

realme

**LOW-CARBON  
DEVELOPMENT  
WHITE PAPER**

Technical support: CEPREI  
August, 2024

realme

----- *Make it real.* -----







# CONTENTS

03

CEO delivers  
a speech

05

1. Low-carbon  
development goals

07

2. Current situation  
of realme greenhouse  
gas emissions

09

3. Progress in low-carbon  
development

20

4. Low-carbon  
development plan

24

Concluding  
remarks



## CEO's speech

With the rapid development of science and technology, realme has always adhered to the brand spirit of "Make it real", and is committed to integrating innovative technology with green environmental protection, bringing environmentally friendly products to consumers around the world, so that young people around the world can enjoy a technological experience that exceeds expectations. The release of "realme Low-carbon Development White Paper" marks our firm stance and long-term plan for environmental protection, and demonstrates our responsibility and undertaking as a technology company in promoting the sustainable development of society.

realme adheres to the design concept of "3R+1D" (reduce, recycle, reuse, and degradable), and through the use of recyclable materials and recycled paper packaging, our products are designed with environmental protection concepts in mind. Our flagship product, the Realme GT series, not only achieves a leap in performance, but also sets a new benchmark in the use of environmentally friendly materials. Our global advanced technology labs are dedicated to applying cutting-edge technologies to product innovation while constantly exploring how to reduce environmental impact through technological innovation. From improving energy efficiency to optimizing product lifecycle management, our smart innovations are driving the industry's transition to green and low-carbon.

realme firmly believes that the growth of an enterprise is inseparable from the prosperity of society. We actively fulfill our corporate social responsibility by participating in public welfare undertakings such as environmental protection activities and disaster relief, and work together with all sectors of society to build a harmonious and symbiotic environment. In this white paper, we elaborate on realme's visions, strategies, and actions in green and low-carbon development. We firmly believe that through continuous efforts and innovation, realme can make greater contributions to the cause of global environmental protection, and work with all stakeholders towards a greener and healthier tomorrow.



Founder and CEO of realme: Sky

# 01

## LOW-CARBON DEVELOPMENT GOALS



In the face of the severe challenge of global climate change, realme, as a young, innovative technology company with a global vision, is well aware of its responsibilities and missions in promoting low-carbon development. We firmly believe that through the deep integration of scientific and technological innovation and sustainable development, we can contribute to the realization of the carbon neutrality goal. Here, realme solemnly declare our low-carbon development goals and commits to making this a core component of the company's long-term development strategy. (See next page for the roadmap of carbon reduction targets)

### Achieving carbon peaking by 2026

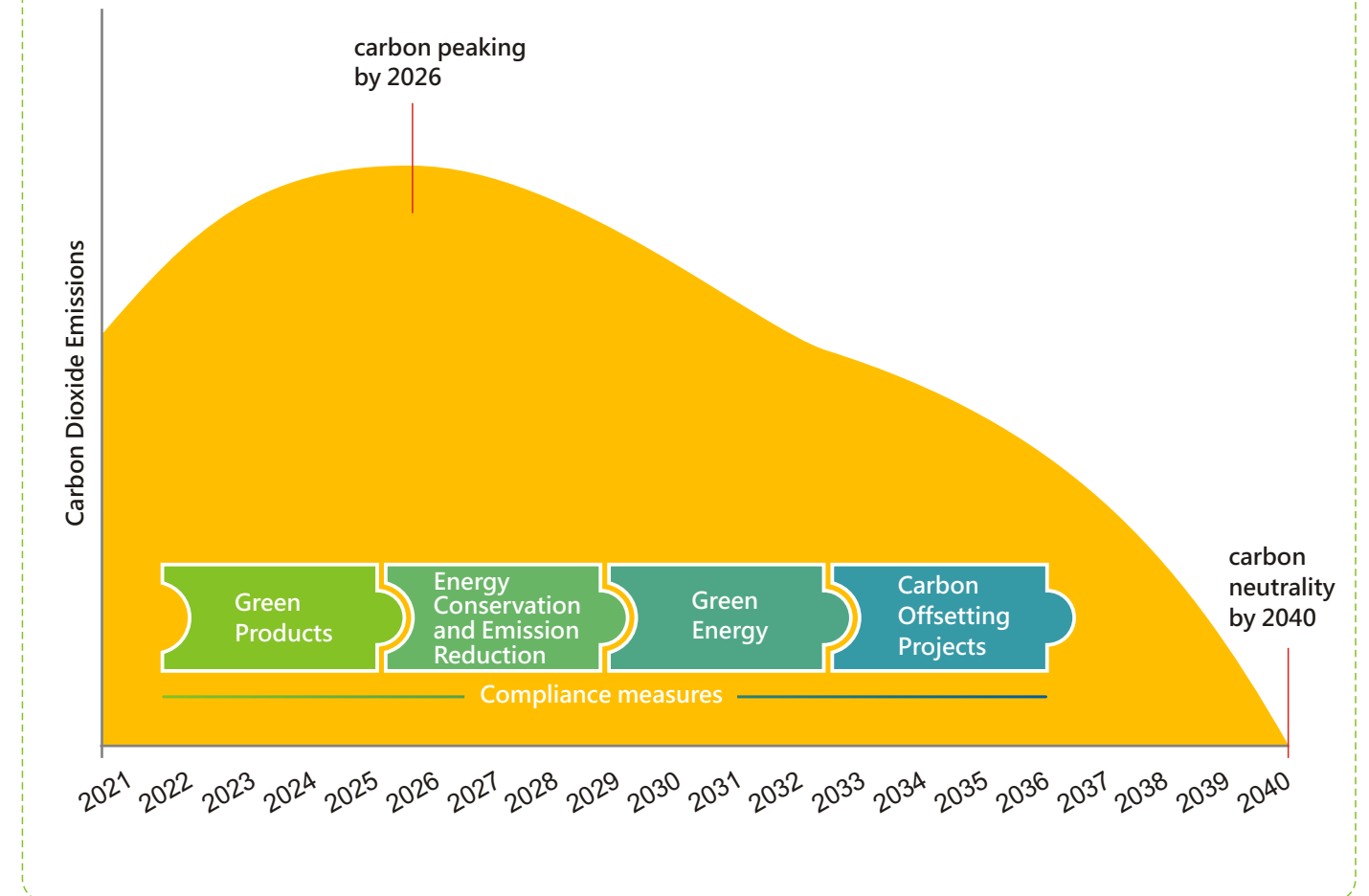
realme is committed to peaking carbon emissions in the company's own operations by 2026. We will reduce greenhouse gas emissions from our operations by optimizing product design, improving production efficiency, using renewable energy, and improving logistics management. Together with the international community, we aim to do our part to control the global average temperature rise within 1.5 degrees Celsius, in response to the call of the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement.

