

LIGHTING UP A SUSTAINABLE FUTURE

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SUSTAINABILITY AT SELF

SELF Electronics, is committed to providing energy efficient lighting solutions, helping our customers to create more value and actively contributing to climate and environmental protection. Sustainability has been part of our development for many years. We integrate the social responsibility into the company's management, adhere to sustainable development strategies, and reduce carbon emissions.

As a responsible enterprise, we have been improving resource utilization efficiency and reducing resource consumption through all aspects of product development, production, packaging, transportation, and recycling. The project cases we have done prove that we have made significant contributions to sustainability. Looking ahead, we continue to strengthen our commitment to sustainability and social responsibility through technical innovation and continue improvement.



Mission

Do better, together

People and the environment are interdependent and indivisible. At SELF, we seek sustainable solutions to reduce our carbon footprint, exploring and practicing this in research & development, design, sourcing, production, and operation.

Our mission is to make life better through SELF lighting solution and create a more sustainable future with the full commitment of system and the active participation of our employees which are established in our values and corporate culture.

SELF has been awarded the silver and bronze medal for Corporate Social Responsibility by EcoVadis. This recognition provides us a reliable assessment of our extensive work in sustainability and represents a guarantee of high quality for our partners and customers.



Guidelines

We approach sustainability throughout every stage of our products' lifecycle

Product Innovation – We're working towards make the transition to a low-carbon economy through our energy-efficient product innovations. Our team maintains focus on delivering products that meet sustainability requirements by integrating environmentally efficient practices throughout R&D, sourcing and design.

Responsible Operations – Our workplace and manufacturing practices prioritize the well-being of our employees and resource conservation. We value our employees and communities and adhere to comprehensive Environmental, Health and Safety (EHS) management guidelines that help ensure safe, secure, and healthy working conditions.

Acting with Integrity – We act with integrity to uphold the practices expected by our customers and partners. And we seek out suppliers that share our philosophy and approach. We have integrated these requirements into our business processes, our policies, and Code of Ethics to make these commitments actionable.

Sustainability goals

Through innovation and commitment, we have made progress in our sustainable action categories.

Sustainability goals

- 1) Reduce waste generation and control the formation of solder dross in wave soldering, with an annual average oxidation generation rate of less than **11.7%**.
- 2) Manage water resource consumption, achieving a monthly average water usage of 2.7 tons per person in 2023, a **10%** reduction from the monthly average water usage in 2022.
- 3) Manage electricity consumption, maintaining an average comprehensive energy consumption of **0.01** tons of standard coal per 10,000 yuan (RMB) of output value in 2023, consistent with the 2022 average.

Environmental management system

SELF obtained ISO 14001 certification in 2009. SELF' s environmental management system is growing in line with the company' s more complex requirements and technical progress, and it undergoes regular external audits. Binding guiding principles that apply to all actions and activities allow SELF to achieve continuous improvements in sustainable management practices. Environmental practices, environmental objectives and an environmental programme help it to achieve that compliance.



Environmental Policies

Environmental, Health and Safety Policy
 REACH Position Statement
 Regulated Substances List (RSL)
 Code of Ethics

Corporate Greenhouse Gas Emissions

According to the "Guidelines for Accounting Methods and Reporting of Greenhouse Gas Emissions of Chemical Enterprises in China (Trial)" issued by the National Development and Reform Commission, the main body of this report calculates the greenhouse gas emissions in 2023 and fills in the relevant data forms. The situation is reported as follows:

The total greenhouse gas emissions of the reporting entity in 2023 were **2,810** tons of CO₂. Of these, **93** tons of CO₂ from fossil fuel combustion, 0 tons CO₂ from industrial processes, **2,717** tons of CO₂ from net purchased electricity and 0 tons CO₂ from recycling.

Activity level data and source description

Direct emissions (Scope 1)

1) Emissions from fossil fuel combustion

In 2023, **19.57 tons** of gasoline were consumed, generating **50 tons** of CO₂ emissions, and **20,600 m³** of natural gas was consumed, generating **43 tons** of CO₂ emissions.

2) Process emissions

There are no emissions from the production process.

