

Digital technology is rapidly changing the world. This does not just include economies and society, but also the natural environment, which is the very basis of our survival.

As digitalization continues to advance rapidly, ICT infrastructure is becoming smarter and can offer faster and smoother connectivity. But ICT infrastructure and the smart devices that run on it consume huge amounts of energy and resources. The ICT industry is now facing the significant challenge of how to maximize the efficiency of networks and minimize energy and resource consumption, as well as other environmental impacts, without compromising network performance or user experience.

Meanwhile, advances in digital technology are creating new possibilities for environmental sustainability. According to Huawei's Global Industry Vision (GIV), by 2025 carbon emissions per ICT connection will be reduced by 80% on average. ICT is becoming an important enabling technology for a greener world. ICT-enabled power saving and reduction of carbon emissions will far exceed the industry's own power consumption and carbon emissions. In 2025, this will be 11 times higher than the current level.

This will present challenges, but will also create even more opportunities. We need to minimize environmental impacts and risks, and use innovative digital technologies to create new opportunities for promoting the sustainable development of the Earth's ecosystem.

Green Products
Green Operations
Green Partners
Green World

4 Environmental Protection





Green Products

Huawei has built sustainability into its product development processes. We control the use of hazardous substances, and explore how to design more energy-efficient products. To adapt to future network technologies and evolving architecture, we have also created innovative power-saving solutions that reduce power consumption and carbon emissions. In addition, we provide first-class energy-efficient products and promote green ICT solutions to help conserve energy and reduce emissions in various industries.

Huawei has integrated the concept of circular economy into its design. We take environmental impact into account at every stage of the product lifecycle, from raw material selection and processing to use and disposal. We are working to minimize the impact we have on the environment.

Huawei's green design approach

Raw material acquisition

- Selecting harmless materials to reduce the environmental impact of disposed products.
- Using more recycled and secondary materials.
- Lightweight designs: Minimizing the use of materials, while still ensuring full functionality.

Product use

- Extending product lifespan through design.
- Designing products as modules or platforms to make them easier to upgrade and repair, and increasing product utilization.

End of lifecycle

- Products are easy to disassemble, avoiding

"always-on" designs, and high-value modules can be disassembled without being damaged.

- Researching the disassembling and reuse of scrapped products and categorizing the materials that can be reused before reprocessing. This has increased the reuse rate of recycled products and components.
- Different materials can be easily disposed of separately.

Product Lifecycle Assessment (LCA)

We follow ISO 14040 and ISO 14044 to conduct lifecycle assessments and quantify the environmental impact of our products. LCA not only helps quantify the environmental impact of different products, but also informs us of how we can improve product design to make them more environmentally friendly, including improvements in raw material selection, manufacturing processes, energy use, packaging, transportation, and recycling.

To make its products' environmental information more transparent, Huawei created a Product Environmental Information platform and first rolled it out to its consumer domain. On this platform, we release environmental information reports for our various types of smartphones and tablets, so that consumers can find information regarding the environmental impacts of their products during their lifecycles.

Link to the platform:

<http://consumer.huawei.com/en/support/product-environmental-information/index.htm>

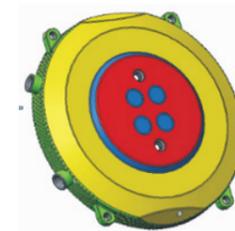
STORY Using Bioplastics to Protect Non-renewable Resources

Starting in 2013, Huawei has used bioplastics extensively in its mobile phones. Bioplastics are much more eco-friendly than traditional

plastics because they are made from plant extracts rather than petroleum – a non-renewable resource. They can help greatly reduce environmental

pollution and damage, and protect non-renewable resources.

In 2018, Huawei expanded its use of bioplastics to more products, including the P20, P20 Pro, Mate RS, Mate 20, Mate 20 Pro, and Mate 20 RS, as well as the base of Huawei Watch GT. More than 30% of the bioplastics are extracted from castor oil, leading to a 62.6% reduction in CO₂ emissions. In 2018, Huawei's use of bioplastics helped reduce about 612 tons of CO₂ emissions.



Base made of bioplastics



Huawei Watch GT

STORY Using FSC-certified Packaging to Protect Forest Resources

Huawei Device increasingly uses FSC certified packaging for its products to minimize the impact

that product packaging has on the environment and to protect forests. FSC is a supply chain management

certification that ensures the materials for our packaging come from well-managed sustainable forests. This marks a huge step forward for protecting biodiversity. In 2018, the packaging for many of our products was FSC certified, including the P20, P20 Pro, Mate RS, Mate 20 Pro, and Mate 20.