### Achieving carbon neutrality by 2040

We have set ourselves an even more ambitious goal of achieving carbon neutrality in our own operations by 2040. In order to achieve this goal, realme will take a series of measures, including but not limited to:

- **Green Products:** Designing and promoting more low-carbon and environmentally friendly products to guide consumers to make green choices.
- **Energy Conservation and Emission Reduction:** Reducing energy consumption in product manufacturing and operation through technological innovation and process optimization.
- **Green Energy:** Increasing the proportion of renewable energy such as solar and wind energy, and gradually replacing traditional fossil energy.
- **Carbon Offsetting Projects:** Investing in and participating in ecological restoration projects such as forest planting and wetland protection to offset carbon emissions.

### Carbon Neutrality Planning Map



realme is not only committed to its own low-carbon transformation, but also hopes to drive the entire industry to a more sustainable future through our efforts. We will share best practices and work with supply chain partners to promote the industry-wide reduction of environmental impact. We are committed to making progress towards our low-carbon development goals transparently available to the public on a regular basis and subject to external audits and assessments. realme will continue to monitor and evaluate the effectiveness of our low-carbon development strategy, and continuously adjust and optimize our action plan based on the latest scientific research and market changes. We look forward to working with all stakeholders to build a greener and more prosperous future.





# CURRENT SITUATION OF GHG EMISSIONS



In recent years, climate change has caused an unprecedented scale of impact around world. As the "carbon peaking and carbon neutrality goals" being proposed globally, realme has also transformed its own development to a sustainable development model that takes into account environmental and social well-being. We commissioned third-party organizations to verify the greenhouse gas emissions in realme's operations.

In 2023, realme's total greenhouse gas emissions in its own operations were **1,103.25** tons of CO<sub>2</sub> equivalent

GHG emissions	CO <sub>2</sub>	HFCs	Total
Emissions (tons of CO <sub>2</sub> , equivalent/year)	1,094.03	9.22	1,103.25
Percentage	99.16%	0.84%	100.00%



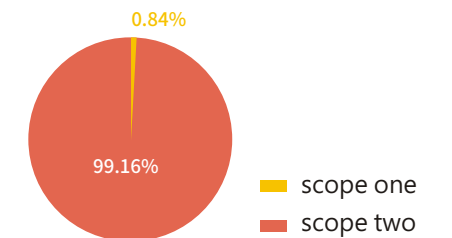
## Setting Of Organizational Boundary

Setting the organizational boundary of realme's greenhouse gas inventory according to the operational control laws and referring to the requirements of ISO 14064-1.

The organizational boundary is as follows: the factory area where Realme Mobile Telecommunications (Shenzhen) Co., Ltd. is located: on the 5th floor, 6th floor, 7th floor, 8th floor, 9th floor, 10th floor, 13th floor and 16th floor of Haide Sandao Excellence Houhai Center, Nanshan District, Shenzhen, Guangdong Province.