Indirect emissions (Scope 2)

1) Emissions from purchased electricity

In 2023, the company's purchased electricity was mainly used for all production facilities within the corporate legal entity, including direct production systems, auxiliary production systems, and auxiliary production systems that directly serve production. In fiscal 2023, it consumed **4,765,000 kWh** and indirectly generated **2,717 tons** of CO₂ emissions.

2) Purchased heat emissions

In 2023, the company's purchased heat was mainly used for direct production systems within the corporate legal entity boundary. This unit did not use purchased heat.

Emission factor data and source description

The emission factor of the company's purchased electricity in 2023 was 5.703tce/10,000 kWh; The emission factor of purchased gasoline was 1.73 t CO₂/tce; The emission factor of purchased natural gas is 1.56t CO₂/tce.

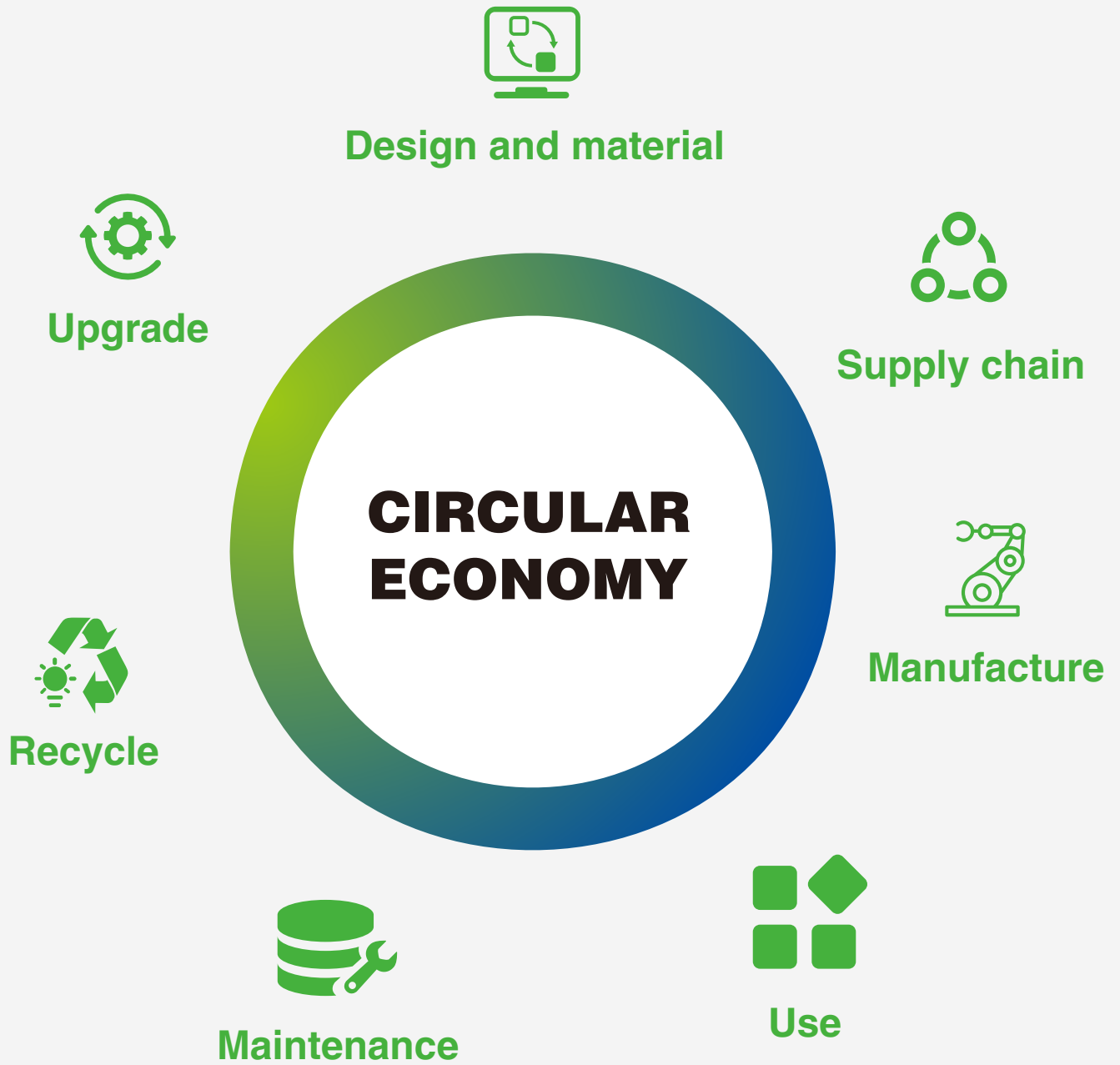
	Unit	2023	2022	(+/-%)
Total CO₂ emissions	tCO₂	2,810	3,420	-17.84%
Scope 1	tCO₂	93	387	-75.97%
Fuels	tCO ₂	50	49	2.04%
Natural gas	tCO ₂	43	338	-87.28%
Scope 2	tCO₂	2,717	3,033	-10.42%
Electricity	tCO ₂	2,717	3,033	-10.42%
Heat	tCO ₂	0	0	-
Total energy consumption				
Electricity	KWh	4,765,000	5,318,300	-10.40%
Fuels	tons	19.57	19.27	1.56%
Natural gas	m³	20,600	163,100	87.37%
Heat	KWh	0	0	-