Packaging for Huawei's Mate 20 smartphones

STORY Lightweight Packaging Design to Reduce Carbon Emissions

In 2018, our lightweight packaging design also began to see results. Better design for retail packaging has helped improve resource utilization, with most phone packaging now about 20% lighter than previous designs. This equates to an annual reduction in CO₂ emissions of about 5,813 tons.

We have also adopted lightweight designs for our logistics packaging to reduce carbon emissions during transportation. In early 2018, we launched a pilot program to reuse shipping cartons for product delivery. In 2019, this program will be rolled out for all shipments and is expected to reduce carbon emissions

by 1,094 tons each year. At the same time, we have improved the materials used in our cartons. We have adopted a lightweight design while ensuring all packaging and assembly requirements are still met. Cartons are now 10% lighter, which is expected to reduce CO₂ emissions by 994 tons each year.

Since 2008, Huawei has started using aircraft pallets, which are 50% lighter than plywood pallets. In 2018, the transported weight was reduced by 3,098 tons, equivalent to a CO₂ emissions reduction of 808 tons.



Reused cartons



Aircraft pallets

STORY Smart Solutions Ensure Long-lasting Battery Life for Smartphones

Continuous Process Improvement and System-level Power Saving Solution: Huawei uses the Kirin 980 chip, which is manufactured using 7nm processors, in its multiple products, beginning with the Mate 20 series. This helps greatly improve performance and energy efficiency, and achieve optimal energy efficiency while providing excellent performance.

The Kirin CPU has an energy efficiency architecture consisting of four ultra-large cores and four small cores. This grants the CPU the flexibility to allocate the optimal amount of resources to heavy, medium, and light tasks, greatly reducing power consumption for

the System on a Chip (SoC) in all scenarios.

A proper mechanism for allocating resources to different applications is a key factor that affects power consumption in mobile phones. Huawei's EMUI system can allocate resources in a way that optimizes energy efficiency and enhances battery life based on behavior prediction and component capabilities.

The battery life of the Huawei Mate series and P series is 30% longer than that of their predecessors. A total of 40 million users will save 114,000 kWh of electricity per day.

Using Innovative Technologies for Higher Performance and Lower

Power Consumption: GPU Turbo, a revolutionary graphics processing acceleration technology, overcame the processing bottlenecks between Huawei's EMUI operating system and smartphone GPUs/CPU. It makes graphics processing much faster and enables the SoC to use less energy, achieving an optimal balance between performance and power consumption.

As a new Android application compiler, Huawei Ark compiler can significantly improve the operating speed of mobile phones, make system operations smoother, and reduce the system overheads required when performing the same tasks.

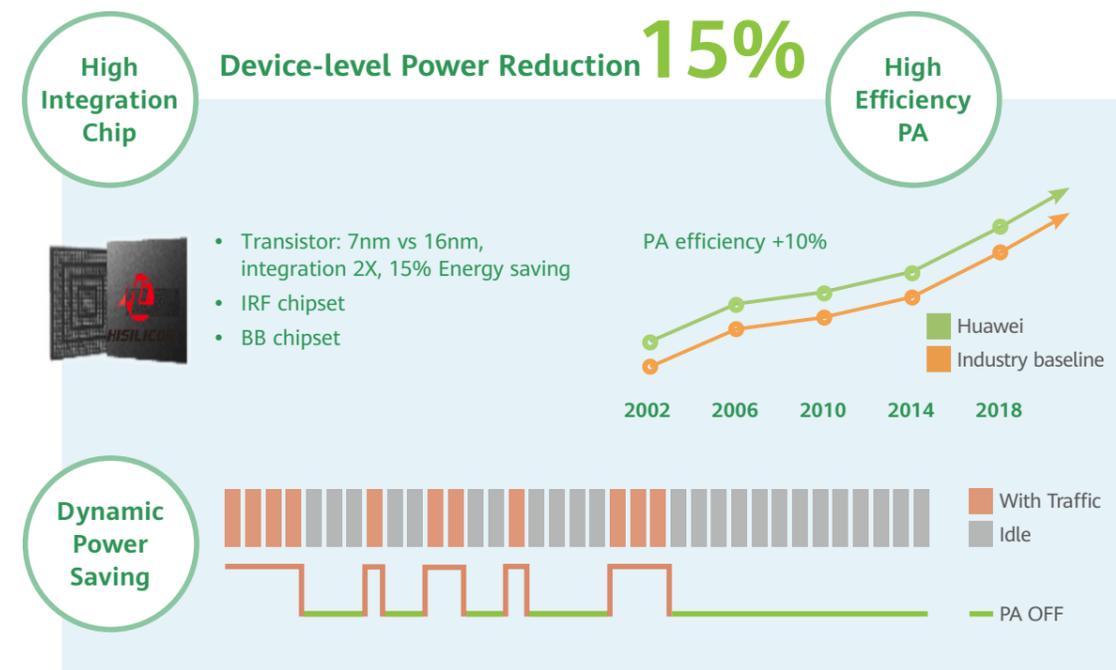
STORY Ongoing Innovation in Energy-saving Technologies, Applications, and Products to Support 5G Network Evolution