## Overview

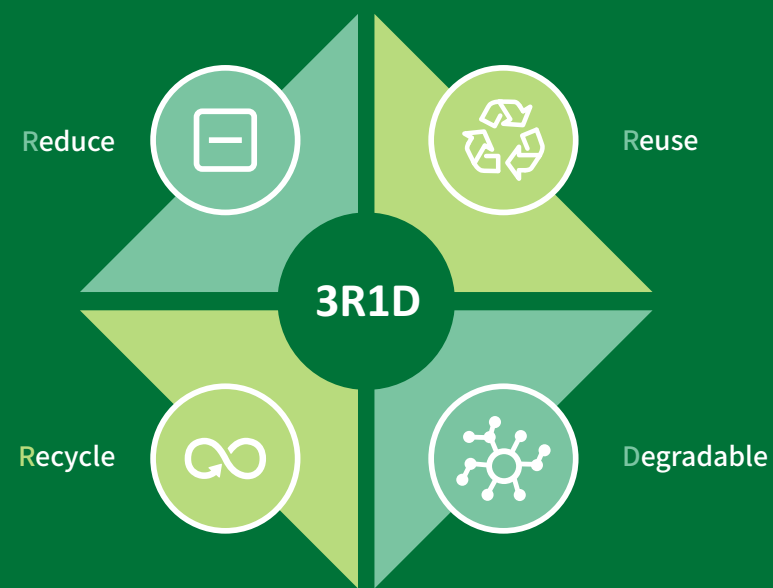
In 2023 (January 1, 2023 - December 31, 2023), realme's self-operating greenhouse gas emissions were 1,103.25 tons of CO<sub>2</sub>e. Among the emissions, 9.22 tons of CO<sub>2</sub>e were direct emissions within the control of the corporate entity (i.e., scope one), which was the fugitive emissions caused by the use of heptafluoropropane fire extinguishers. Indirect GHG emissions (i.e. scope two) were 1,094.0 tons of CO<sub>2</sub>e, which was indirect emissions from purchased electricity. Scope one and scope two accounted for 0.84% and 99.16%, respectively.





# 03 PROGRESS IN LOW-CARBON DEVELOPMENT

## Green Design



realme's "3R+1D" design concept is at the core of its green and low-carbon development strategy, which reflects the company's deep understanding and commitment to environmental protection and sustainable development.



### Reduce

In product design and packaging, realme is committed to reducing the use of materials to reduce its environmental impact. This includes reducing product size, reducing weight, reducing packaging materials, and optimizing product design to use less raw materials.



### Recycle

realme strives to ensure that its products and packaging materials can be recycled. This means selecting materials that are easy to decompose and reuse, and considering their recycling process in product design to facilitate efficient recycling at the end of the product lifecycle.



### Reuse

The company encourages the use of products or their components to extend the life of their products. This may involve designing detachable products to facilitate component replacement by users or repair services, or providing upgrades to reduce waste due to obsolescence of products.



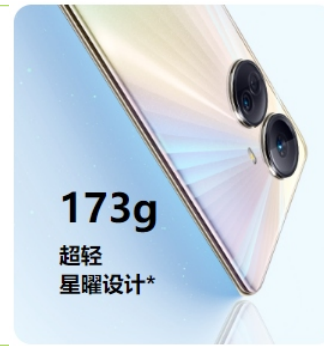
### Degradable

realme uses degradable materials to replace traditional plastics and other materials that are difficult to degrade. These materials can be decomposed in the natural environment after use, reducing long-term pollution to the environment.



### realme's lightweight design strategy

is a concrete embodiment of its green development philosophy, which aims to reduce the overall environmental impact by reducing the weight of the product.



#### Reducing resource consumption

Lightweight design reduces the amount of raw materials needed to make mobile phones, thereby reducing the extraction and utilization of natural resources.

#### Increasing energy efficiency

Due to the use of less material, energy consumption in the production process is reduced, which helps to reduce the carbon footprint throughout the product life cycle.

#### Reducing waste

Lightweight design also means less waste and pollutants are generated during the production process, which helps reduce the burden on the environment.

#### Increasing product lifetime value

Lightweight design is not only good for the environment, but also increases the market competitiveness of products, as lighter products tend to be more popular with consumers.

#### realme GT2 Pro

Seamless connection design by removing the plastic bracket between the screen and frame, this model achieves an ultra narrow frame and a lightweight body, while building a large capacity battery of 5000mAh, offering a rare lightweight feature in flagship phones.



#### realme 10 Pro+

This model takes into account both performance and battery life, achieves a lightweight body of only 173g through a clever internal structure design, while building a large capacity battery of 5000mAh.



### The modular structural design

is an important component of realme's green and sustainable development philosophy



#### Easy to repair and replace

By using standardized screws, buckles, and battery adhesives, realme's products are easier to disassemble and reassemble, greatly reducing the difficulty and cost of repair.

