

SUSTAINABILITY REPORT 2022

People-oriented, Green and Safety



Jiangsu Hanvo Safety Product Co., Ltd.

Address: 128 Jinshajiang Road, Rudong New Development District, Jiangsu Province

Web: www.hanvosafety.com

Tel: +86 513-81901801

E-mail: info@hhglove.com

Jiangsu Hanvo Safety Product Co., Ltd.

Stock Code:300952

I CONTENTS



01.
Report Overview

President's Message
About This Report



02.
Green HANVO

03 Development History
05 Product Iteration
Sustainability Mission
Sustainability Goals



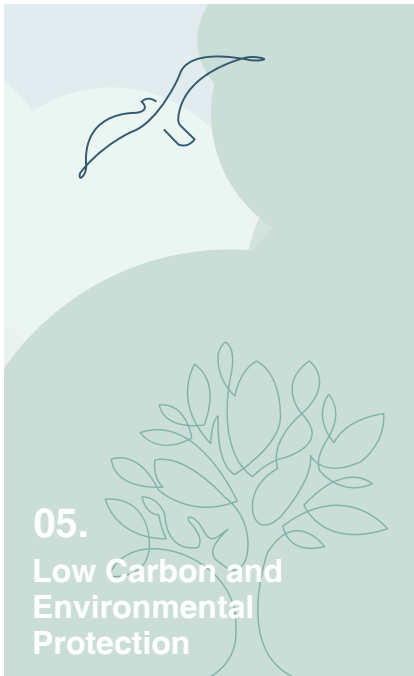
03.
People-oriented

08 Employee Health and Safety
10 Human Rights
13 Employee Training & Cultivation
14 Employee Care & Well-being
Social Responsibility 20



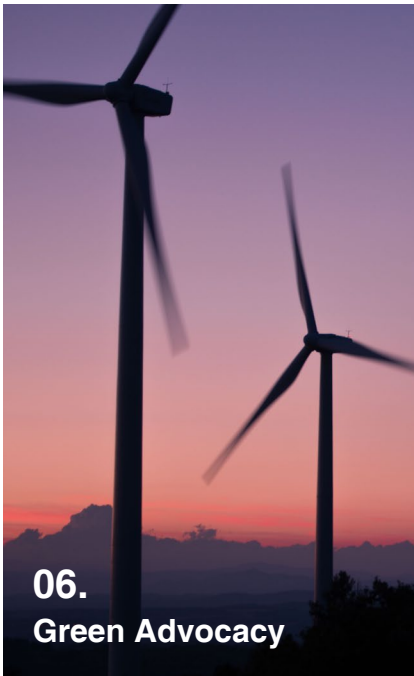
04.
Smart Manufacturing

Intelligent Connected Equipment in the Workshop 21
Intelligent Warehousing And Accurate Distribution 23
Real-time Job Shop Scheduling 24
Product Information Tracking and T raceability 24
Intelligent Control of Energy Consumption 24
Intelligent Control of Workshop Environment 24



05.
Low Carbon and
Environmental
Protection

Energy Conservation and Efficiency Improvement 25
Water for Production 33
Hazardous Waste Treatment 35
Sustainable Products 36
Collaborating with SGS on Measuring Carbon Footprint in 2022 37



06.
Green Advocacy

Support and Develop Sustainable Practices Provide Training and Resources for 39
Employees on Sustainable Practices 39
Reduce Waste 40
Promote Environmental Protection Effort 40
Encourage Employees to Use Public Transportation 40

PRESIDENT'S MESSAGE



Sustainable development is both a responsibility and an opportunity for us. In the context of the increasing global economic, social, and environmental challenges, we need to be more proactive in the post-pandemic era to drive sustainable development and safeguard the future of humanity together.

Sustainable development must be people-oriented. As a manufacturer, we always attach great importance to the rights and benefits of our employees, focus on their living and working environment, provide healthier, safer, and more comfortable working conditions, create more opportunities for their growth and development, and strive to offer both material and spiritual happiness. We also need to practice social responsibility actively, support education, culture, and public welfare, and contribute to the harmonious development of society.

Sustainable development requires attention to the sustainability of the Earth's ecological environment. We are working hard and making every effort to enhance our professional capabilities and vigorously promote innovation and transformation of manufacturing to be intelligent, digital, and green. On the one hand, we cut energy consumption and carbon emissions to reduce the environmental burden on the Earth; on the other hand, we protect lucid waters and lush mountains by using clean energy, improving energy efficiency, and developing renewable energy.

We focus on social values, strengthen our responsibility, integrate sustainable development into our corporate strategy and business operations, improve our competitiveness, and Strive for human safety in innovation, striving to achieve a harmonious coexistence among employees, enterprise, society, and the environment.

Wang Xianhua
President of Jiangsu HANVO Safety Product Co., Ltd.



About This Report

This report is the first sustainability report issued by HANVO. Since 2022, Jiangsu Hanvo Safety Product Co., Ltd. (hereinafter referred to as "HANVO", "the Company", or "We") has taken the initiative to issue a sustainable development report every year to disclose the sustainable development status of HANVO to all stakeholders. The purpose is to provide a comprehensive overview of the Company's operation and production, environmental protection, technological innovation, social influence, etc., and to enhance the understanding, communication, and interaction between HANVO and its stakeholders, as well as to integrate into the Company's operation, so as to achieve sustainable development of the enterprise.

This report has been prepared with reference to the GRI Standards core "compliance" program of the Global Reporting Initiative (GRI). To ensure the reliability, fairness, and transparency of the data cited in the report, the Company has engaged SGS, an external auditor, to conduct the ISO 14064-1:2018 carbon emissions audit and issue an independent audit report.

The methodology and data in this report are based on monthly and annual calculations to ensure that the data presented are accurate and timely and cover the period from January 1, 2022, to December 31, 2022. This approach allows for ongoing monitoring and reviews to identify trends, assess performance, and make informed decisions to improve sustainability practices. We use reliable and relevant data sources, rigorous data collection and validation processes, and adhere to recognized sustainable development reporting standards to ensure data quality and maintain the integrity of sustainability report.

