Product Environmental Report

Xiaomi 14

XIAOMI CORPORATION

Product Environmental Report
Xiaomi 14
(12GB+256GB)

This report was developed by Xiaomi with technical support from the Carbon Trust, a global climate consultancy.

In 2022, Xiaomi started to measure and disclose the product carbon footprints of smartphones over the lifecycle, covering emissions from material sourcing and production, transport and distribution, product use, and end-of-life disposal. In the future, we plan to disclose product carbon footprints and sustainability actions of a wider range of products and models.

We implement actions and measures in all phases of Xiaomi 14's lifecycle[1234]:

Product design and material sourcing

- We work to increase the use of recycled contents in multiple components and parts. Xiaomi 14's SIM card tray contains recycled ocean fishing nets.
- Fiber-based pulp molding for the packaging of Xiaomi 14.
- We control the use of hazardous substances and chemicals in the product manufacturing and packaging.

Production

- Xiaomi 14's key component suppliers carried out energy-saving, carbon-reducing measures and adopted renewable electricity.

Transport and distribution

- Lower-carbon transportation adopted for distribution of Xiaomi 14, such as replacing air with sea and rail transport.
- Xiaomi 14 delivered within Europe partly using low-carbon transportation such as electric vehicle and bicycles.

Product use

- Xiaomi 14 is IP68-rated,water and dust resistant, ensuring the device durability.
- Running on Xiaomi HyperOS, the Xiaomi 14 offers optimized performance and efficiency.
- Xiaomi 14 features the Xiaomi Surge Battery Management system and Xiaomi Surge charging chipset, ensuring efficient charging practices.

End-of-life disposal

- Our trade-in program has been launched in China and major sales markets in Europe, covering multiple models.

Supply chain management

- ESG compliance has long become one of the top criteria at Xiaomi when we select and evaluate our new suppliers, we enforce corporate social responsibility standards and codes of conduct and conduct ESG risk screening to suppliers.
- We encourage key suppliers to establish renewable energy usage and GHG (Greenhouse Gas) emission reduction targets that are comparable to or more ambitious than ours, and conduct a comprehensive supply chain GHG inventory.

Material Sourcing

Enhance sustainability in material sourcing

By collaborating with upstream suppliers, Xiaomi seeks pathways to source the key materials, such as metal and plastics, from low-carbon and renewable sources. Xiaomi also works to expedite the research and application of next-generation low-carbon materials, while ensuring environmentally friendly and sustainable procurement.

Xiaomi also proactively monitors the decarbonization potentials of key raw materials used in our products. We enhance the product recyclability by assessing the full lifecycle environmental impacts of parts and components in the product design phase, and prioritizing minimalist design and mono-material packaging. We design to increase the use of renewable materials in our products, and endeavors to promote the development of a circular economy.

Xiaomi 14's SIM card tray contains plastic made from recycled ocean fishing nets. The battery cover of Xiaomi 14 technological nano-leather version [5] is made of silicone leather, which is sourced from natural silicon ore. Its production does not require the use of solvents, and it is relatively safer, environmentally friendly, and less polluting compared to synthetic leather based on fossil materials.

Use more sustainable packaging

Xiaomi explores innovative green packaging options that are plastic free, lightweighted, and reduces the use of paper. We work to optimize the size of packaging with lower environmental impacts, and gradually transition to green packaging materials.

We endeavor to reduce the plastics in packaging of our products and use fiber-based materials instead. The pulp molding used in the packaging of Xiaomi 14 is made of bamboo and sugarcane. We also reduced the paper and chemical adhesive used in Xiaomi 14 packaging through design. In addition, Xiaomi 14's packaging is printed with soy ink, representing a lower environmental impact and easier recycling for papers than mineral ink.

Control the use of hazardous substances

We strictly control the use of hazardous substances in our product manufacturing process in accordance with international standards. We have established a process for pre-screening and tracking hazardous substances, and voluntarily developed plans to reduce the use of potentially hazardous substances, including PVC, brominated flame retardants (BFRs), beryllium, antimony, and other substances as required by law. We collaborate with our supply chain to achieve this goal.