#### Standardized components

Standardized parts allow for quick replacement during phone maintenance, thus reducing waiting time and resource consumption caused by searching for special parts.

#### Extending product life

Provide free system and software upgrade services to ensure that the product can adapt to new technologies and applications, thereby extending the product's lifespan and increasing its value.

#### Reducing e-waste

A design that is easy to maintain means that products are more likely to be repaired rather than being discarded when encountering problems, which helps reduce e-waste and associated environmental issues.

#### Reducing environmental impact

By extending the service life of the product, the resource consumption and waste generated by frequent phone replacement are reduced, indirectly reducing the environmental impact of the entire product lifecycle.

#### Improving user experience

Modular design not only helps with environmental protection, but also provides a faster and more convenient user experience, enhancing consumer loyalty to the brand.

#### Promoting a circular economy

This design concept is in line with the principles of a circular economy, which is to reduce resource consumption and waste generation through reuse, recycling, and re-manufacturing.



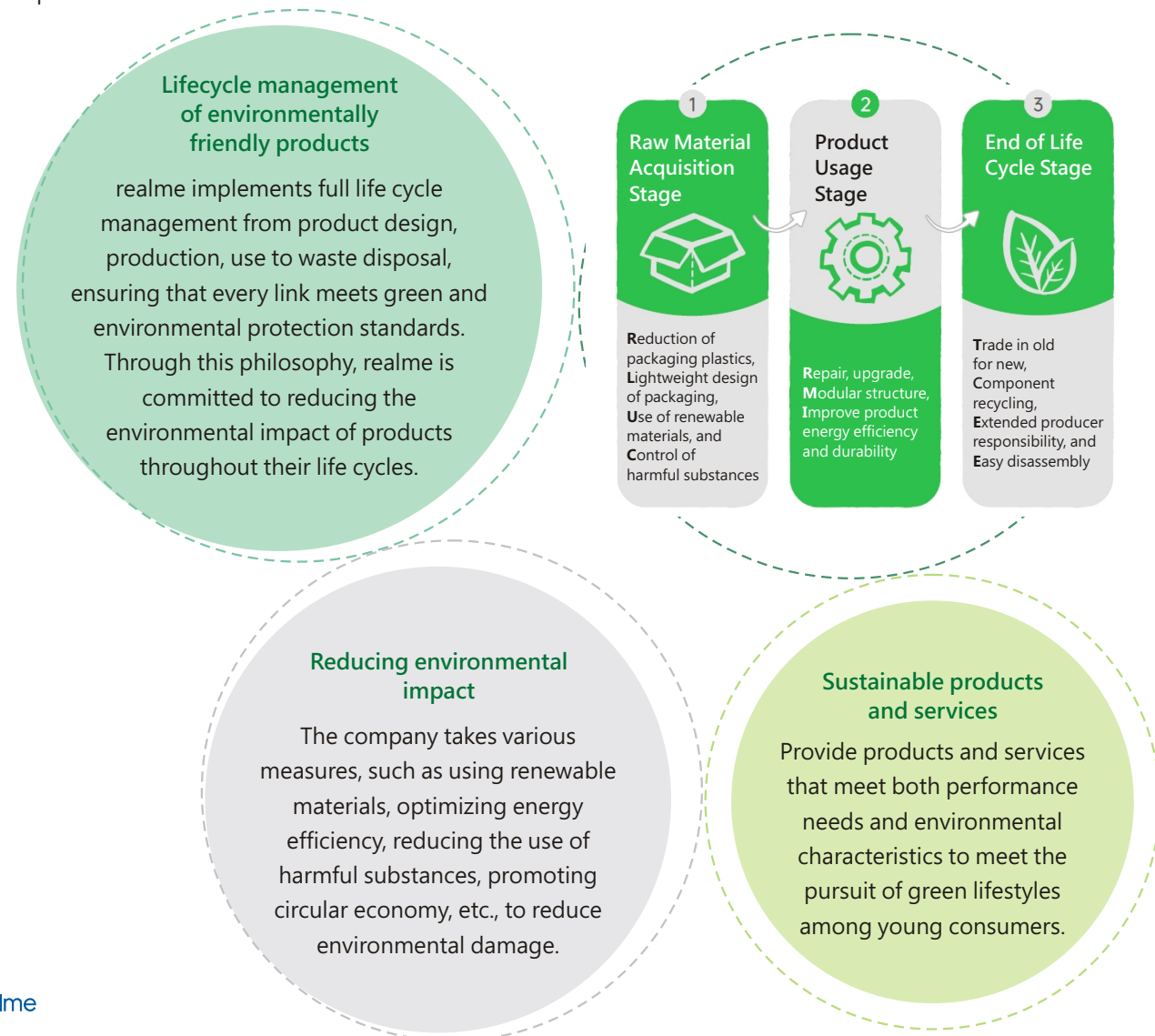
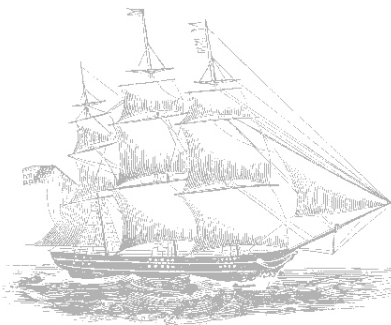