Highlights and Performance



Energy Conservation and Emission Reduction
The Company has implemented energy conservation and emission reduction measures to reduce energy consumption and greenhouse gas (GHG) emissions by improving production processes and using energy-efficient equipment.



Using Eco-friendly Materials
The Company uses eco-friendly materials to produce products, reducing environmental impact.



Social Responsibility
The Company actively participates in social welfare undertakings and has positively contributed to the local community.



Sustainable Supply Chain Management
The Company has implemented sustainable supply chain management to ensure the quality and source traceability of raw materials.



Technological Innovation
The Company continues to promote technological innovation to develop greener and more efficient products, contributing to sustainable development.



Sustainable Development Report
Starting in 2022, the Company issues a sustainable development report on a regular basis, disclosing its sustainability performance and goals per GRI standards, actively communicating with stakeholders, and demonstrating corporate transparency and integrity.



Annual capacity
18,000,000 dozens



Total GHG emissions
37,483.47 t
Carbon dioxide



Energy consumption
31,067.52 t
Carbon dioxide



Water consumption
244,980 m³



Direct GHG emissions
4,792.92 t
Carbon dioxide



Transportation emissions
2,452.71 t
Carbon dioxide



Employee commuting
130.97 t
Carbon dioxide



Percentage of women in management
27%




Employee health and safety
0 Major accident



Employee training hours
62,843 hours

Upgrade to a more automated production workshop



Daily output per production line (dozens)

2022 | 840 dozens


2021 668 dozens



Direct GHG emissions per pair of gloves (kgCO₂)

2022 | 0.894 kgCO₂

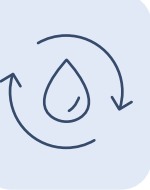
2021 1.176 kgCO₂



Steam purchased (ton/dozens)

2022 | 0.03 ton/dozens

2021 0.04 ton/dozens




Fresh water (m³/dozens)

2022 | 0.01361 m³/dozens


2021 0.01792 m³/dozens

2022 compared to 2021



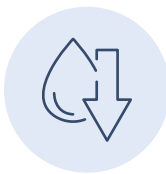
Purchased electricity reduced by

38.1%




Purchased steam reduced by

23.5%



Fresh water reduced by

24.1%



GHG emissions reduced by

24%

GREEN HANVO

COMPANY PROFILE

Founded in 2004 in Rudong, a land of plenty, HANVO is dedicated to the R&D, production, and sales of hand protection products. Our main products cover a wide range of functional safety protection gloves featuring cut, high wear, puncture, high/low temperature, chemical, oil, and shock resistance, as well as general safety protection gloves and other protective products. While continuously developing and expanding our product lines, we are gradually exploring overseas markets. After years of relentless efforts, the Company has product lines covering more than 800 varieties, products sold to over 60 countries and regions around the globe, and has established good cooperative relationships with more than 600 partners.

To ensure the quality and consistency of our products, we have invested in the construction of Hanvo spinning and knitting factory, where all raw materials are subject to strict quality control. Our factory is also fully automated and is one of China's most modern and automated dipping factories.

To meet the demand for business development, HANVO is continuously expanding its production scale. Currently, it covers an area of 180,000 m2 and has 250,000 m2 of HANVO Safety Industrial Park, with 1500+ employees. The annual production capacity reaches 20 million dozens of functional safety and protective gloves; 600 tons of production capacity at the high-performance yarn factory; and 2,400 tons at Hanvo New Material Phase II.

With 19 years of unremitting efforts, we keep accelerating our growth. In 2021, the Company was successfully listed on Shenzhen Stock Exchange GEM (growth enterprises market) (SZ.300952), marking our move to a broader market and a brighter future. By the end of 2022, the Company had established 1 R&D center, 3 factories (Hanvo New Material, Hengmai Safety, Hengkun Intelligence), 1 industrial park (Hengyue Safety Industrial Park), and 3 sales network centers (Rudong, Shanghai, and Tokyo), gradually forming a global development pattern. Meanwhile, by deploying global sales and after-sales networks, we provide high-quality functional safety gloves to our customers.

HANVO actively joined various industry associations, participated in industry exchange activities, presided over and participated in the revision of 7 standards. We have mutual trust and cooperation with the same industry, discuss and build together, standardize the industry standards, and achieve high-quality development together with the industry. By the end of the report period, the major associations, councils and standard committees that the Company has joined include CSFCM, CCFA, CPCIF, CRIA, CNITA, JAMIA, Council of «Technical Textiles» of Donghua University, Jiangsu Province Ultra high molecular weight polyethylene fiber standardization Technical committee, NDIE, CPUIA, China Soaked Rubber Gloves Industry Association, etc.

We pride ourselves on our technological innovation and product quality and remain committed to being the industry leader.





2004

Established in 2004




1500+

1500+employees



180,000m²

Land area



250,000m²

Under construction industrial park



18,000,000dozens

Annual capacity



43

Intelligent production line



1,000

Automatic loom



670

global partners

PRODUCT ITERATION

With continuous technological innovation, R&D progress, and increasing market demand for product functionality, we have iterated our dipped gloves for multiple generations and launched higher-quality products over the last 2 decades. Our functional safety gloves are used for hand protection in the industry and daily life. Based on the traditional protective gloves, we have made the best of new fiber materials, such as HPPE and METALQ®, and have gradually accumulated and improved the coating and dipping process. Our products have a strong competitive advantage through continuous innovation with superior protective properties, excellent wearing comfort, and high cost performance. At the same time, we have upgraded our materials, design, and production process to continuously improve the reliability and durability of our products, as well as their flexibility and comfort. Due to excellent product quality and performance, our dipping gloves have been well received by our customers and have gained extensive recognition and trust in the market. We will continue to pursue excellence in product quality, to meet the growing needs of customers, and continue to promote the sustainable development of enterprises.