The total greenhouse gas emissions in 2022 are based on data collected from SELF production sites in China.

CIRCULAR SYSTEMS

The circular economy is a critical need in modern society. To address sustainability concerns and preserve our planet for future generations, we need to be smarter and more conscious about the way we consume and produce. The circular economy presents a solution, where innovation, efficiency, and responsibility come together to create a more equitable and sustainable world. It is the responsibility of each of us to contribute to this change.

As a designer and manufacturer of LED lighting system, we dedicate ourselves to create remarkable contribution to maximizing energy efficiency and reducing carbon emissions. As we strive to promote the circular economy, increasing the use of recyclable and low-carbon materials in the design of our luminaires. Facilitating the product's disassembly will also make it easier to replace the LED module and its control parts and, after its useful life is up, will allow the parts to be separated for easier recycling.



Sustainable lighting solutions

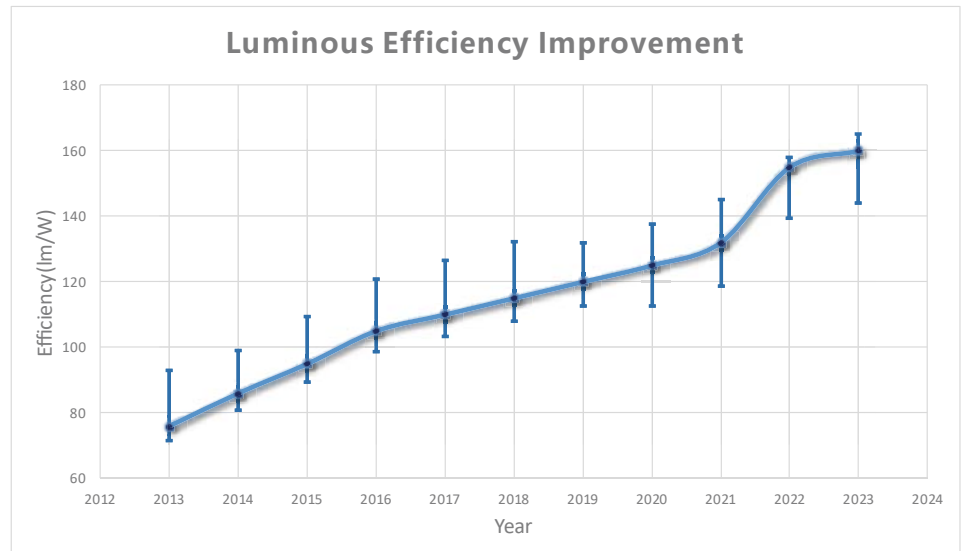
All of SELF's operations indicate a commitment to environmental protection, which is reflected in the company's product development, manufacturing, and raw material procurement procedures, supply chain structure and the way to provide sustainable lighting solutions.

Seeing change and new technology as an opportunity to grow. We are continually working to make our goods and processes more environmentally friendly in accordance with circular economy best practices.