## Green Product



To let young users around the world enjoy tech experiences that **EXCEED EXPECTATIONS**

With the vision of “becoming a healthier and more sustainable enterprise”, realme is committed to sustainable development, reflecting the company's profound understanding and commitment to sustainable development. The company's corporate mission is to “enable young people worldwide to enjoy technology experience that exceed expectations”, emphasizing the need to understand young people better. We aim to make all of this a reality through continuous improvement of product performance, design, and user experience.



realme's focus on product energy efficiency performance reflects its emphasis on environmental protection and user needs:

### 01 Software optimization before leaving the factory

Each product undergoes thorough software optimization and tuning before being launched to ensure optimal energy efficiency. This includes detailed adjustments to the operating system and applications to reduce unnecessary energy consumption.

### 02 Smart management function

realme phones are equipped with smart management tools, allowing users to control the energy usage of their devices more effectively. These tools include energy-saving modes and other customized settings, allowing users to optimize battery life based on their usage habits.

### 03 Default energy saving protection

The smart power consumption protection feature is turned on by default in realme phones, which is a user-friendly design that automatically saves power without compromising the user experience.

### 04 Automatic switching of power-saving mode

When the phone's battery level drops to 20%, the system will automatically switch to power-saving mode. This is a preventive measure aimed at helping users extend battery life when charging is inconvenient.

### 05 User defined options

Users can find and set energy-saving management options on their phones based on their preferences and usage patterns. This flexibility allows users to adjust energy efficiency settings according to their specific needs.

### 06 Battery health engine and smart charging

With new battery health engine technology and smart charging, the battery life is extended while maintaining high energy efficiency.



## Green Packaging



## Use Of Renewable Materials

realme's environmental measures in product packaging reflect its firm commitment to sustainable development. Through these measures, realme not only reduces its own business's impact on the environment, but also sets new standards for green packaging for the entire industry, promoting the popularization and enhancement of environmental awareness.



### Exploring environment-friendly packaging

Continue to research and use packaging materials that have little impact on the environment, and reduce the use of traditional materials that are difficult to degrade, such as plastics and foam plastics.

### New eco-friendly packaging material design

realme products adopt eco-friendly packaging design, using plant-based inks (such as soybean inks) instead of traditional petroleum-based inks to reduce environmental pollution.



### Reducing plastic usage

In the packaging of realme GT2 Pro, the proportion of plastic usage has significantly decreased from 21.7% to 0.3%, greatly reducing the environmental footprint of plastic packaging.

### Promoting plastic-free packaging

Actively promoting plastic-free packaging, with multiple products achieving a plastic-free rate of 99%, reducing the reliance on plastics.

### Miniaturization and lightweight packaging

By canceling the standard configuration of adapters, packaging has been miniaturized and lightweight, reducing the use of packaging materials.

### Saving packaging materials

The reduction in packaging weight and volume, as well as the reduction in porosity, effectively saves material usage and reduces transportation and storage costs.

### Using recycled paper

realme product packaging uses a large amount of recycled paper which comes from recycled waste paper or plants, thus reducing the demand for new raw materials through resource recycling.

### Eco-friendly printing

The whole series of packaging adopts eco-friendly printing technology to reduce the use of chemical substances and protect the environment.

### Reducing waste

By reducing the use of packaging materials, the packaging waste that ends up being discarded is reduced, and the pressure on garbage disposal is reduced.

After canceling the standard configuration of headphones, our company will cancel the standard configuration of adapters in 2024 (starting from the European market). Taking the most commonly used 67W adapter as an example, its weight is approximately 117g. After canceling the standard configuration, it will reduce 3.17kg CO<sub>2</sub> eq/pcs, and the use of 38g plastic, 7g metal, 72g PCB materials, and other electronic components.

Bio-based materials are new types of materials made from renewable biomass or raw materials obtained through biological manufacturing. Compared with traditional fossil materials, they can significantly reduce dependence on fossil resources and carbon emissions. realme actively explores the application of bio-based materials in product development, which not only reflects the company's commitment to environmental protection, but also demonstrates innovation and leadership in sustainable development.



### Environmental advantages

The use of bio-based materials can reduce carbon emissions by 2kg per kilogram, which is 63% lower than traditional materials, thus helping reduce global greenhouse gas emissions.



