

The Lenovo logo, consisting of the word "Lenovo" in white, lowercase, sans-serif font, centered within a solid red rectangular background.

Lenovo

Product Carbon Neutrality Report

For Fiscal Year 2022/23

2023 October

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1. Introduction

This Report aims to provide information on the carbon neutrality of the Lenovo product advertised as carbon neutral (hereinafter referred to as the “Product”) in Fiscal Year 2022/23¹.

The Report will be updated annually in accordance with French Décret n° 2022-539 of 13 April 2022² on carbon compensation and carbon neutrality claims in advertisements.

Lenovo declared to achieve carbon neutrality for the estimated sales volume for the Product. The Product’s carbon neutrality was certified.

Table 1. Carbon Neutral Product and Specification

Carbon Neutral Product in Fiscal Year 2022/23	
Yoga Book 9 13IRU8	
with accessories of Yoga Book 9 Bluetooth KB, the folio stand, the digital pen and the 65W adapter included	
Carbon neutrality certification was issued by TÜV Rheinland Greater China in accordance with PAS 2060:2014 <i>Specification for the Demonstration of Carbon Neutrality</i> .	
Product Specifications Reference	https://psref.lenovo.com/Product/Yoga/Yoga_Book_9_13IRU8

¹ Fiscal Year 2022/23, i.e., April 1, 2022 – March 31, 2023

² [Décret n° 2022-539 du 13 avril 2022 relatif à la compensation carbone et aux allégations de neutralité carbone dans la publicité - Légifrance \(legifrance.gouv.fr\)](#)

2. Product Carbon Footprint

The product carbon footprint (PCF) calculation of the Product is conducted by using SimaPro and Ecoinvent Database, following IPCC 100-year Greenhouse Gas Emissions Assessment Method (IPCC 2021 GWP 100a), in accordance with ISO 14067:2018 *Greenhouse Gases – Carbon Footprint of Products – Requirements and Guidelines for Quantification*.

Table 2. PCF Balance Sheet of the Product

Product Carbon Footprint	Unit: kg CO₂e/pcs
Yoga Book 9 13IRU8	
Product Carbon Footprint before carbon credits	193.11
Carbon credit	193.11
Total Product Carbon footprint after carbon credits	0

Detailed information of the PCF calculation and carbon reduction methods is provided in Annex 1 and Annex 2.

3. Carbon Reduction

Lenovo recognizes that human activities are contributing to climate change and concurs with the findings of current climate science as described in the latest assessment report from the Intergovernmental Panel on Climate Change (IPCC). Lenovo also recognizes that if left unchecked, current trends in climate change present serious economic and societal risks and agrees that specific actions are needed to stabilize atmospheric Greenhouse Gas (GHG) levels and hold global average temperatures to acceptable increases. Lenovo is working both internally and externally to help minimize and mitigate climate risks, and the commitment has been demonstrated by (detailed information can be found in [Lenovo Annual Environmental, Social and Governance \(ESG\) Report](#)):

- Implementing a corporate Climate and Energy Policy
- Executing a long-term comprehensive Climate Change Strategy

- Setting corporate-wide objectives and target which support the above Policy and Strategy³

Detailed information of Lenovo's carbon reduction path is provided in Annex 2.

4. Compensation of Residual Emissions

Lenovo has developed a stringent criterion to select carbon compensation programs for residual emission of the Product after carbon footprint reduction by environmentally conscious design.

Detailed information of the carbon compensation programs is provided in Annex 3.

³ 3.0 Environment, [2022/23 Environmental, Social and Governance Report](#)

Annex 1 Product Carbon Footprint Evaluation

This Annex provides detailed information on the scope, functional unit, boundary, emission data and the methodological measures of the Product's PCF.

Lenovo used life cycle assessment (LCA) methodology to perform the Product's PCF calculation.

1.1 Scope

The Product was commercialized as SKUs (stock keeping unit) based on variation in the part configurations. The variation might result in difference in the PCF of different SKUs.

To ensure that Lenovo has fully achieved carbon neutrality for the Product, conservative approaches have been taken for PCF calculation.

1.2 Functional Unit

The PCF method relies on a "functional unit" (FU) for GHG emissions quantification. This Report defines the functional unit as the Product operating for 4 years.