Improving the system efficiency

SELF has been continuously improving the efficiency of lighting fixtures, the system efficiency reaches 192LM/W or more, power supply efficiency above 0.95, as a result, compared to other producers, our total power consumption has been reduced significantly.



Precise light control

We develop luminaires and methods of lighting that are utterly effective. Light should be only used where it is needed — meaning not all over the place and thus wastefully throughout the complete room.



Smart light control system

We have been producing sensors, dimmer switches from the very beginning of company, integrating sustainability that benefits the end user. Our light control parts allow consumers to control the amount of light that is emitted by a light fixture. They work by reducing the amount of electrical power that is supplied to the light source, which in turn reduces the amount of light that is produced.

SELF' s culture of innovation brings to market new sustainable solutions - smart control system “PRS”, "SRS" and “PRS Pro” released in 2020, 2021, 2023. Energy efficient LED lighting paired with our smart light controls technology, can save a tremendous amount of energy and thus carbon emissions. The resulting energy-saving strategies are particularly beneficial for commercial applications.



PRS Pro system



SRS system

Energy saving guarantee

We offer hundreds of products listed by Erp, DLC and ENERGY STAR, ensuring that our customers can benefit from guaranteed energy savings, which could further protect the environment. Lighting products that obtain Erp, DLC and ENERGY STAR label meet strict energy-efficiency specifications and must be independently certified to deliver high quality, save energy, help protect the environment, and must be supported by a minimum 3-year warranty.



Product designed with environment in mind

Driven by responsibility, SELF strives to provide modularity, commonality and sustainability in product design to reduce the amount of materials from the source. We also focus on understanding the overall energy impacts of the materials that go into our products and reducing them wherever possible. SELF has been working on optimizing the product performance, by considering the whole life-cycle. This demands systematically working with material selection, production, packaging, distribution, use, and end-of-life.

Focusing on the environment and sustainability, we integrate sustainability into every product's whole process from development to end of life. Our R&D team thinks not only about how the product looks and works, but also considers its entire lifespan. By applying the concept of modular design, we try to extend the product's durability, repairability, and disassembly, through easy replacement and upgrade of individual components.

MULTIFRIO and MULTIFRIO2 series products are an example of combination of sustainability and high-performance. We designed out the compound eye lens, which not only has good optical performance, but also uses a minimum of materials.

The highly reliable electrical part ensures a long life of the product. The very slim structure is also very helpful to the material saving, almost all the materials can be recycled.



Reuse and choice of materials

We' re trying to minimize the extraction of virgin resources and encourages the use of recycled and renewable materials to lower our product carbon footprint.

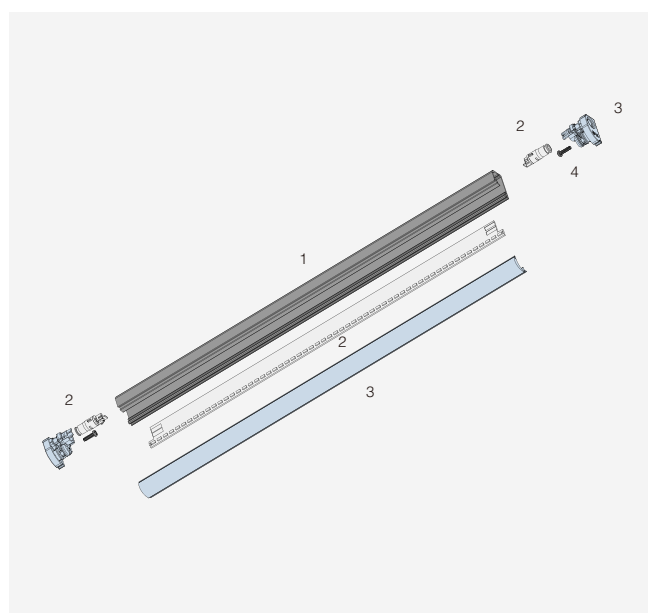
We intend to implement recycled aluminum profiles across part of our products to promote the circular economy.

Recyclable materials

By using more recyclable and low-carbon materials in the design of our luminaires, we work to promote the circular economy. Facilitating the product's disassembly will also make it easier to replace the LED module and its control mechanism and, after its useful life is up, will allow the parts to be separated for easier recycling.