### The integration of design and environmental protection

realme collaborates with industrial design master Naoto Fukasawa to use SABIC's new eco-friendly bio-based materials for the 2022 flagship model - realme GT2 series.

### Use of bio-based materials

The back shell of the realme GT2 Pro is made of up to 50% bio-based materials, which are derived from biological raw materials such as fallen leaves and pulp. These materials are renewable, biodegradable, and non-toxic. By using bio-based materials, it is estimated that for every 1 million units of the realme GT2 Pro produced, the equivalent of 3.5 million plastic mineral water bottles could be saved, making a significant contribution to environmental protection.

### ISCC certification

realme GT2 series has passed the ISCC international sustainable development and carbon certification, meeting over 40 sustainable development performance indicators.



meeting over  
**40+**  
sustainable development  
performance indicators.



# Resources Recycling



## Product trade-in

For the harmful effects that discarded electronic products may have on the environment after being used by users, realme actively fulfills its extended obligations of its producer responsibilities by reducing the impact through various measures.

## In China

We have established a product recycling system to carry out the trade in program, i.e, recycling old mobile phones and reusing them. Trade-in website:

<https://danghuan.realme.com/static/index.html/?channelId=134100>

In 2022, realme recycled

a total of  
**150,000**  
old mobile phones in China through a trade-in program,

with a weight of  
**30**  
tons of recycled products;

## In Europe

We cooperate with professional third-party recycling companies to provide financial support for the operation of local recycling systems. Third parties regularly recycle and dispose of discarded WEEE/BATT/PAK.

In 2022, realme commissioned third-party professional recycling companies to

recycle and dispose of a total of  
**232,000**

waste electronic products with a weight of  
**49.2** tons

waste batteries weighing  
**12.4** tons

waste packaging weighing  
**95.8** tons  
(including primary packaging, logistics packaging, and express packaging)



# Control Of Hazardous Substance Use

realme has implemented a series of measures in product design and production to ensure environmental protection and safety, while reducing the impact of product waste on the environment. These strict standards and procedures not only help reduce the negative impact of products on the environment, but also help enhance consumers' trust and loyalty to the realme brand.



## Harmless material selection

In the product design process, realme adopts harmless material selection measures to ensure that the materials used are safe for the environment and users.

## Continuous monitoring

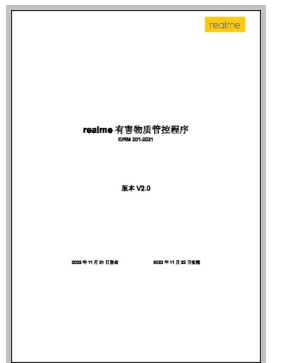
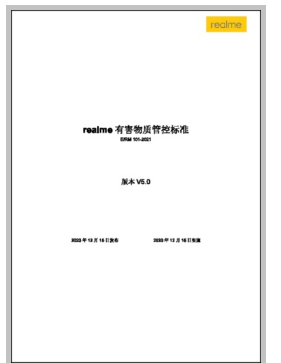
In the production process, realme conducts continuous monitoring to ensure that products comply with environmental and safety standards throughout the entire manufacturing process.

## Hazardous substance control standards

The realme Hazardous Substances Control Standards has been formulated to go beyond merely meeting the requirements of laws and regulations, and actively control a series of hazardous substances, including arsenic, beryllium, antimony trioxide, chlorinated flame retardants, brominated flame retardants, PVC, 15 polycyclic aromatic hydrocarbons and 24 phthalates.

## Hazardous substance control Procedure

The realme Hazardous Substance Control Procedure has been developed to establish an effective product environmental management system framework, ensuring that all environmental related processes of the products throughout their lifecycle are effectively managed.



Among them, the "realme Hazardous Substance Control Standard" is updated at least once a year to ensure that the latest environmental protection regulations can be incorporated in a timely manner. Through the above-mentioned standards and procedures, realme continues to produce high-quality green products that not only meet international environmental protection laws and regulations, but also meet customer requirements.

## Enhanced product durability



realme has taken the following measures to improve the durability and efficiency of its products:



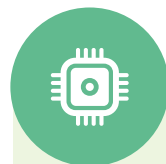
### Durability test

Each product will undergo rigorous durability testing before leaving the factory, including environmental impact and drop tests, to ensure the stability and durability of the product under normal use conditions.



### Battery health engine technology

The new battery health engine technology is adopted to improve the durability of the battery, so that the battery can still maintain 80% of the remaining capacity after 1600 cycles of charging and discharging.



### Smart charging mode

The product is equipped with a smart charging mode, which can learn the user's sleep habits. When the power reaches 80%, it will temporarily suspend charging during the user's sleep time, and then fully charge the power before the user gets up, so as to slow down the aging of the battery.



Through these measures, realme not only improves the quality of products and user experience, but also extends the service life of products, reduces frequent battery replacement caused by battery aging, and thus reducing the impact on the environment. The application of these innovative technologies reflects realme's careful consideration in product design and long-term commitment to environmental protection and sustainable development.