1.3 System Boundaries

The system boundary considered in the PCF calculation was from cradle to grave, and the lifecycle stages included:

- Raw Material
- Manufacturing
- Distribution
- Use
- End of life

1.4 Cut-off Criteria

All inputs and outputs to a process have been included in the calculation for which data is available. The cut-off criteria were set that emission sources estimated to constitute less than 1% of the total PCF might be cut-off, and the total cut-offs constitute less than 5% of the total PCF.

1.5 Use and End-of-life phases and Associated Process

The Use phase assumed that the Product was used for 4 years by users from different regions. The user region assumption was from sales prediction. The Product energy consumption was tested in accordance with *ENERGY STAR Program Requirements for Computers Version 8.0*.

The data of End-of-life phase was in accordance with *WEEE Directive 2012/19/EU*, which included re-use, recycling, incineration and disposal.

1.6 Electricity Consumption Data

The electricity, tap water, natural gas and heat consumption through the lifecycle were considered, and Ecoinvent database was selected for calculation according to region, voltage level and gas pressure.

1.7 Geographical Scope

The Product (including subparts) was manufactured and assembled in Asia, distributed and used globally. Country-level or region-level emission factors were selected according to the locations where emissions occurred. When the factors were not available for a specific region or there was no specific location of emission sources, the global averages were selected.

1.8 PCF Result

The PCF of the Product is shown in the following table.

Table 3. PCF of the Product⁴

⁴ The calculation was based on LCA methodology.

Product	PCF (Unit: kg CO ₂ e/pcs)
Yoga Book 9 13IRU8	193.11

1.9 Verification

All the data sources, calculation modelling, background databases and the PCF of the Product have been verified by the certification authority of carbon neutrality.

Annex 2 Carbon Reduction Path

In 2020, Lenovo established science-based emissions reduction targets, which were validated by the Science Based Targets initiative (SBTi). Its Scope 1 and 2 emissions reduction targets are consistent with limiting warming to 1.5°C, and its Scope 3 emissions reduction targets meet ambitious criteria according to the SBTi’s methodology, which means they are in line with current best practices.

In 2023, Lenovo announced SBTi validated target to reach net-zero GHG emission by 2050. Lenovo’s net-zero target is to achieve a 90-percentage reduction across Scope 1, 2 and 3 emissions, and was the first PC and smartphone maker and one of the first 139 companies in the world to establish a net-zero target validated by SBTi⁵.

These targets have a base year of Fiscal Year⁶ (FY) 2018/19, near-term target year of FY 2029/30, and net-zero target year of FY 2049/50. The following table details the Company’s Science-Based Targets, road maps for their achievement, and progress against the targets in FY 2022/23^{7,8}.

Table 4. Lenovo Emissions Reduction Targets and Road Map^{7,8}

Lenovo Emissions Reduction Near-Term Targets	Road Map	FY 2029/30 Target
Reduce absolute Scope 1 + Scope 2 GHG emissions (related to Lenovo’s operations) by 50%	<ul style="list-style-type: none"> Hierarchical combination of energy efficiency, on-site renewable energy generation, and 	- 50%

⁵ <https://sciencebasedtargets.org/companies-taking-action#dashboard>

⁶ Fiscal year i.e., April 1 – March 31.

⁷ https://www.lenovo.com/content/dam/lenovo/site-design/esg-document-library/global/corp-policies/ghg/Lenovo_Climate-Transition-Plan.pdf

⁸ 3.0 Environment, [2022/23 Environmental, Social and Governance Report](#)

	renewable energy commodities	
Reduce Scope 3 GHG emissions (value chain) from use of sold products -35% on average for comparable products	<ul style="list-style-type: none"> Reduce product emissions through energy efficiency improvements, engaging customers to use more renewable energy 	- 35%
Reduce Scope 3 GHG emissions (supply chain) from procured goods and services 66.5% per million US\$ gross profit	<ul style="list-style-type: none"> Inclusion of climate change requirements in Supplier Code of Conduct Supplier climate data collected annually from subset of suppliers Climate change KPIs included in supplier ESG scorecards (evaluation process) Expand supplier program to greater number of suppliers/ data capabilities and SBTi level of commitment 	- 66.5%
Reduce Scope 3 GHG emissions from global logistics	<ul style="list-style-type: none"> Modal shift to lower carbon modes of transport 	- 25%

operations by 25% per tonne-km of transported product	<ul style="list-style-type: none"> • Optimization of transport planning • Increase of vehicle utilization • Improvement of vehicle fuel efficiency 	
Lenovo Emissions Reduction Long-Term Targets	Road Map	FY 2049/50 Target
Reduce all GHG emissions by 90% - absolute reduction of Scope 1, 2 and 3 emissions. Neutralize remaining 10% of emissions through carbon capture, reforestation, or other means	<ul style="list-style-type: none"> • Above concepts continue drive energy efficiency at Lenovo sites, for products, expand supplier program in commitment 	- 90%

The following table shows current Lenovo's GHG emission data in FY 2022/23, compared to the baseline year FY 2018/19.