75% parts are recyclable

1. Recycle material, aluminum, 180g very slim design to reduce the material usage
2. High reliable parts, PCBA 70g Electric parts, very long life-time design.
3. Recycle material, Plastic 30g Compound eyes optic lens, use the minimum material to realize performance.
4. Spare parts, can be reused, 2g





Reduce plastic and waste through packaging design

We' re working to improve the recyclability of our packaging. Our packaging design guidelines factor in packaging recyclability, and work closely with our supply chain to minimize the environmental impact of packaging materials through using recyclable, or reusable materials from responsible sources.

We' re also working to reduce single-use plastics or plastic content in packaging, and encourage customers to return packaging for reuse.

Till 2023, **95%** of SELF branded lighting fixtures and **90%** of SELF branded LED power supplies and accessories use **plastic-free package**.

Label

To eliminate the need for labels on the products, we introduced digital printing directly on the back in 2017. We brought in high-resolution laser printers that can print on demand at the manufacturing facilities. **85%** of products have eliminated labels so far. The labeling on the inner packaging has transferred to UV inkjet code as long as the inner box size meets the requirement. We estimate that eliminating the labels has avoid over **11.5** metric tons of paper, and over **280** metric tons of carbon emissions.

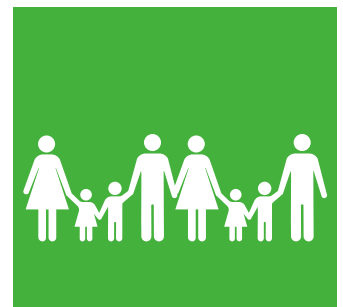
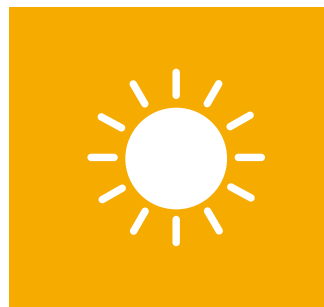
Instruction manual

With the full coverage of mobile network, we intend to gradually eliminate paper instruction manuals. End users simply scan the **QR code** on the product with their mobile phone to access the instructions. At present, the products sold in China have mostly implemented electronic instruction manuals.

Collection and Recycling

Despite the regional challenges and the differences between global take back regulations, SELF has been working on reducing the landfill disposal of electrical and electronic waste from our end-of-life products.

In those EU countries where SELF ships to a distribution partner, the importing distribution partner, due to their legal presence and local establishment is responsible for statutory WEEE (Waste and Electronic Equipment) obligations for those products they import. We encourage the re-use, recovery and recycling of relevant materials, which improves the environmental performance over the product life cycle.



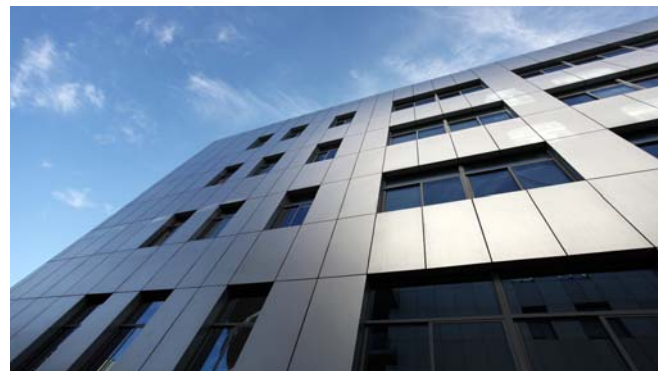
SUSTAINABLE PRODUCTION

Eco-Friendly Manufacturing Environment

We brought in over **12000** plants to create a unique environment for the SELF headquarters, with a central garden design and diverse fruit trees surrounding it, attaining a green plant coverage rate of **35%**. We estimate that those green plants produce annual oxygen **360 tons**, and absorb over **120 tons** of carbon emissions.



We use thermal break sliding aluminum profiles and Low-E insulated double-tempered glass for the construction of our factory buildings. This significantly improves the efficiency of indoor air conditioning, reduces additional energy consumption, and corresponding carbon emissions.



Our factory began replacing lights with LEDs as early as 2013 and fully switched to LED lighting in 2021. Most of the office space has already been converted to energy efficient LED lighting.