## A Low-carbon Strategy

In the process of achieving carbon neutrality in the future, we choose to adhere to the carbon reduction path of "enterprise own emission reduction - boundary clearance - carbon credit offset". This strategy is in line with international standards for substantial reduction of greenhouse gases in the atmosphere and is consistent with the basic principles of ISO 14068-1:2023 Climate change management- Transition to net zero- Part 1: Carbon neutrality. Therefore, we will achieve the majority of the greenhouse gas emissions reduction through proactive emission reduction, and for a small amount of remaining emissions, we will achieve carbon neutrality through high-quality carbon removal and carbon offsetting.



### Knowledge card: What is ISO 14068?

ISO 14068 is a set of standards that provides internationally recognized principles, requirements and guidelines for organizations to achieve and prove their carbon neutrality. It focuses on quantifying, reducing, and offsetting carbon footprints, utilizing a layered approach that prioritizes direct and indirect GHG reductions and removals to enhance offsets within the value chain. The standard is essential for entities committed to carbon neutrality, supporting sustainable development, and transitioning to low-greenhouse gas emission activities. It ensures that the carbon neutrality efforts are authentic, impartial, scientific and transparent.





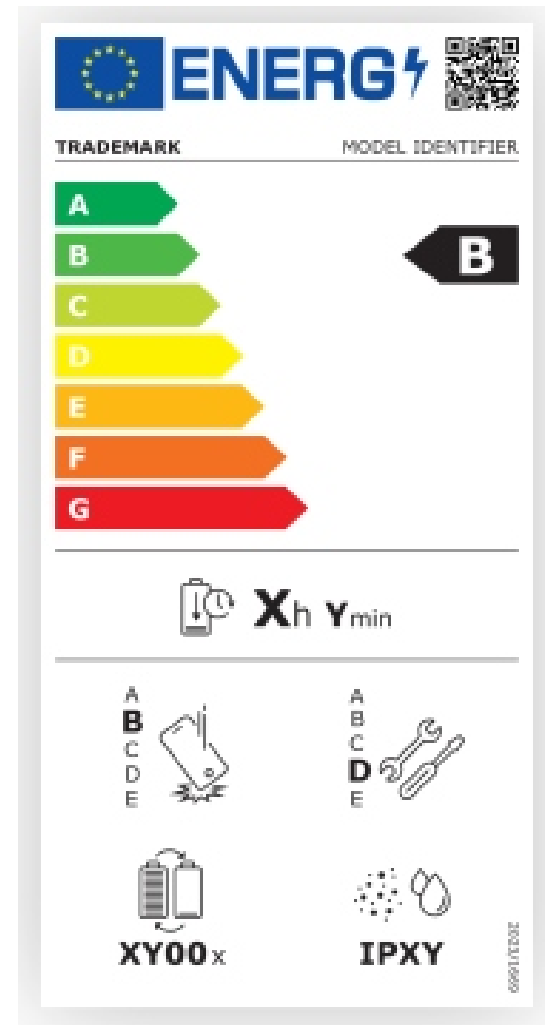
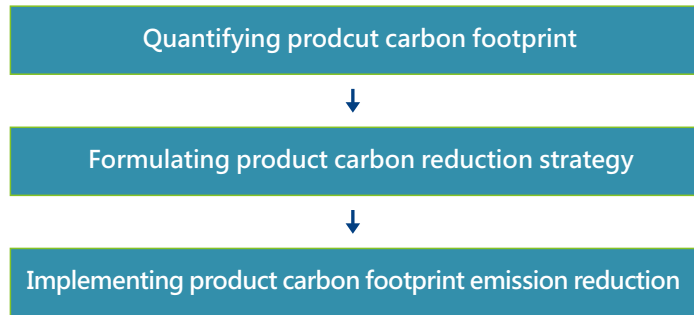
## B Low-carbon product

Mobile phones are a common consumer product in today's life. The consumer survey results show that the consumers' phones are replaced every two years on average. With the huge export volume and local consumption, the carbon emissions of mobile phone products throughout their entire lifecycle cannot be underestimated. The process of obtaining, processing, manufacturing, using, and disposing of raw materials for mobile phone products will all generate carbon dioxide emissions, which will have an impact on climate change.

We plan to conduct a full lifecycle carbon footprint accounting for our typical mobile phone products, including raw material acquisition, transportation, product manufacturing, distribution, consumer use, and the final disposal stage. The whole lifecycle will be included in the greenhouse gas emission accounting boundary. We will comprehensively understand the current status of carbon emissions and customize a mobile phone carbon footprint reduction plan that suits our own situation to help realme achieve sustainable development.