Slogan
Your protection expert



Vision
Create a global leading brand in safety products



Mission
Strive for human safety in innovation



Core Values
Honesty, Pragmatism, Efficiency, Innovation



Business Philosophy
Quality-oriented, Service-based, Innovation-leading



Quality Philosophy
Quality is our first faith



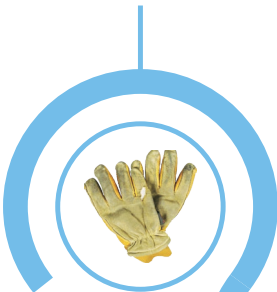
Environmental Philosophy
People-oriented, Green and safety



Talent Policy
The best of people is to make the best of the best of people



Sewn leather gloves



Seamless knitted gloves



High-performance protective gloves



Cotton yarn gloves



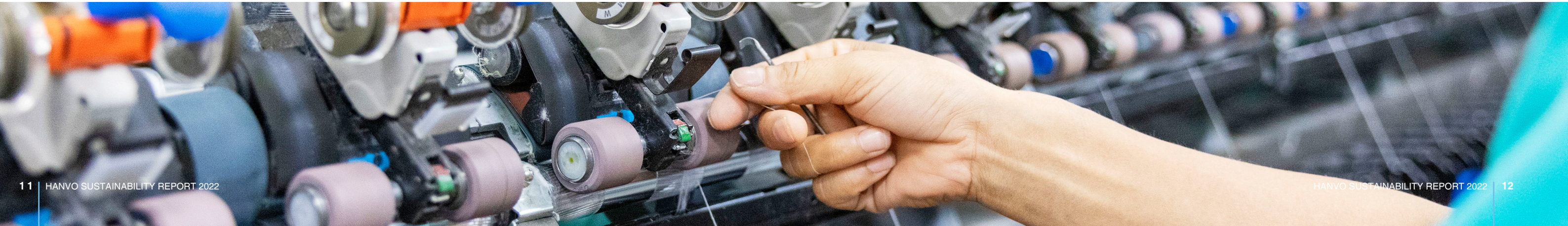
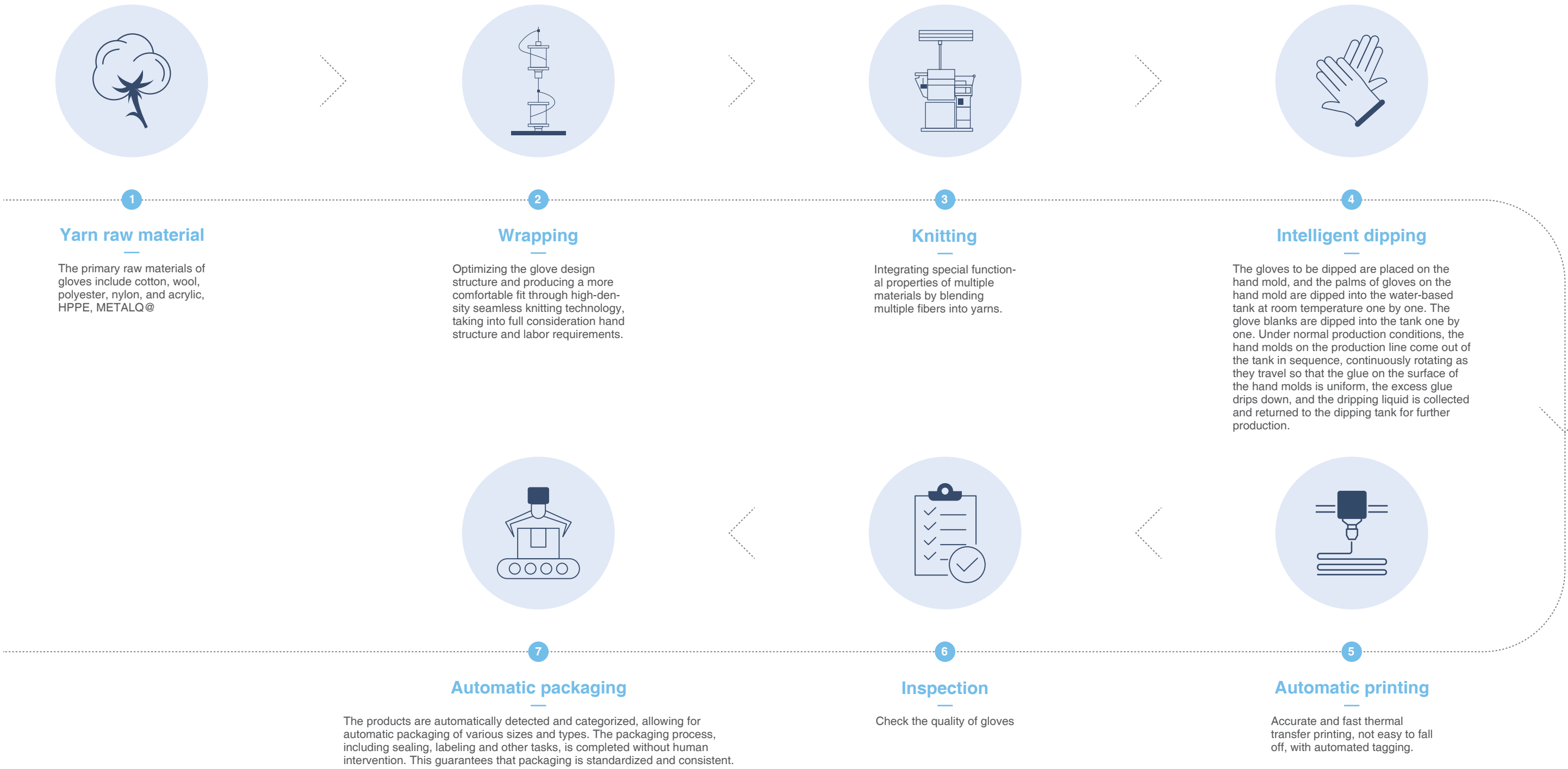
Dipped gloves



Sustainable gloves



Brief diagram for glove manufacturing process



SUSTAINABILITY MISSION

As a listed PPE glove manufacturer, we are committed to driving sustainable development of the enterprise through our mission below, constantly improving the enterprise management system, promoting corporate sustainable development, achieving economic, social and environmental sustainability, and becoming a model enterprise of sustainable development in the industry.