The efficient lighting was also coupled with the installation of occupancy sensors to ensure that the lighting, although already energy efficient, was turned off when a space was not in use. LED lighting controlled by motion sensors also supports the responsible use of energy.

Green Factory Certification

We have been awarded the "**4-Star Green Factory**" by the Ningbo Municipal Bureau of Economic and Information Technology. We are progressively realizing a factory characterized by harmless raw materials, clean production, resource utilization from waste, and low-carbon energy. The green products produced throughout their lifecycle conform to environmental protection requirements, pose minimal harm to the ecological environment and human health, consume fewer resources and energy, and maintain high quality.



Intelligent manufacturing

With self-developed intelligent production lines, independent patents, our productivity has increased six-fold compared to traditional production lines.

Through digital and automated upgrades, SELF's factory has achieved the global deployment of SAP and other major application systems, establishing a full value-chain innovation system that integrates intelligent products, intelligent operations, and intelligent production, bringing higher quality delivery experiences to global customers.

Large-scale digital workshops avoid paper production orders, and maximize resource efficiency, minimize our ecological footprint, reduce waste and energy consumption, while also saving cost through lean manufacturing techniques, cleaner production, and optimizing energy use.

After the workshop underwent comprehensive digitization, the previous paper-based Standard Operating Procedures (SOPs) were entirely replaced by the **E-SOP** system. In front of each workstation, there is an electronic display board that provides clear and detailed work instructions, including product models, operating procedures, quality control points, and other information. This has led to a further enhancement of workshop informatization and paperless management.

Quality management throughout the entire process has been digitalized. All PDAs, tablets (PADs), display boards, and automation equipment are integrated into the '**One Platform, Six Systems**' framework. This framework records and makes data traceable for all aspects, including product materials, processes, standards, drawings, production workflows, progress, and historical issues. Any issues that arise during production are immediately visible, allowing for faster and more efficient risk identification and resolution, ensuring impeccable quality.

The '**One Product, One Code**' traceability system is implemented. Each product is assigned a unique identity, allowing for traceability at every stage, from supply and production to factory shipment.

The intelligent dispensing line has transformed the traditional dispensing process, achieving perfect and uniform dispensing results while addressing issues of adhesive waste and aluminum substrate cleaning. Production efficiency has surged by **50%**.



Intelligent warehousing and intralogistics

Intelligent warehousing and intralogistics system consists of automated storage and material handling, including vertical carousel storage, connecting conveyor, automatic lift, fast door, AGV, PAD, PDA, etc. It provides high picking performance, minimal footprint, optimizing use of space volumes.

Take vertical carousel storage as an example. It consolidates the inventory into **85%** less floor space than traditional shelving and enables organized storage location for constant temperature and humidity requirement which greatly reduce energy consumption, in turn reduces CO2 emissions.



DEEP COLLABORATING WITH CUSTOMERS AND SUPPLIERS

As we strive to remain productive in the places we work, SELF continues to develop smart, safe, and efficient solutions, and plays a significant role in providing customers and partners with a best-in-class selection of LED lighting, light controls, power supplies and electrical technology.

Suppliers

The supplier base for SELF is an important extension of our business. Our supplier partners are key to executing our sustainability initiatives, which include developing new sustainable packaging, sourcing renewable materials, and enhancing overall efficiency. To achieve these goals, we are committed to building robust relationships with our suppliers that deliver exceptional value to our customers. We expect our supply chain partners to uphold the same high levels of professionalism, quality, accountability, ethics, and commitment to sustainability that we maintain ourselves.

Conflict Minerals

Conflict minerals are natural resources that ethical companies seek to avoid purchasing because they have been extracted in conflict zones and are used to finance and perpetuate armed conflicts.

As outlined in our Conflict Minerals Position Statement, SELF is committed to not purchasing raw materials, subassemblies, or supplies that contain conflict minerals that directly or indirectly finance or benefit armed groups. SELF also asks our suppliers to establish their own Conflict Minerals Policies and to only use validated smelters.