Table 5. Lenovo Scope 1, 2 and 3 GHG Emission Data

GHG Emissions (metric tons CO₂e)	FY2018/19	FY2022/23
Scope 1+2 (market-based)	32,060	25,843
Scope 3	20,432,492	18,741,480

Besides, Lenovo's corporate-wide environmental standards and specifications require its product designers to consider environmentally conscious design practices. By encouraging recycling, minimizing resource consumption and

improving product energy efficiency, Lenovo aims to facilitate the carbon footprint reduction in its products.

The following environmentally conscious design has been introduced to the Product for carbon reduction.

Table 6. Environmentally Conscious Design in the Product

Environmental Aspect	Design Description
Yoga Book 9 13IRU8	
Material	<ul style="list-style-type: none"> • 100% Recycled Aluminum on A Cover • 90% PCC Recycled Plastic used in 65W Adapter Case • 30% PCC Recycled Plastic used in Speaker Woofer Enclosure • 90% PCC Recycled Plastic used in Battery Pack
Packaging	<ul style="list-style-type: none"> • FSC-certificated Paper used in Box, Cushion, and Manual
Energy Efficiency	<ul style="list-style-type: none"> • ENERGY STAR® 8.0

Annex 3 Carbon Compensation of Residual Emissions

Lenovo has developed internal *Guidance for Carbon Credits Purchases*, including following aspects to ensure the professionalism of suppliers and the integrity and effectiveness of carbon compensation programs:

- General requirements as Lenovo supplier
- Carbon credit trading experiences
- Mature and mainstream crediting mechanisms
- Traceability and transparency of carbon credit projects
- High-quality and industry-recognized project types
- Carbon credit retirement documents

The following table shows the source of carbon credits used in the Product.

Table 7. Carbon Credit Project⁹

Crediting Mechanisms	Project Type	Offset Type	Location	Cost (€/ tCO ₂)	Year of Retirement
CCER ¹⁰	Hydropower	Avoided Emission CM-001-V01	China	<10	2022

Lenovo has offset the residual carbon emissions of the Product using carbon credits mentioned above based on its PCF, and the carbon compensation quantity and the retirement ID has been verified by the certification authority of carbon neutrality.

⁹ Carbon credit sellers: Profit Carbon Environmental Energy Technology (Shanghai) Co., Ltd.

¹⁰ CCER: Chinese Certified Emission Reduction

Glossary

Carbon neutrality: Referring to PAS 2060:2014 *Specification for the Demonstration of Carbon Neutrality*, is the state of being carbon neutral, i.e., condition in which during a specified period there has been no net increase in the global emission of greenhouse gases to the atmosphere as a result of the greenhouse gas emissions associated with the subject during the same period.

Product carbon footprint (PCF): i.e., carbon footprint of a product, referring to ISO 14067:2018 *Greenhouse Gases – Carbon Footprint of Products – Requirements and Guidelines for Quantification*, sum of GHG emissions and GHG removals in a product system.

Scope 1 GHG emission: direct emissions from operations that are owned or controlled by Lenovo.

Scope 2 GHG emission: indirect emissions from the generation of purchased or acquired electricity, steam, heating or cooling consumed by Lenovo.

Scope 3 GHG emission: indirect emissions (not included in Scope 2) from Lenovo's upstream and downstream value chain.

Reference

1. PAS 2060:2014 Specification for the Demonstration of Carbon Neutrality.
2. ISO 14067:2018 Greenhouse Gases – Carbon Footprint of Products – Requirements and Guidelines for Quantification
3. ISO 14040:2006 Environmental management — Life cycle assessment — Principles and framework
4. ISO 14044:2006 Environmental management — Life cycle assessment — Requirements and guidelines
5. Lenovo 2022/23 Environmental, Social and Governance Report