Huawei owes its leading end-to-end 5G capabilities to its technological innovations in various domains like Massive MIMO, simplified sites, 5G microwave, and 5G chipsets. Huawei's 5G solution helps carriers deploy simplified 5G networks with superior performance. Specifically, this solution helps

simplify network architecture, and greatly slash TCO, including buildout and operational costs, while ensuring the rapid deployment of large-scale, high-performance 5G networks.

We have also used high-integration chips, high-efficiency power amplifiers, and 5G-enabled power shutdown to save energy,

cutting the power consumption of 5G equipment by 15%. In addition, Huawei has worked with carriers to develop 5G energy efficiency assessment standards, improve the methodology for defining and assessing 5G energy efficiency indicators, and drive continuous improvement of 5G energy efficiency.



Management of Hazardous Substances at Huawei

Hazardous substances include any substances of which the use must be prohibited, restricted, reduced, or reported according to the law or customer requirements. These substances are detrimental to human health or the environment. To handle such substances, Huawei has established a management system in line with IECQ QC 080000 standards. In reference to global environmental laws

and regulations as well as industry standards, we have developed regulations for managing controlled substances in consideration of the realities of our products. By doing so, we seek to protect human safety while reducing environmental impact throughout our products' entire lifecycle. These regulations apply to all restricted, reported, and to-be-restricted substances, guide the selection of materials at the product design stage, and set out requirements for suppliers and partners.

On December 26, 2018, Huawei Device was



IECQ QC 080000 certificate obtained by Huawei Device for servers



TÜV Green Product Mark certificate for switches



Mate 20



among the first to be awarded the new IECQ QC 080000: 2017 Certificate. The certification attests that the quality management system is more systematic, standardized, transparent, and complete regarding green products and the control of hazardous substances throughout our processes. It also lays a solid foundation to help us enhance compliance and build a sustainable, green device industry.

Green Product Certificates

China Environmental Labeling

Huawei embeds the concept of green design across the full lifecycle of its servers to minimize negative impacts from our products and conserve energy resources. In 2018, more than 200 of Huawei's server models, including rack servers, blade servers, multi-node servers, integrated storage servers, and distributed storage servers, were accredited by the China Environmental Labeling program, known as the "10-Ring Certification".

This makes Huawei one of the most certified server providers in the industry.

TÜV Green Product Mark

TÜV Rheinland's Green Product Mark is a renowned certification program that assesses products across many metrics, including environmental protection, recycling, energy conservation, electromagnetic compatibility (EMC), safety, carbon footprint, and corporate social responsibilities.

In 2018, two models of Huawei's routers and switches received TÜV Rheinland's Green Product Mark certificates.

Huawei Device Has Obtained China's Green Supply Chain Certification

Green supply chain is about integrating environmental protection and resource conservation into enterprise production, processing, and transportation processes, making sure these business activities are environmentally friendly. Huawei Device

has implemented green supply chain management and plays a leading role in environmental protection along the supply chain. In particular, we contribute to society by saving energy, reducing emissions, and protecting the environment during our own operations. We also guide both upstream and downstream enterprises along the supply chain to increase resource and energy utilization, improve their environmental performance, and achieve green development.

Huawei Device is on China's list of recognized green supply chain certified enterprises, thanks to its outstanding performance across six indicators: supply chain management strategy, green supplier management, green production, green recycling, green information platform construction, and green information disclosure.

TLC Certificate for Green Product Certification

In 2018, the Thayer Certification Center (TLC) launched a new certification scheme for green products. The certification focuses on energy conservation and

also measures indicators spanning environmental protection, EMC, safety specifications, production processes, packaging, and recycling. Huawei's two uninterruptible power supply (UPS) products have received this certification, making them part of the first batch of products that had been awarded the TLC Certificate for Green Product Certification.

US UL110 Certification for Green Products

UL110 is an environmental standard developed by Underwriters Laboratories (UL) to assess the sustainability of mobile phones. UL110 certification is one of the most recognized green standards. It assesses products in eight areas: sourcing materials, manufacturing and processing, emissions, energy efficiency, health and safety, transportation, disposal and recycling, and innovation. It then produces a final certification assessment.