Enhance Employee Well-Being

We believe that our employees are the cornerstone of our business development. We are committed to providing our employees with a safe, healthy, and comfortable working environment and attractive compensation and benefits to enhance their job satisfaction and quality of life.



Protect the Environment

We recognize the importance of environmental protection to our Company and society. Therefore, we will minimize the environmental impact in our production process, use renewable energy, conserve and recycle resources, and reduce our carbon footprint.



Promote social responsibility

We believe that companies are part of society and should take social responsibility and positively contribute to society. We will actively participate in charity and promote the development of education, environmental protection, and other public welfare undertakings.



Improve product quality

We are committed to improving product quality and safety, offering consumers high-quality, safe, and eco-friendly gloves, and providing better protection for consumers and society.

SUSTAINABILITY GOALS 2023



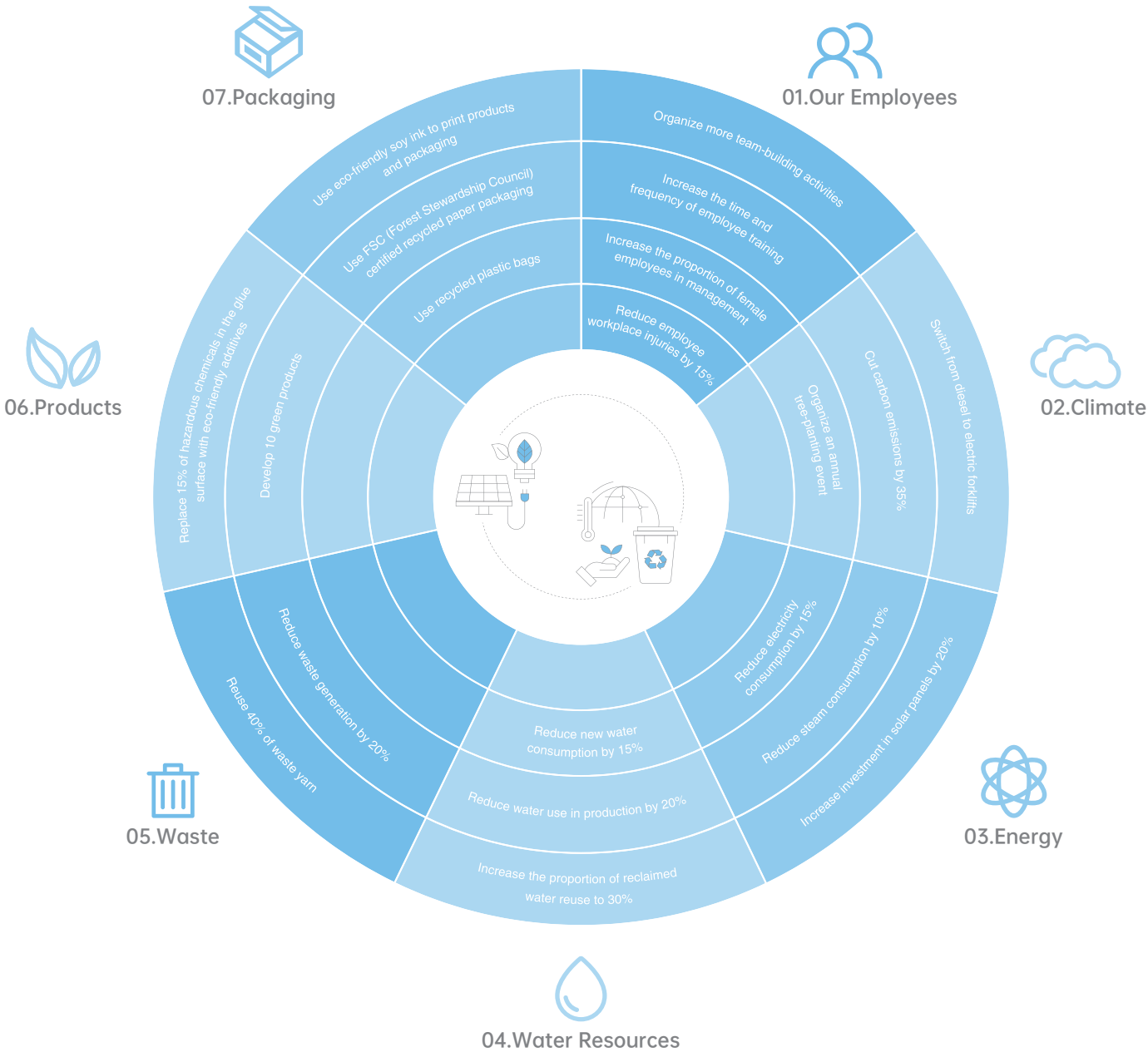
Production capacity
Twice as many as in 2022
36,000,000 dozens



Energy consumption
10% more than 2022
34,174 tCO₂



Average energy consumption per unit of gloves
45% less than in 2022
0.494 kgCO₂e



PEOPLE-ORIENTED

EMPLOYEE HEALTH AND SAFETY

The health and safety of our employees is a primary concern for the company. We recognize that sustainable production and growth can only be achieved when the physical and mental health of our employees is fully protected. Therefore, we have taken a series of measures to ensure their health and safety.

Firstly, we reduce the release of harmful gas by enclosing and collecting the exhaust gas in the dipping workplace to prevent employees from inhaling harmful gas during the operation.