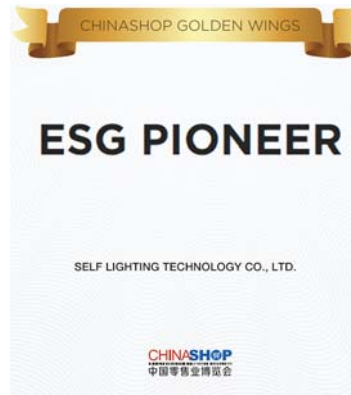
Customers

Our customers are showing growing interest in sustainable solutions and packaging. We serve as a key component of their supply chains and play an instrumental role in helping them reduce their own environmental footprint.

In 2023, we successfully retrofitted over **33,600** conventional light sources with LED fixtures and smart control system PRS at Government Administration Center building in Ningbo, China, reducing energy consumption by **625** kWh per year, thus reducing our CO2 emissions by **1,900** tons per year.



BEST MAINTAINABILITY WINNER for the "Lighting for Good" Initiative, parts of LVMH Climate Week 2020.



CASE STUDY



Replacement by LEDs

- Annual saving **454kW** power consumption
- Reducing the burning of **600 tons** of standard coal a year
- Reduce** carbon dioxide emissions by **1,500 tons**
- Equal to planting **82,000** trees a year
- Saving 1.2 million** rmb a year



LEDs + PRS

- Annual saving **625kW** power consumption
- reducing the burning of **799 tons** of standard coal a year
- Reduce carbon dioxide emissions by **1,900 tons**
- Equal to planting **103,800** trees a year
- Saving 1.53 million** rmb a year

IMPLEMENTATION IN CULTURE AND PRACTICES

SELF understands the role our entire system plays to ensure a healthy and sustainable environment. This belief is part of our culture and is embedded in our purpose to refresh the world and make a difference.

We strive to make the world a better, safer, and more beautiful place for everyone. This starts internally with our employees. Our first priority is to provide a safe, healthy, and accident-free workplace at all times. We believe that a values-based culture, supportive management, and a focus on diversity are key ingredients for us in shaping a work environment that will attract, engage, and retain talented employees.

Recycling at SELF

We reuse shipping pallets **100%** and recycle around **66** metric tons of scrap cardboard every year.

We're working to keep waste that's unavoidable out of landfills. This requires sorting items correctly to redirect waste to recycling and composting where possible. To enable this, we make clearly labeled containers available throughout our locations.



Ethics and Employee Training

Regular training programs can educate employees on the importance of energy conservation, waste reduction, and responsible resource management.

Our employees are highly self-motivated and readily offer their ideas, time, and talents to combat climate change. SELF has established frameworks to directly engage employees in the development of sustainable solutions.

We promote a culture of uncompromising ethics and integrity. Every SELF employee is educated on working in an ethical, honest, and compliant manner and he or she has received the message that SELF will not compromise when it comes to ethical principles. To ensure this ethical standard is communicated accurately, SELF has trained employees on fair competition, gifts and entertainment standards, anti-bribery policies, avoiding conflicts of interest, complying with global trade restrictions and export controls, protecting data / IP / other property, as well as SELF's view on taking care of people and the planet.

As membership in the amfori BSCI, we fully implement the amfori BSCI Code of Conduct, embedded in our management systems and company culture, to ensure the continuous improvement within our organisations. Meanwhile, we also ensure that our suppliers adhere to BSCI Code of Conduct.

amfori  **BSCI**
Trade with purpose

Advocate for greener commuting

With gas prices ever on the rise, and traffic conditions worsening by the week, the daily commute is increasingly having an impact on our wallets and our lifestyles -- as well as global climate change. At SELF, we advocates our employee to use public transit, biking, walking or low-carbon vehicle. You'll save money, time, and reduce your carbon footprint -- and could even lose weight!

Supporting Community Initiatives

In Geogia (USA), SELF donated 2,000pcs masks and 500 sets protective suit to local communities to confront and overcome the pandemic in 2020.

During the pandemic, we provided a total of 17,750 masks to suppliers, 17,540 masks to customers, and 56,516 masks to staff.



Our comprehensive approach aligns with the UNs global sustainability development goals and fosters positive environmental and community impacts. We remain dedicated to advancing our efforts, continuously seeking new opportunities to create a more sustainable future.