In 2018, several Huawei phones passed the new UL110 Gold Certification, including the P20, P20 Pro, Mate 20, Mate 20 X, Mate 20 RS.

China Quality Certification (CQC) for Environmentally Friendly Electrical and Electronic Products

The certification program was designed based on the lifecycle stages of electrical and electronic products, from product design and manufacturing to product use and recycling. It assesses the environmental factors (e.g., ecological design, resource consumption, material use, pollutant discharge, packaging, and reuse) at each of these stages and assigns the assessed products a grade – A, B, or C. A represents the highest level of certification.

In 2018, 23 Huawei products received an A grade, including the Honor Magic 2, Huawei Enjoy

9 Plus, Huawei MediaPad T5, Honor Note 10, and Honor WaterPlay.

Other Certificates

In 2018, three Huawei wearable products were awarded the TÜV SÜD Wearable Devices Certification Mark: the Huawei Kids Watch 3 Pro, Honor K2 Kids Watch, and Huawei Kids Watch 3. We had several products ENERGY STAR® certified, including four tablets (i.e., Honor WaterPlay, Huawei MediaPad M5, MediaPad C5, and MediaPad T5) and four models of MateBook. So far, Huawei has 40 models across 14 product categories with China's green products design certification, including mobile phones, tablets, and personal computers.



Honor Magic 2



Green Operations

Huawei is committed to ensuring its business is environmentally friendly, which is reflected by our low-carbon campus management. We have adopted initiatives to reduce our energy consumption and CO₂ emissions such

as implementing an energy management system, making managerial and technological improvements, and using clean energy. These efforts are helping us minimize the environmental impact of our business operations.

Energy and Resource Consumption Statistics of Huawei's China Region Operations from 2014 to 2018

| Energy | Unit | 2014 | 2015 | 2016 | 2017 | 2018 |
|-------------|-----------------------|---------|---------|---------|---------|---------|
| Natural gas | 10,000 m ³ | 491 | 522 | 993 | 711 | 1,114 |
| Gasoline | Ton | 390 | 363 | 358 | 600 | 251 |
| Diesel | Ton | 46 | 41 | 116 | 256 | 77 |
| Electricity | 10,000 kWh | 113,325 | 134,700 | 168,653 | 207,095 | 235,504 |
| Steam | Ton | 19,881 | 20,561 | 20,352 | 21,801 | 23,143 |
| Water | 10,000 ton | 548 | 700 | 936 | 813 | 1,041 |

In 2018, our consumption of natural gas, electricity, steam, and water grew as many new campuses and facilities in China became operational during the second half of 2017 and throughout 2018. These campuses and facilities include our Wuhan Research Center, Xi Liu Bei Po Cun in Dongguan, buildings E2B and E2C in Zone D of the Southern Factory in Dongguan, Zone A in the Nanjing Research Center, and Zone K at Shenzhen headquarters.

Most of the water we consume in our operations is used for landscaping, canteens, and air-conditioning systems. To reduce water usage, we have rolled out clean production technologies and adopted a variety of measures such as collecting rainwater, recycling cooling water, and buying reclaimed water for cleaning and

landscape maintenance on campuses.

In 2018, we used 10.41 million m³ of water, up 28% year-on-year. This increase was largely attributable to our business growth, larger construction sites, and bigger landscaping areas.

2018 GHG Emissions

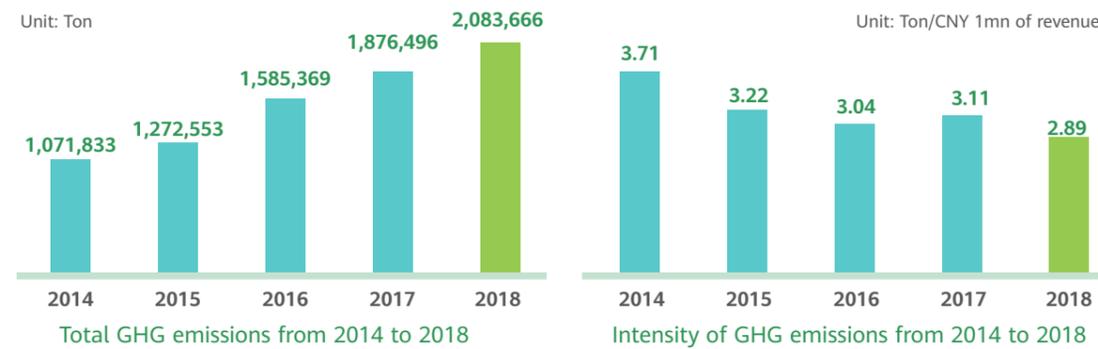
| GHG | Scope 1 | Scope 2 | Total |
|---------------------------------|---------|-----------|-----------|
| Emissions (t-CO ₂ e) | 43,375 | 2,040,291 | 2,083,666 |
| Proportion | 2.08% | 97.92% | 100% |