Before & After Safety Improvement

• **The rectification of the movable pedal fortemporary demolding**

There is a potential safety hazard for workers to step on the movable pedal for temporary demolding. (Fabricate a fixed foot pedal)



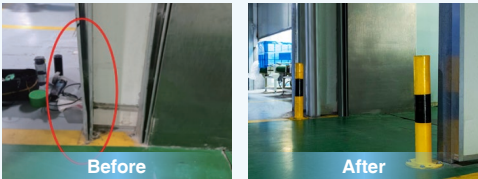
• **The rectification of the vacuum kettle cover of the robot line**

The vacuum kettle cover of the robot line is raised and lowered by cylinders, which requires the operator to stick their head into the kettle to observe during production, posing a major safety hazard.



• **The rectification of the fire shutter track**

The fire shutter track at the 2F south exit of the third workshop was deformed due to bumping.



• **The rectification of the temporary electric wire**

The temporary electric wire on 4F east side of the 3rd workshop.



• **Intelligent transformation of forklifts**

All forklifts have been retrofitted with additional functions such as fingerprint identification of drivers, seat belt reminders, speed reminders, and audible and visual alarm, which have effectively improved the essential safety of forklifts.



Secondly, we optimize the equipment and movements that are dangerous in the production process to ensure that employees are not at risk of injury during production.

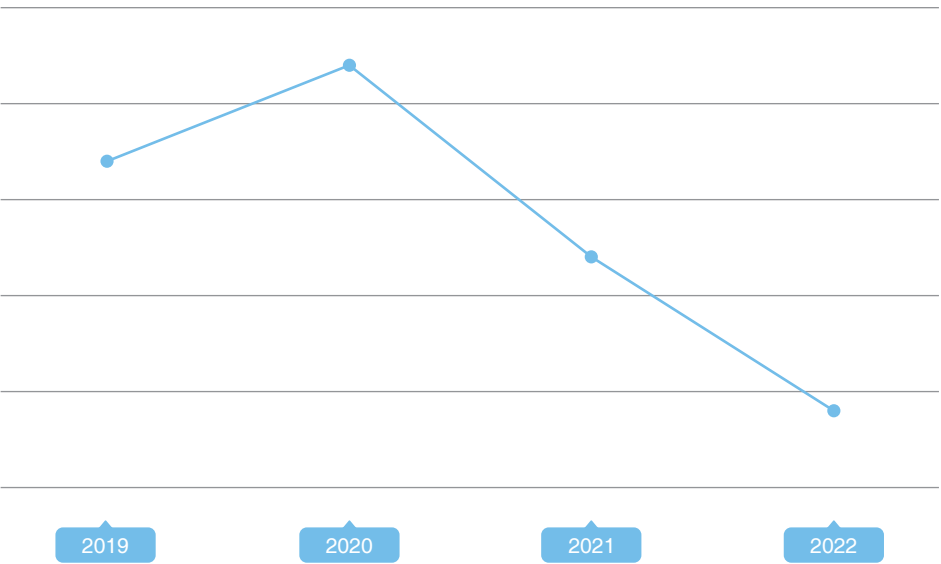
In addition, we provide annual health checkups and psychological counseling to ensure the physical and mental health of our employees.

Our supply chain is also an essential aspect of our consideration of employee health and safety. We work with our suppliers to ensure that they use materials and production equipment that meet environmental and safety standards and conduct regular inspections and evaluations. We also cooperate with suppliers to develop social responsibility standards for the supply chain to ensure that employee rights and interests are protected.

Furthermore, we conduct regular workplace health and safety inspections to assess potential risks and take appropriate measures to make improvements. We provide our employees with the necessary personal protective equipment (PPE), as well as regular training to raise their awareness and knowledge of safety and environmental protection.

In the aspect of employee health and safety, we always follow the principle of "Focus on prevention, safety first" to create a safe, healthy, and comfortable working environment for our employees and ensure that they are fully protected and cared for in their work.

Number of accidents from 2019 to 2022





HUMAN RIGHTS

As a company that upholds the "people-oriented" concept, we have an unswerving commitment to protecting the rights and safety of our employees. We believe that every employee should be respected and informed of his/her rights. If these rights are not respected, employees should have the right to express their opinions and require positive action from us. Establish effective appeal channels, maintain ongoing communication with workers, and collect employee feedback through workplace satisfaction surveys, anonymous hotline, focus groups, or interviews during annual appraisals to ensure respect for workers' rights and the maintenance of a safe and healthy workplace.

Strictly comply with labor laws and regulations, such as maximum hours of work, minimum wage, and social security, to ensure that the labor rights of employees are fully protected.

Actively listen to the voices of workers and incorporate them into our management decisions. The female management team plays an essential role in the Company, and we are against any form of oppression and slavery.

We share with others our tools and lessons learned to help each individual make greater progress. Respecting and protecting the basic human rights of workers is both a fundamental corporate responsibility and an essential element in building a harmonious and sustainable society. We take this responsibility seriously and implement multiple measures to ensure that the human rights of our employees are respected and protected. For example, the Company has established a comprehensive internal management system to prevent and avoid any form of discrimination, harassment, or abuse of employees and to provide a safe and healthy working environment. We also provide regular training to our employees on labor laws and regulations and basic human rights to increase their awareness and understanding of these important issues.

We address emerging risks based on the feedback we get from our employees, improve training for employees and department heads, and continually reinforce our guidelines and standards to ensure that employees are respected and protected in their daily work. We believe that only by actively listening to the voices of our workers and acting on their concerns can we create a safe, healthy, and respectful workplace for them.

In conclusion, our Company firmly believes that respecting and protecting the basic human rights of our employees is the key to sustainable business development. We will continue to be committed to building a fair, open, equal, and free working environment that contributes positively to the health and well-being of our employees.



EMPLOYEE TRAINING & CULTIVATION

HANVO has a long tradition of valuing the training and development of talents and recognizes that investing in our employees is vital to our continued growth and success.