We continue to develop corporate standards that are more stringent than regulatory requirements and require suppliers to strictly adhere to them. We updated the *Product Environmental Hazardous Substance Management Guidelines* and revised the standards for volatile organic compounds (VOCs) produced by suppliers during production processes such as product coating and packaging printing, based on the requirements of the *On-site Inspection Guidelines for Volatile Organic Compounds in Key Industries (Trial)*. We also developed corresponding operating specifications to assist suppliers in meeting these standards. At the same time, we have proposed reduction plans for the use of three types of substances by suppliers and continue to monitor the use of hazardous substances.

Production

Xiaomi strives to continuously improve efficiency and increase use of renewable electricity in production. We also guide and support our core suppliers on their journey to net zero, helping them reduce carbon emissions in the production through energy management and renewable energy adoption.

Suppliers of Xiaomi 14's key components, e.g. the battery, display, camera and fingerprint module, have carried out energy-saving and carbon-reducing measures, including residual heat recovery of air compressors and equipment improvements, in order to enhance the energy efficiency of major energy-consuming equipment in production. Key suppliers have also increased the use of renewable energy in the production of Xiaomi 14's parts and components, in order to reduce the emissions from their production phase.

The assembly supplier for Xiaomi 14 has adopted a series of measures to save energy and consumable materials used in production.

Xiaomi will continue to raise the sustainability awareness of our suppliers, encourage actions to save energy and reduce carbon emissions, and increase the use of renewable energy in production, in order to gradually reduce the carbon footprint and environmental impact in the production of our smartphones.

Transport and Distribution

Xiaomi works to improve the efficiency of transportation and distribution of our products by optimizing load and routes, and shortening logistics distances. We also plan to adopt more low-carbon transport, to reduce our products' carbon footprint from the downstream transportation and distribution phase.

In the downstream transportation of Xiaomi 14, for freights from China mainland to Europe and intra-Indonesia, lower-carbon transportation was adopted, such as partly replacing air with rail and sea transport. For Xiaomi 14 deliveries made within Europe, we optimized the transport capacity planning while guaranteeing delivery timeliness, and adopted a higher portion of low-carbon transportation such as electric vehicles and bicycles.

Product Use

Xiaomi works to improve the energy efficiency of our smartphones through technological innovation, in order to realize the enhancement of performance and reduction of energy consumption during use, hence reduction of carbon emissions from the use phase throughout its expected lifetime.

Enhanced hardware durability

Xiaomi 14 is tested to be resistant to water and dust, with the classification IP68 ingress protection based on IEC 60529[6], enhancing the device durability in everyday use. We also ensure compatibility across smartphone models for software updates and hardware maintenance, enhancing product longevity by preventing premature disposal due to functional issues or software obsolescence.

High-performance operating system

Running on Xiaomi HyperOS, Xiaomi14 achieves improved energy efficiency through technologies such as intelligent scheduling, process freezing, and dynamic resolution adjustment. Compared to Xiaomi 13, Xiaomi 14 achieves 20% reduction in off-screen standby power consumption from Top 20 App and 3.5% reduction in power consumption for certain games [7]. Utilizing high-performance technologies and materials, Xiaomi 14 optimized the platform power consumption [8], screen power consumption [9], and display power consumption [10].

High-efficiency battery management

Xiaomi always pushes the limits of R&D and the application of hyper-efficient charging chips. Xiaomi 14 features an efficient and algorithm-adjusted fast charging system, which avoids overcharging during the night, hence maximizes the battery lifespan. The self-developed Xiaomi Surge Battery Management system also enables the reduction of loss during energy transfer and improves charging efficiency and battery life.