In 2018, the GHG emissions of our China Region operations totaled 2,083,666 tons, an increase of approximately 11% from 2017. This increase can be attributed to three key factors. First, our business grew significantly, with our annual revenue increasing to US\$105.19 billion. Second, we built several new campuses. Third, we upgraded our office facilities.

Scope 3 GHG emissions include but are not limited to emissions from employee travel and commutes as well as emissions from suppliers' raw material production, transport of raw materials and products, product use, and product outsourcing. In

2018, Huawei calculated the GHG emissions from employee travel and commutes only.

In 2018, our CO₂ emissions per million RMB of sales revenue were 2.89 tons. This represented a 24.5% decrease compared to the base year (2012).



STORY Optimizing Energy Management and Passing a Third-Party Audit Based on ISO 50001 Energy Management Standards

In 2018, we took a variety of initiatives to manage energy: identifying energy-saving opportunities and reinforcing the management of energy consumption by running the energy management system; setting measurable energy consumption targets at the company, regional, system, and equipment levels; and developing actionable energy-saving plans in line with the energy management strategy and energy consumption targets.

During a third-party annual

audit, which examined how our Shenzhen campus managed energy, the auditor checked eight technological improvement projects (e.g., upgrading the electromechanical components of water chilling units) and two managerial improvement projects (e.g., reasonably adjusting air-conditioner temperatures) that Huawei had implemented. Improvement projects that were completed by September 2018 on our Shenzhen campus produced positive results, saving 1.72 million



kWh of electricity. In November, Huawei passed the third-party annual audit based on ISO 50001 Energy Management Standards.

Executing a Green Logistics Service Strategy to Build a Sustainable Office Environment

In 2018, we referred to industry best practices and encouraged our campus management suppliers to manage energy more efficiently. This included setting procedures and control parameters for any common facilities that have a major impact on energy consumption, such as cooling facilities, electricity

transformation and distribution systems, laboratories, and lighting systems. We also identified other variables that noticeably affect energy efficiency, such as temperature changes and staff capacity. We set and analyzed the parameters of the energy management system to ensure controls were effective. In 2018, we implemented more than 150 energy-saving programs on our campuses in China, saving over 50 million kWh of electricity.

Typical energy-saving programs are as follows:

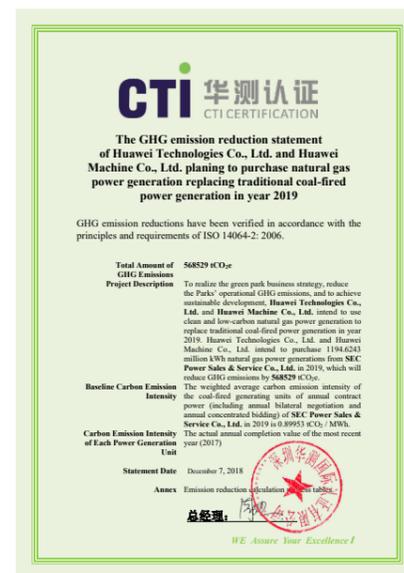
| No. | Area of Improvement | Involved System | City | Project Name |
|-----|---------------------------|--------------------------------------|----------|--|
| 1 | Technological improvement | Lighting | Hangzhou | Upgrading lighting circuits in labs |
| 2 | Managerial improvement | Air-conditioner | Hangzhou | Upgrading cooling towers |
| 3 | Managerial improvement | Other | Hangzhou | BEOP system |
| 4 | Managerial improvement | Lighting | Hangzhou | Energy saving for the Z7 cafeteria |
| 5 | Technological improvement | Air conditioner | Nanjing | Removing wet film from air handling units |
| 6 | Technological improvement | Air conditioner | Nanjing | Installing wet bulb temperature sensors on cooling towers |
| 7 | Technological improvement | Air conditioner | Nanjing | Reducing the temperature of cooling water by changing the fill media of cooling towers |
| 8 | Technological improvement | Air conditioner | Nanjing | Upgrading balance tubes in refrigeration stations |
| 9 | Technological improvement | Power supply and distribution system | Wuhan | Upgrading power cables in the thermal chamber lab |
| 10 | Technological improvement | Air compression system | Chengdu | Replacing and adjusting air compression systems |
| 11 | Managerial improvement | Lighting | Chengdu | Optimizing office lighting rules outside working hours |
| 12 | Technological improvement | Air conditioner | Chengdu | Adjusting the frequency of secondary pumps inside water chilling systems in data centers |
| 13 | Managerial improvement | Air conditioner | Chengdu | Installing balance valves in cooling towers |