On-the-job Training Program

The Company's training and development program begins with employee orientation, which provides new employees with the knowledge and skills necessary to become productive members of the team. On-the-job training programs are also available for employees in service, including professional skills training, management skills training, internal learning, and external training opportunities. Training programs are tailored to each employee's position and experience level, and training records are carefully maintained to track progress. Professional skills training covers a variety of topics, including technical skills, industry trends, customer services, etc. Management skills training focuses on leadership development, communication, and team building. Internal learning provides employees with opportunities to learn from colleagues and participate in cross-functional projects, while external training allows them to gain new knowledge and skills from industry experts. Through this comprehensive talent development approach, HANVO has built a highly skilled and motivated workforce that is able to meet the changing demands of the business and drive its continued growth and success.



Tutorial study



Recognize innovation

Annual Training Plan

To continuously improve the knowledge, skills, and performance of our employees and promote the comprehensive development of our employees and the Company, the Group's Human Resources (HR) Department has formulated an annual training plan. This plan is developed based on the Company's growth demands, job requirements, and personal development needs. The training plan is implemented by a variety of training methods, including lectures, self-study, on-the-job learning, and internal/external professional training programs. In addition, we will implement mentoring programs that include various forms of training, such as imparting knowledge, facilitation, and leadership. These programs will be evaluated to ensure their effectiveness and impact, and adjustments will be made to optimize employee development if necessary. Ultimately, this approach will create a closed-loop management of talent development, including talent planning, training programs, evaluation of training effectiveness, and continuous improvement of employee competencies.



Enterprise external learning exchange



The team of internal lecturers continues to grow

EMPLOYEE CARE & WELL-BEING

At HANVO, we believe that our employees are the pillars of our success, and we are committed to showing our appreciation and care for them in a variety of ways.

While growing, HANVO always does not forget to fulfill its social responsibility, and positively participates in various public welfare activities such as volunteer education, medical and health care, rescue and disaster relief. We donated 50,000 pairs of protective gloves free of charge to the Luding Earthquake Reconstruction Foundation to do our best in disaster relief and rescue work. During the COVID-19 pandemic, the company urgently purchased protective clothing, masks and other urgently needed personal protective equipment, and donated 200,000 yuan to the county Red Cross charity for humanitarian assistance. We continue to support the local society, actively participate in the "Nantong migrant farmers help people in need" public welfare activities, donated to the Rudong County Charity Federation. Through the "Jinniu Zhiyuan" Red Cross Philanthropic student aid program, grants grants to students from poor families of Rudonian nationality, carries forward the spirit of philanthropic dedication and transmits positive energy. Over the years, the company has donated more than 2 million yuan to the county Red Cross Society, the county Charity Federation and other socially disadvantaged groups, further strengthening its commitment to social welfare and development.



Celebrate success in the college entrance examination



Care for family members



Enrich employee life



Throw birthday parties for employees



Recognize innovation



Commend excellence

SOCIAL RESPONSIBILITY

Paying attention to and practicing public welfare are collective social obligations and also unshirkable responsibilities of enterprises.

While HANVO continues to grow, we have always fulfilled our social responsibility earnestly and participated in various public welfare activities actively, such as education aid, medical and health care, rescue and disaster relief. During the pandemic, the Company urgently purchased protective clothing, masks, and other PPE in great need and donated them to the County Red Cross Society and other organizations, demonstrating a great sense of corporate social responsibility. HANVO continues to support the local community, plays an active role in the "Helping and Supporting poor migrant farmers in Nantong" public welfare activities, and donates the funds for the Annual Golden Bull Award of Rudong County to the Rudong County Charity Federation. Over the years, the Company has donated more than more than 2,000,000 RMB to the County Red Cross Society, County Charity Federation, and other organizations for socially disadvantaged groups, further strengthening our commitment to social welfare and development.



Provide supplies and aid during the pandemic



Console front-line staff during the pandemic



Assist in earthquake disaster relief



Organize employees to donate blood



Help and support poor families in mountainous areas



Help students realize their dreams


SMART MANUFACTURING

INTELLIGENT CONNECTED EQUIPMENT IN THE WORKSHOP


In today' s fast-paced and competitive business environment, we are always looking for ways to improve efficiency, productivity, and quality while reducing costs and risks. One of the most effective ways is to use intelligent, connected equipment in the workshop to achieve more efficient production.

Intelligent equipment refers to machines and tools equipped with sensors, controllers, and software that enable them to perform tasks autonomously or with minimal human intervention. Intelligent equipment includes robots, automated guided vehicles (AGVs), computer numerical control (CNC) machines, and collaborative robots.


The use of intelligent equipment has benefited our Company in many aspects.

- 


Increase efficiency and productivity

Intelligent equipment can work faster, more accurately, and more consistently than humans, which can lead to faster cycle time, higher output, and better resource utilization.
- 