End-of-life Disposal

Xiaomi is committed to advancing the recycling of electronic products and minimizing the environmental impacts of disposal of our products. We have rolled out a global product take-back program and worked to improve the ease of product recovery and recycling through collaborative and self-established channels. Our trade-in program covers nine countries, including China, the United Kingdom, Germany, Italy, France, Spain, Poland, the Netherlands, and Indonesia. This service encompasses various models across categories such as mobile phones, notebooks, and tablets. [11]

Supply Chain Management

ESG compliance has long become one of the top criteria at Xiaomi when we select and evaluate our new suppliers. We require all new suppliers to sign the *Xiaomi Supplier Social Responsibility Code of Conduct* or *Supplier Social Responsibility Agreement*, prior to formal engagement and cooperation, for they should comprehend and conform to internationally recognized labor rights protection standards and practices,as well as workplace safety standards and codes of conduct. If any red-line issues are identified in the course of due diligence, the concerned supplier will not be admitted to our supplier pool until such issues are rectified.

Supply Chain ESG Management Framework

Policy and Management

Policies

Xiaomi Supplier Code of Conduct
Supplier Social Responsibility Agreement
Xiaomi Supplier Social Responsibility Audit Procedures
Xiaomi Corporation Conflict Minerals Policy

Management

Supply chain ESG managementSupplier ESG performance management

ESG Risk Management → **Code of Conduct Assessment** → **Continuous Improvement** → **Capability Enhancement** → **ESG Risk Management**

ESG Risk Management
Risk-tiering management

Code of Conduct Assessment
Third-party independent ESG audits

Continuous Improvement
"Person-in-charge"Mechanism
Rectification tracking and reporting

Capability Enhancement
Onsite coaching for suppliers
Subject-specific skill training

We perform ESG risk assessment and due diligence on all the suppliers under management and categorize them into low/medium/high risk levels. We conduct third-party onsite audits on the suppliers labeled as high- or medium-risk, and closely track the issues until they are resolved.

We actively expand our climate strategies to our supply chain, including encouraging key suppliers to establish renewable energy usage and GHG (Greenhouse Gas) emission reduction targets that are comparable to or more ambitious than ours. This year, we conducted a comprehensive greenhouse gas inventory covering our supply chain, and closely monitored the implementation of climate targets, plans, and actions of our suppliers.

Endnotes

1.Product carbon footprint standard and boundary:

Category	Description
Target Category/SKU	Xiaomi 14 (Ceramic Glass version), 12GB + 256GB, international version
Environmental impact category	Climate Change and Greenhouse Gas Emissions (GWP)
Boundary	LCA, Cradle-to-grave
Standards, specifications and/or other documents used for footprinting methodology	PAS 2050 Specification, ISO-14040/ISO-14044 (GHG impact assessment), ISO-14067
Functional unit	kgCO2e per packaged phone and accessories (i.e., charger and USB cable) within the expected lifetime
Period	1 January 2023 – 31 December 2023
Product sales market	Global sales except mainland China and India

2. Boundary, methodology, and data sources of life cycle stages

Calculation boundary:

Material sourcing and production:

Emissions from the extraction, production, upstream transportation, and assembly of materials, components of the device, accessories, and product packaging.

Transport and distribution:

Emissions from transportation of finished products (including device, accessories, packaging) from manufacturing sites to end consumers, including the transportation to and from the regional distribution hubs and storage involved.

Product use:

Emissions from electricity use of the device and charging loss within the expected lifetime.

End-of-life disposal:

Emissions from disposing the waste device, accessories, and packaging at the end of product expected lifetime.

Methodology and data sources:

Material sourcing and production:

mainly based on supplier survey, including the data collection on raw materials, packaging, production data, etc., and comparison of authoritative databases for sensitivity analysis of the overall emission results have been conducted to improve the accuracy of calculation.

Upstream and downstream transport and storage:

based on the transportation modes, distances and loads of each leg of transportation route.

Product use:

mainly based on the product's lifetime and end consumers' use habits. Our measurement model assumes a three-year use- cycle, and calculates the emissions from product use based on the estimated charging frequency of average users simulated by Xiaomi Labs. Using weighted average electricity emission factors based on the regional sales.

End-of-life disposal:

based on disposal methods of different material types and their percentages are mainly derived from third-party statistics and industry averages.