| | | | | |
|----|---------------------------|------------------------|----------|--|
| 14 | Technological improvement | Air conditioner | Chengdu | Adjusting the temperature of cooling water at the outlet |
| 15 | Technological improvement | Air conditioner | Chengdu | Controlling the approach temperature of cooling towers in the north and south sections of the campus |
| 16 | Technological improvement | Air conditioner | Chengdu | Adjusting the flow of freezing pumps |
| 17 | Technological improvement | Air conditioner | Shenzhen | Installing a device for cleaning condensers when air conditioners are powered on |
| 18 | Technological improvement | Air compression system | Shenzhen | Upgrading air compression systems for lower energy use |
| 19 | Technological improvement | Air compression system | Dongguan | Upgrading air compression systems for lower energy use |
| 20 | Technological improvement | Air conditioner | Dongguan | Calculating efficiency enhancement via the temperature-entropy (T-S) diagram, and comparing the energy consumption of precision air conditioners |

Procuring Clean Energy for Green Campuses

In 2018, Huawei continued with its clean energy program. We actively worked with electricity suppliers and engaged with gas power plants that have clean energy capacity, which provided us with gas power to run our campuses. In 2018, we used about 932 million kWh of electricity from clean energy sources, representing an emissions reduction of about 450,000 tons.

We also estimated campus demand for electricity in 2019 and urged our electricity suppliers to negotiate with multiple gas power plants. We purchases 1.19 billion kWh of gas power, which is expected to reduce carbon emissions by more than 560,000 tons.



Statement on greenhouse gas emissions reduction

Using Shuttle Buses Powered by New Energy

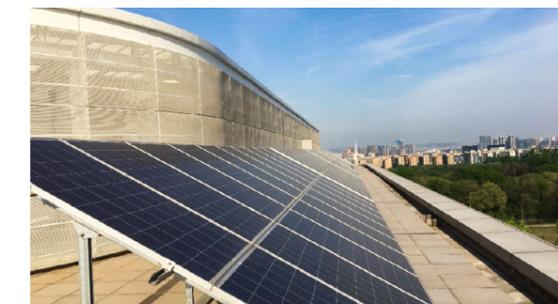
In 2018, we brought in over 800 new-energy shuttle vehicles for use on our campuses in China, replacing diesel buses. This is expected to reduce annual CO₂ emissions by about 32,000 tons.

Building More PV Plants on Our Campuses



We use clean and renewable energy to build green campuses that boast low carbon emissions. Our Southern Factory in Dongguan, Hangzhou Research Center, and Nanjing Research Center finished constructing their smart PV plants and connected these plants to the grid in June 2012, March 2015, and December 2017, respectively. These PV plants have a combined capacity of 19.35 MW, and generated over 16 million kWh of electricity in 2018. This is equivalent to a reduction in CO₂ emissions of more than 13,000 tons.

Smart PV plant at Huawei's Southern Factory in Dongguan Capacity: 17.5 MW Connected to the local grid in June 2012



Smart PV plant at Huawei's Hangzhou Research Center Capacity: 1.8 MW Connected to the local grid in March 2015

Smart PV plant at Huawei's Nanjing Research Center Capacity: 0.05 MW Connected to the local grid in December 2017



Green Partners

The sustainable development of the industry chain relies on the involvement of suppliers. In recent years, customers and other stakeholders have paid great attention to our ability to reduce carbon emissions through suppliers. This not only helps suppliers improve their energy efficiency and reduce operating costs, but also reduces customers' carbon footprints.

Implementing green management for suppliers is an effective way to make the supply chain more competitive and promote the sustainable development of enterprises to the greatest extent possible. Huawei continues to carry out a green partnership program, and works with suppliers to provide innovative solutions for energy conservation and emission reduction. We also participate in related industry organization activities and the development of related standards to help build a comprehensive green supply chain.