Enhance safety

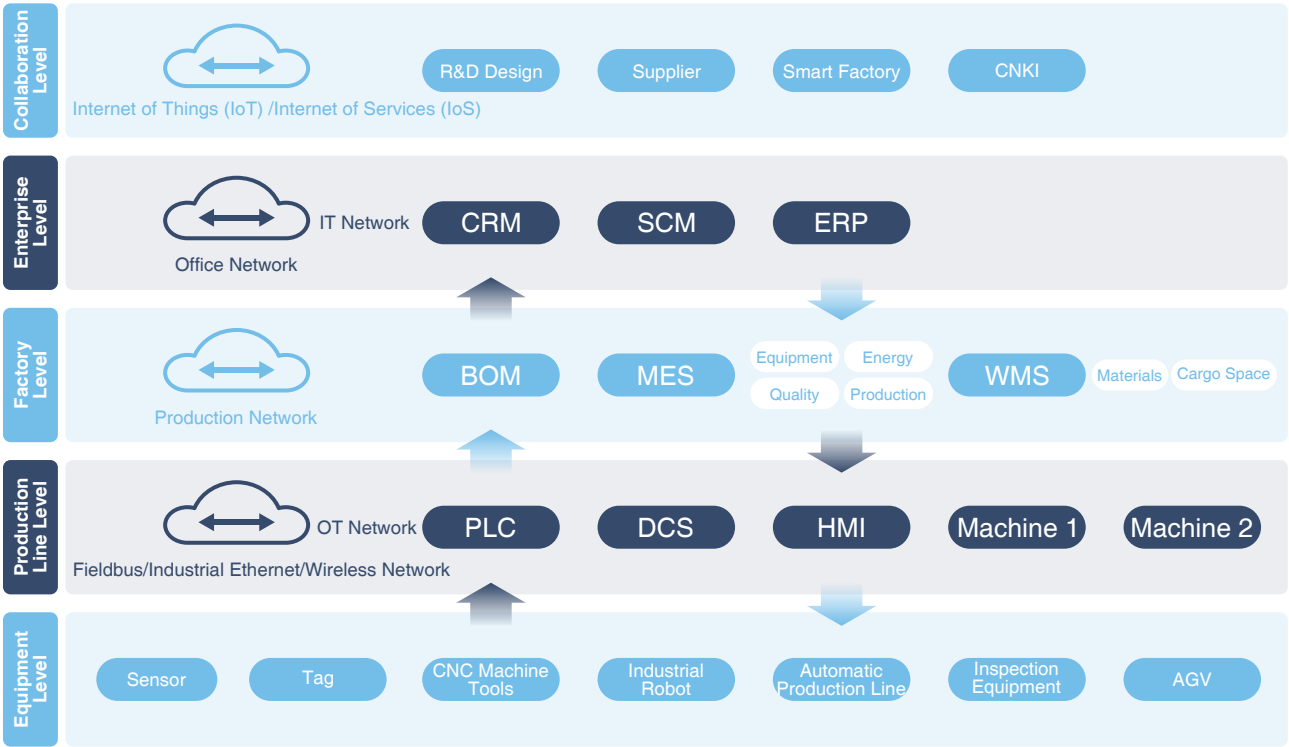
Intelligent equipment can perform dangerous, repetitive, or ergonomically challenging tasks that are risky or unpleasant for human workers, thus reducing the potential risks of accidents and injuries.
- 

Save costs

Intelligent equipment can reduce labor costs, material waste, energy consumption, and maintenance expenses, which can add up to significant savings over time.
- 

Improve quality

Intelligent equipment ensures that products and processes meet or exceed expected standards by monitoring, controlling, and optimizing various parameters, such as temperature, pressure, speed, and torque.



INTELLIGENT WAREHOUSING AND ACCURATE DISTRIBUTION

In the era of Industry 4.0, factories are under increasing pressure to meet the growing demand of customers for faster, cheaper, and more personalized products while maintaining high levels of quality and safety. One of the most promising solutions to this challenge is the application of intelligent storage and accurate distribution in factories. Intelligent storage refers to the use of advanced technologies, such as automation, robotics, and data analytics, to optimize the storage, retrieval, and management of materials and products in the factory.

Advantages of Intelligent warehousing

- 

Improve efficiency and productivity
Intelligent storage can reduce cycle time, labor costs, and errors while increasing throughput, utilization, and capacity.
- 


Improve accuracy and quality
Intelligent storage can improve the accuracy and quality of inventory management, order fulfillment, and transportation by reducing human error and variability.
- 


Save costs
Intelligent storage can reduce operating costs by optimizing space, energy, and labor, and avoiding backlogs, out-of-stock, or inventory system failure.
- 


Better inventory management
Intelligent storage can track, monitor, and analyze inventory levels, movements, and trends in real time, which is conducive to optimizing the ordering, receiving, and replenishment process.
- 


Accurate Distribution
refers to the process of using advanced technologies, such as robotics, automation, and artificial intelligence (AI), to optimize product picking, packing, and shipping to the designated destinations.

Benefits Generated

- 

Faster and more reliable order fulfillment
Accurate distribution increases customer satisfaction and loyalty by accelerating order processing, reducing lead time, and improving on-time delivery rates.
- 

Reduced errors and waste
Accurate distribution reduces errors and waste by automating repetitive, manual, or error-prone tasks and using real-time tracking and monitoring to detect and address problems.
- 

Improved customer satisfaction
Accurate delivery improves customer satisfaction by providing accurate, timely, and transparent order status and location information, as well as more flexible and personalized delivery options.
- 

Real-time tracking and analysis
Accurate delivery allows real-time tracking and monitoring of the performance, utilization, and quality of the delivery process, which is conducive to identifying opportunities for improvement and cost savings.



REAL-TIME JOB SHOP SCHEDULING

Real-time job shop scheduling gives us many advantages, which can significantly improve our operations. One of the key advantages is the ability to respond quickly to changes in demand and machine/material availability.

This means that the system can adjust schedules and priorities in real time, thus minimizing the need for manual intervention and reducing the risk of errors or delays.

Real-time job shop scheduling also ensures better use of machines and resources because it can provide more accurate and up-to-date information about machine status, maintenance requirements, and throughput. This improves productivity, reduces lead time, and increases on-time delivery rates.

Overall, real-time job shop scheduling can help us optimize operations, increase efficiency and agility, and enhance customer satisfaction and competitiveness.

INTELLIGENT CONTROL OF ENERGY CONSUMPTION

The intelligent management and control of energy consumption in workshops are getting increasingly crucial for companies to reduce operating costs, achieve sustainability goals, and comply with environmental regulations. By implementing an intelligent energy management system, we can gain many advantages.

Firstly, intelligent management can identify and eliminate wasteful energy practices, such as excessive use of lighting, heating, and cooling systems, saving costs significantly over time.

Secondly, intelligent management can optimize energy consumption by using real-time data to adjust energy use based on demand, production schedules, and weather conditions.

Thirdly, it can improve the reliability and uptime of critical equipment by using energy data to predict and prevent breakdowns.