Our LCA carbon footprint is modeled and calculated by the Carbon Trust, a global climate consultancy and carbon footprinting company. The footprinting is consistent with the requirements of PAS2050, ISO-14040/ISO-14044 (limited in scope to GHG impact assessment), and ISO-14067.

3.Disclaimer on Uncertainty

The product carbon footprint result provided in this report was calculated in accordance with the requirements of PAS2050, ISO-14040/ISO-14044 (limited in scope to GHG impact assessment), and ISO-14067, with data from primary and secondary sources specified above. Based on the method of assessment specified in these standards, we believe that our assessment has covered GHG emissions associated with the full life cycle of the product. The Carbon Trust considers the data used for the calculation of product carbon footprint to be reliable and representative, however, it should be noted that even primary data are subject to variation over time. In the future, Xiaomi will further enhance the management of key product data and work to use first-hand carbon emission data in lieu of the emission factors from the databases which represent an industry average, in order to improve the data accuracy.

Although the Carbon Trust conducted a sensitivity analysis on the results based on emission factors from different databases and literatures in the calculation process, inherent uncertainties remain in the final calculation results. Different methodologies, boundaries, assumptions, and data sources can lead to large discrepancy in product carbon footprint. Even for similar products, differences in unit of analysis, use and end-of-life stage profiles, and data quality may produce incomparable results. The result stated in this report is not meant as a platform for comparability to products of other companies and/or brands.

4.Product specifications

Xiaomi 14

Dimensions	Height: 152.8 mm Width: 71.5 mm Thickness: 8.20 mm (ceramic glass version)
Weight	Device only: 193 g (ceramic glass version) Accessories (charger, USB cable): 135.4g [12]
Battery capacity	4610 mAh (typ) / 4490 mAh (min)
Battery lifespan	800 cycles, 80% recovery rate [13]
Display	LTPO 6.36” AM OLED Display

Comment information

5. Actual product versions available in each country can vary.

6. The device has been tested and certified to be resistant to water and dust in the presence of specific laboratory conditions with the classification IP68 ingress protection based on IEC 60529:1989+A1:1999+A2:2013. Please be noted that the test conditions of water resistance include: submersion in static freshwater up to a depth of 1.5 meters, up to 30 minutes, with a temperature delta between the water and product being 5K or less. Such water resistance features only pertain to specific conditions tested in a laboratory environment, which do not correspond to the normal conditions of use by consumers. Ingress protection might deteriorate from daily wear and tear, physical damage and/or disassembly needed in case of repair.

7. Data tested and sourced from Xiaomi Internal Labs. Actual results may vary. The Top 20 APPs used in the test were selected by Xiaomi according to daily activity of the market and may vary over time. Please note that the test data originates from Xiaomi Lab and variations may arise due to differing testing methods and environments.

8. Xiaomi 14 implements the Snapdragon® 8 Gen 3 Mobile Platform with next-generation small cores based on Hayes, and large and super-large cores for decoupled power supply. Compared to Xiaomi 13 which is powered by Snapdragon ® 8 Gen 2, the power consumption is reduced by 5% during light-loaded operations and 10% during intensive operations such as gaming. Data tested and sourced from Xiaomi Internal Labs and variations may arise due to differing testing methods and environments. Actual results may vary.

9. Xiaomi 14 utilizes high-performance luminescent material with improved display efficiency. The display employs LTPO technology which enables a dynamic refresh, optimizing the power supply architecture and improving the power efficiency. Compared to Xiaomi 13, the display power consumption is reduced by 13%. Data tested and sourced from Xiaomi Internal Labs and variations may arise due to differing testing methods and environments. Actual results may vary.

10. Xiaomi 14 features the AOD (Always on Display) Smart Display function, which reduces power consumption by at least 240mAh compared to Always On Display switched on. Data tested and sourced from Xiaomi Internal Labs and variations may arise due to differing testing methods and environments. Actual results may vary.

11. Includes Xiaomi and other brands.

12. Weight measured of an EU standard charger.

13. Data tested and sourced from Xiaomi Internal Labs and variations may arise due to differing testing methods and environments. Actual results may vary.