Actively respond to the requirements of Eco-design (EU) 2023/1670 and Regulation (EU) 2023/1669, extend the upgrade period of mobile phone operating systems, and provide longer after-sales spare parts services;

Please refer to : [https://energy-efficient-products.ec.europa.eu/ecodesign-and-energy-label/product-list/smartphones-and-tablets\\_en](https://energy-efficient-products.ec.europa.eu/ecodesign-and-energy-label/product-list/smartphones-and-tablets_en)



### Application case: Use of eco-friendly materials

realme GT2 Pro always adheres to the concept of environmental protection in its design, using eco-friendly bio-based materials. Bio-based materials have advantages such as green and environmental protection, energy conservation and emission reduction, renewable raw materials, and good biodegradability. According to the ISCC international sustainable development and carbon certification, carbon emissions can be reduced by up to 63% compared to traditional materials.



### Application case: Recycling of discarded mobile phones

Discarded mobile phones are full of treasures, which contain various valuable materials. Proper disposal of those materials can generate huge environmental and economic benefits. In 2022, we commissioned third-party professional recycling companies in Europe to recycle and dispose of a total of 232000 discarded electronic products, weighing 49.2 tons, equivalent to the recovery of 7.4 kilograms of precious metal gold, 148 kilograms of silver and 10 tons of copper. Calculation basis: Based on a discarded mobile phone, the gold content is about 0.015%, the silver content is about 0.3%, and the copper content is about 20% -25%.



## B Low-carbon product

### Our Key Technologies for achieving low-carbon products

- Continuously selecting low-carbon raw materials
- Promoting the use of renewable energy in product manufacturing processes
- Increasing the proportion of recyclable, recycled, and degradable materials used
- Promoting the reduction of plastic in product packaging materials
- Paying attention to the energy efficiency performance of the products
- Exploring green recycling and dismantling processes for discarded products

## C Low-carbon supply chain

As the fastest growing smartphone brand in the world, in order to solve the increasingly serious environmental problems, realme has taken the first step towards achieving carbon neutrality through its innovative design and exploration of future environmentally friendly materials. It is hoped that with realme as a starting point, environmental awareness among more mobile phone brands will be evoked and changes could be made towards carbon neutrality with joint efforts.

We will drive the product supply chain to achieve:

### 1 Low-carbon materials

realme has brought the world's first material technology - bio based materials. We will drive wider application of bio-based materials in smartphones.

### 2 Low-carbon energy

Improving the level of electrification and increasing the proportion of renewable energy application are important means for realme to achieve greenhouse gas emissions reduction in scope one and scope two. At the same time, we will also promote the wider use of renewable energy by supply chain enterprises.

### 3 Low-carbon manufacturing

According to calculations, the majority of carbon emissions from smartphones come from the manufacturing environment, realme will promote suppliers to develop carbon reduction action plans, and reduce product carbon footprint by promoting energy conservation, efficiency improvement, and emission reduction in the manufacturing process, as well as using green energy.

### 4 Low-carbon discard

realme actively fulfills its extended obligations of producer responsibilities and reduces carbon emissions from discard process through various measures. We have established a product recycling system and launched a trade in program, to achieve the recycling and reuse of old mobile phones.

## CONCLUDING REMARKS

In the face of the severe challenge of global climate change and the common call of the international community for low-carbon development, realme, as an active participant in the technology industry, feels a great responsibility. Guided by the brand spirit of "Make it real", adhering to the product concept of "No Leap, No Launch", we are committed to contributing to the realization of the global "carbon peaking and carbon neutrality" goal through scientific and technological innovation and environmental protection practices.

In response, realme has formulated and is implementing a series of low-carbon development strategies, aiming to build a green and low-carbon business model from production to consumption through new energy technologies, environmentally friendly materials and green design concepts. Every step of our products, from design to waste disposal, is given a mission of reducing environmental impact, which not only reflects our strict requirements for product quality, but also demonstrates our commitment to the sustainable development of the planet.

Our goal is clear: Achieving carbon peaking in our own operations by 2026; Achieving carbon neutrality in our own operations by 2040. In order to achieve these goals, realme will take specific actions, including but not limited to the production of low-carbon products, the adoption of renewable energy, and the optimization of green supply chain management. realme is well aware that low-carbon development is not only the responsibility of an enterprise, but also the direction of the joint efforts of the whole industry and even the world. We will actively cooperate with upstream and downstream partners to jointly promote the green transformation of the entire industrial chain and achieve a win-win situation of economic benefits and environmental responsibility.

The release of the realme Low-carbon Development White Paper marks our firm steps towards a green future. We look forward to working with all stakeholders to seize the opportunities given by the times, meet the challenges brought by climate change, and jointly open a greener, healthier and more sustainable future. Under the guidance of the brand spirit of "Make it real" and the product concept of "No Leap, No Launch", realme will continue to take technological innovation as the driving force, promote the practice of sustainable development, and contribute to building a better world.