Environmental Protection and Energy Conservation through Suppliers

Since 2011, Huawei has been supporting the Green

Choice Alliance, which was established by the Institute of Public and Environmental Affairs (IPE), a non-governmental organization. We have added the IPE's enterprise environmental data to our supplier audit list and supplier self-checklist. When query results show that a supplier violates environmental rules, Huawei immediately asks them to solve the problems within a designated timeframe. In 2018, routine queries about the environmental data of 900 key suppliers revealed 52 violations of environmental protection rules, and these violations were properly addressed. On the IPE's 2018 Greening the Global Supply Chain – Corporate Information Transparency Index (CITI), Huawei was scored as the leading company in mainland China and ranked 7th in the IT sector.

We encourage our suppliers to develop energy metering systems, audit their energy usage, identify opportunities to reduce energy use and carbon emissions, study industry-leading practices and case studies, and develop and implement their own energy conservation and emissions reduction plans.

In 2018, a total of 20 suppliers took part in our program, together reducing CO₂ emissions by 51,094 tons.

CO₂ Emissions Reduction of Suppliers Involved in Our Program from 2014 to 2018

| Year | Number of Suppliers | CO ₂ Emissions Reduction (Ton) |
|------|---------------------|---|
| 2014 | 20 | 53,652 |
| 2015 | 35 | 77,144 |
| 2016 | 20 | 55,000 |
| 2017 | 25 | 63,000 |
| 2018 | 20 | 51,094 |

Green World



Huawei is committed to promoting green ICT solutions. We aim to drive industries to conserve energy and reduce emissions and build an environmentally friendly low-carbon society that saves resources. We use innovative energy solutions to help our customers and users reduce their power consumption and carbon emissions. At the same time, we take products'

environmental impacts into account throughout the entire supply process. In particular, we carry out waste recycling, product trade-in programs, and other such activities to improve the reuse rate of returned materials, reduce the landfill rate of waste, and minimize the negative impact on the environment. We work with all other players in the industry chain to build a more beautiful, greener world.

STORY Huawei's PowerStar Energy-saving Solution Reduces Carbon Emissions of Base Stations

At the Huawei Global Analyst Summit 2018, Huawei launched PowerStar, a new solution aimed at reducing the energy consumption of multi-mode multi-band mobile communications networks. With PowerStar on networks, base stations typically use between 10% and 15% less energy, cutting around 2,000 tons of CO₂ emissions annually for every 1,000 sites. Huawei's solution allows carriers to cut network OPEX, while helping take the telecom industry one step closer to the UN's SDG 13 – Climate Action.

Enabled by AI and other innovative technologies, Huawei's PowerStar solution allows well-coordinated energy saving across different base stations of a network working on different bands and modes. With the solution, power saving strategies can be customized based on network configuration and data traffic.



That means a different energy-saving policy can be adopted for each base station, reducing unnecessary energy consumption in wireless networks. Our aim is to ensure "Zero Bit, Zero Watt", and save as much energy as possible without undermining wireless network performance.

Huawei's PowerStar solution has been verified and deployed in multiple countries such as China, South Africa, and Morocco. According to a GSMA case study on PowerStar in South Africa, the solution can help increase carrier energy savings on main wireless

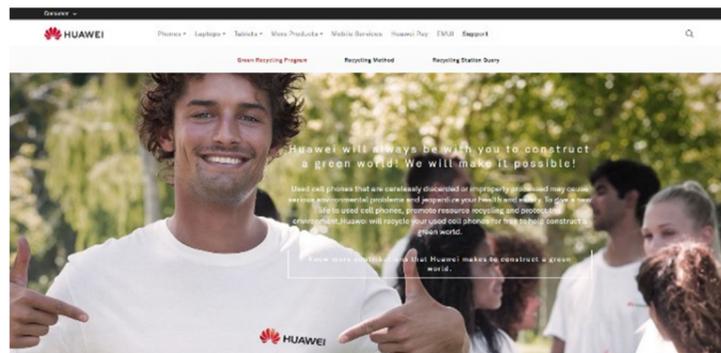
network equipment by 11.6%, saving 6.43 kWh per day for a single base station while maintaining stable network performance.

In Zhejiang Province, China, PowerStar helped carriers reduce power consumption by 12% on main wireless network equipment. This solution is expected to save 26 million kWh power for all wireless networks in Zhejiang each year. It is estimated that a typical live network with 1,000 base stations can save 1.46 million kWh of power per year with PowerStar, equivalent to a reduction of 1,370 tons of carbon emissions per year.

STORY Building a Recycling System for Less Environmental Pollution

Huawei fulfills its extended producer responsibility. We have developed a global recycling system for consumer products and offer consumers channels for recycling their used electronics products. This helps reduce the environmental impact, such as pollution, caused by scrapping electronic products. We have also organized recycling initiatives to give consumers a better understanding of Huawei's recycling channels, and invite them to participate in the recycling process. These efforts have contributed to a circular economy. By the end of 2018, we had more than 1,300 recycling stations in 48 countries and regions around the world.

