÜV SÜD, Section III.3 and III.4 Prevention of conflicts of interests and corruption).

The TÜV SÜD Code of Ethics is binding for all TÜV SÜD employees worldwide.

All TÜV SÜD employees shall receive the TÜV SÜD Code of Ethics as an electronic copy (via e-mail as a PDF file) or as a printed version in a language that they are familiar with. In addition to this, the TÜV SÜD Code of Ethics is always available on the TÜV SÜD Intranet and Internet for ease of reference.

All TÜV SÜD executives shall ensure strict observance of the TÜV SÜD Code of Ethics among their members of staff and aim to be role models for their employees. No employee should suffer any disadvantage as a result of complying with the TÜV SÜD Code of Ethics.

### TÜV SÜD Slovakia s.r.o.:

- TÜV SÜD Slovakia is an Auditing and Certification Body accredited under international scheme ISO/IEC 17021. TÜV SÜD Slovakia as a Certification Body is a holder of accreditations released by **SNAS** (Slovak National Accreditation Service) - a national accreditation body recognized by the Slovak government fulfils an important function in the national system of conformity assessment, introduced to eliminate technical barriers of domestic and international trade in the Slovak Republic and to support the required quality standard of products, services and consumer protection. The accreditation of technical activities in Slovakia is performed in accordance with internationally accepted principles determined in the ISO/IEC series 17000 (EN series 45000) and represents a fundamental precondition for the fulfilment of obligations adopted by the SR Government in connection with the accession of the SR to the European Union in May 2004.
- TÜV SÜD Slovakia is a part of TÜV SÜD Group - global provider of auditing, inspection and certification services. **A global leader in the field of testing, inspection, management system certification and product certification renowned for quality, integrity and technical excellence.** Established more than 150 years ago in Germany, TÜV SÜD is a leading global provider of technical services. More than 24,000 highly skilled employees across 1,000 offices around the globe pool their multidisciplinary expertise to partner clients in their business processes, enhancing their competitive strength and delivering tangible economic added value.
- TÜV SÜD is also a leading provider of assurance services for sustainability reporting. Our technical expertise in quality, health, safety, environmental and social responsibility coupled with our assurance expertise enhances the value that clients receive during sustainability reporting assurance. Our verifiers follow approved processes for assuring environmental sustainability reporting information and data, including GHG emissions inventories.
- Currently, TÜV SÜD Slovakia is acting more than 10 years in the field of assurance expertise, including GHG emissions inventories, and serving the tenths of clients and municipalities.

Project team is built-up from professionals in the field of sustainability reporting and assurance and senior auditors with long-term experiences in auditing and certification services. Members of this project have worked together before on similar projects and understand the needs.

- Lead Verifier have more than 15 years of experience in the area environmental, quality and sustainability management and more than 5 years of experience in assuring environmental, safety and social data reporting. Their technical expertise includes reporting and verifying performance results, particularly in the area of energy usage, greenhouse gas emissions and water consumptions. More than that, they are expertise Life Cycle Assessment (LCA) and during the career processed more than 50 complex and 100 simplified LCA studies in compliance with ISO 14040 a 14044, 50 Environmental Product Declarations (EPD) and 30 studies on greenhouse gas emissions and water consumptions and 10 critical reviews of LCA or CF. They are cooperating more than 5 years together on various GHG emissions verification and assurance projects.
- Technical Reviewers are both senior auditors with more than 20 years of expertise in the areas of environmental, quality and energy management and have provided auditing and consulting services for companies in the wide range of sectors. Both of them already have an experience assuring sustainability data for a wide range of industries and has worked on projects for several global clients.

**TÜV SÜD Slovakia**, auditing and certification body declares, that the company fulfilled all the requirements for verifiers according to the *ISO 14064-1:2018: Greenhouse gases. Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals* and the audit team was qualified to conduct assurance process.

## COMPETENCIES OF THE VERIFICATION TEAM:

The following is a summary of the competencies of members who provide the verification process for Lenovo Group.

NAME	TYPE and YEARS OF RELEVANT EXPERIENCES	LENGTH OF YEARS WITH THIS AREA	POSITION IN TEAM	OFFICE LOCATION
<b>Pavel HRUBÝ</b>	GHG Expert (verifer of GHG calculations) and ISCC EU lead auditor (2017 – 2023)	6	Lead Verifier	TÜV SÜD Czech, s.r.o.; Novodvorská 994/138 142 21 Praha 4 Czech Republic

Mr. Hrubý has been working in the carbon footprinting field for three years, having participated in verification of three carbon footprints as the head of the verification team. His previous relevant experiences include:

- Training in LCA (Czech Technological University in Prague, Czech Republic; Czech Accreditation Institute) in January 2008
- Assessment of environmental declarations type III (in compliance with ISO 14025) as a part of his employment in Czech Environmental Information Agency – CENIA (2007–2016)
- Participation in „Project QJ1520322 Methodologies of determination and verification of water footprint in compliance with international standards“ on behalf of TÜV SÜD Czech, s.r.o. (2016–2017). The purpose of the project was to develop such methodologies, including their pilot testing
- Four-year experience of working as GHG Expert (verifer of GHG calculations) and ISCC EU lead auditor TÜV SÜD Czech, s.r.o., based on ISCC Greenhouse Gas Training provided by ISCC System GmbH, in relation to compliance of biofuels and intermediate products with legal requirements of the European Union, including related GHG emission (2017 – present).

<b>Luboš NOBILIS</b>	Carbon Footprint	11	Author / Verifier	TÜV SÜD NEPCon, ECO trend s.r.o. freelancer; Prague, Czech Republic
	Life Cycle Assessment (LCA)	17	Author / verifier	ECO trend s.r.o. freelancer; Prague, Czech Republic
	Waste manager	17	Author / verifier	ECO trend s.r.o. freelancer; Prague, Czech Republic

Mr. Nobilis has been working in the carbon footprint field for five years, having participated in verification of seven carbon footprints as the leader auditor in 2021 – 2022. Mr. Nobilis has also long-time experience in waste management field with specialization on recycling and other waste treatment and utilization. His previous relevant experiences include:



**TÜV SÜD Compliance Principles:**

- *We operate lawfully*
- *We avoid conflicts of interest*
- *We do not tolerate corruption*
- *We play fair*
- *We handle information carefully*
- *We follow export control and customs laws*
- *We observe occupational health and safety standards*
- *We manage assets carefully*
- *We do not support money laundering*
- *We do not tolerate discrimination*

**Attestation:**

**Pavel Hrubý**  
Lead Verifier  
Environmental Specialist

Bratislava, June 14<sup>th</sup>, 2023



**Branislav Chmel**  
CEO  
General Manager

Bratislava, June 14<sup>th</sup>, 2023

*This verification report, including the opinion expressed herein, is provided to Lenovo and is solely for the benefit of Lenovo in accordance with the terms of our agreement.*