Recycling website outside China:



<https://consumer.huawei.com/en/support/recycling/>

In 2018, we further scaled up our product trade-in program to lower the purchase cost of new products while increasing the reuse rate of old products. In China, we also introduced a new online program: credit-based recycling, where we give

users coupons in return for recycling. We also established 193 new trade-in stations. Outside China, our trade-in program is available in nine countries, including Russia, Italy, Germany, and the United Arab Emirates. In 2018, we recycled more than 140,000 phones worldwide through the trade-in program.

STORY Improving Software and Hardware to Extend Mobile Phone Lifespans

Huawei EMUI, a custom mobile operating system based on Android, offers free upgrades to old users. The EMUI system that is based on major Android releases is updated every year, and some phone models can even enjoy two free upgrades of major Android releases each year. In this way, users can enjoy the latest experiences enabled by EMUI and Android over the course of their mobile phone's lifespan.

Huawei is committed to quickly upgrading old phones to the latest major EMUI version. We also continuously launch new technologies like GPU Turbo and new features, such as full-screen gestures, emergency SOS, WeChat fingerprint payment, and security patches, to

older models so they can stay up to date. Our latest EMUI versions provide users of older models with the latest features and rich, smart experiences in their work and entertainment. This extends the lifecycle of mobile phones, maximizes the benefits for consumers, and contributes greatly to the circular economy.

In 2018, Huawei Device launched a Battery Replacement program, through which users can replace their old phone batteries at a fixed low price. This program covers more than 70 old and new models at more than 1,200 service centers and through multiple digital retail platforms. Through this program, Huawei provides cost-effective and convenient battery

replacement services for 200,000 consumers every month, extending the lifespans of their phones. In addition, we provide standard battery disposal programs to avoid potential security risks caused by unauthorized removal, installation, or maintenance of batteries.

We have also initiated a discounted repair program to help reduce maintenance costs for consumers, maximize the reuse of spare parts and other related resources, and extend mobile phones lifespans through maintenance. With this program, Huawei even returns consumers' phones directly to production factories for general repair, screen replacement, and motherboard maintenance.

STORY Huawei's Green Energy Solution Helps Carriers Cut Power Consumption

Huawei's hybrid power solution PowerCube 1000 helps to provide stable power supply in a green, intelligent, and cost-effective manner and provides digital connectivity to remote areas, especially remote areas in Africa where power is inaccessible or unstable.

The solution integrates enhanced digital and AI technologies. In Africa, for example, the solution

helped dramatically cut the TCO, making it possible to build wireless base stations in a more economical manner. In addition, this helped customers halve both their fuel costs and carbon emissions. For example, after deploying Huawei PowerCube 1000, a carrier in Ethiopia saw annual fuel savings of 12 million liters.

By the end of 2018, the Huawei PowerCube 1000 solution had been

widely applied across 93 countries and regions and provided telecom energy services for more than 130 carriers, helping Huawei earn customer trust and support.

At the awards ceremony of the 21st AfricaCom, held in November 2018, Huawei's hybrid power solution PowerCube 1000 received the Best Sustainable Power Solution award.

Building a Reverse Supply Chain That Is Secure, Compliant, Green, Efficient, and Intelligent

While ensuring security and compliance, we have used digital technologies to establish a global management system for returned materials, covering material return and storage, and scrapping. This can help increase the reuse rate of materials and better dispose of waste.

Increasing the Reuse Rate of Returned Materials

We have gradually refined the channels for handling returned materials, and have different reuse channels based on materials' lifecycle phase, quality, and packaging. Reusable products that meet certain criteria are first allocated to our internal reuse channels such as for R&D, spare parts, and new manufacturing. For materials that do

not involve cyber security risks or sensitive information, we resell the items or have them disassembled and recycled by certified service providers if there is no internal demand for these materials. As of the end of 2018, the reuse rate of Huawei's returned products was 82.3%.

Reducing Landfill Rate of Waste

Huawei fully complies with related standards for e-waste disposal. We have put in place a global scrapped materials management system that records the type, quantity, and weight of scrapped materials worldwide. We have also expanded our partnerships with leading e-waste disposal companies, and shared our waste disposal data with them. We have worked together to identify key materials that impact the environment, and developed targeted disposal solutions to help reduce landfill e-waste. In 2018, we disposed of 11,332 tons of e-waste globally, among which 190 tons (only 1.68%) were landfilled.