Fourthly, intelligent energy management can help us reduce our carbon footprint and environmental impact, which has become increasingly important to meet sustainability goals and regulatory requirements. Overall, intelligent management and control of energy consumption can help us improve operational efficiency, lower costs, and enhance environmental and social responsibility.



PRODUCT INFORMATION TRACKING AND TRACEABILITY

Product information tracking and traceability is a key point of quality control and safety in the manufacturing process. We can ensure safe and high-quality products that comply with regulations through these systems. Product information tracking and traceability at the plant level have several advantages:

Firstly, it allows us to quickly identify and resolve quality issues, thereby reducing the risk of product recalls or customer complaints.

Secondly, it helps us comply with regulatory requirements, such as those related to labeling, testing, and reporting.

Thirdly, it helps us optimize supply chain and inventory management by providing real-time visibility into the location and status of raw materials, work-in-process, and finished goods.

Finally, product information tracking and traceability can enhance customer trust and loyalty by providing transparent and accurate information about the origin, composition, and quality of products.

INTELLIGENT CONTROL OF WORKSHOP ENVIRONMENT

Intelligent management and control of the workshop environment provide evident benefits to the business. Based on real-time data and advanced analytics, the workshop can monitor and optimize the production environment to improve worker safety, product quality, and operational efficiency.

Firstly, intelligent environmental management helps workshops maintain optimal temperature, humidity, and air quality levels in production areas, reducing the risk of worker illness and improving product quality.

Secondly, it can help workshops detect and address environmental problems, such as leaks, spills, or air pollution, before they cause harm to workers or the environment.

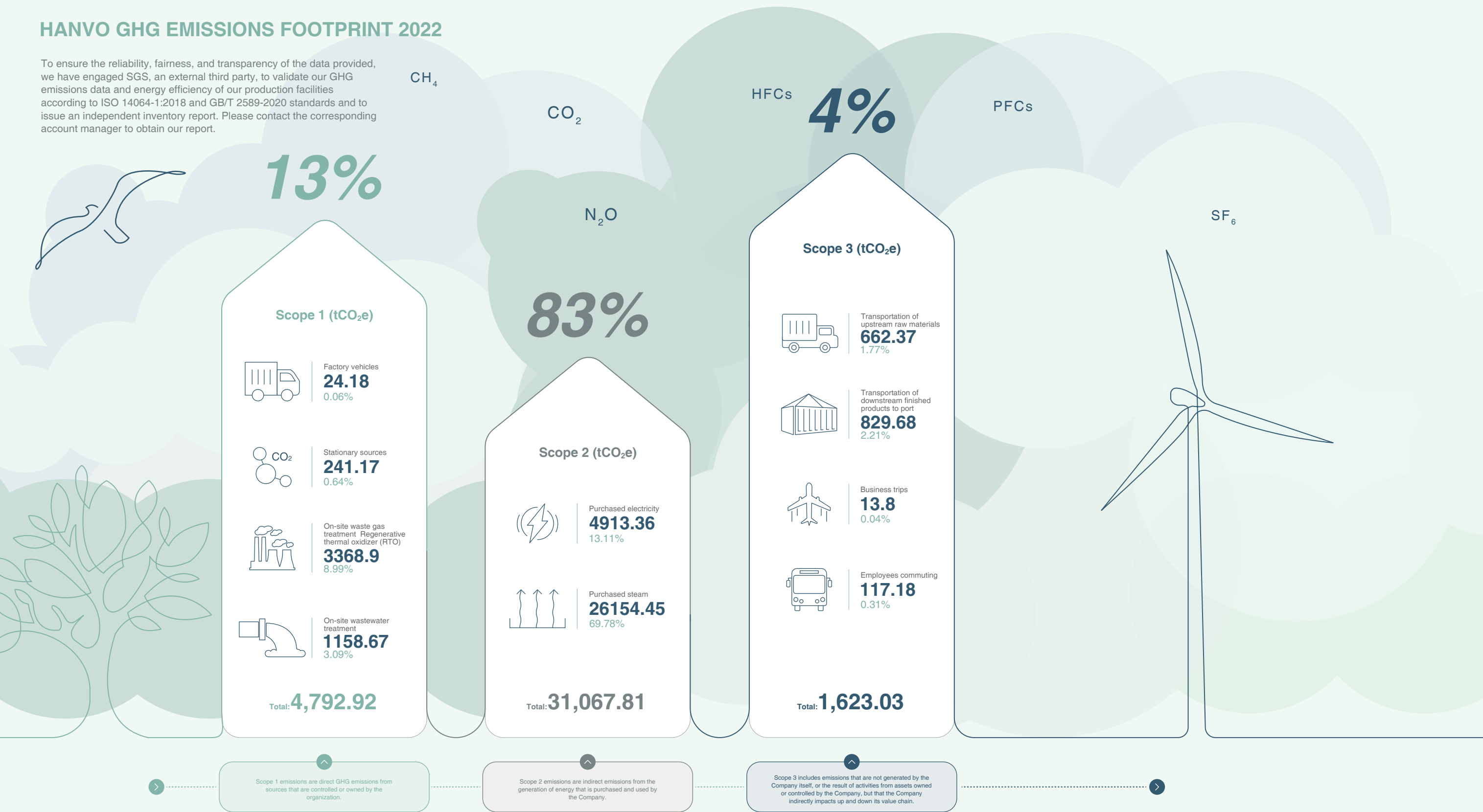
Thirdly, it helps us optimize energy use by adjusting lighting, heating, and cooling systems based on occupancy and demand data.

Fourthly, intelligent environment management can help us comply with environmental regulations and demonstrate our commitment to sustainability and corporate responsibility.

LOW CARBON AND ENVIRONMENTAL PROTECTION

HANVO GHG EMISSIONS FOOTPRINT 2022

To ensure the reliability, fairness, and transparency of the data provided, we have engaged SGS, an external third party, to validate our GHG emissions data and energy efficiency of our production facilities according to ISO 14064-1:2018 and GB/T 2589-2020 standards and to issue an independent inventory report. Please contact the corresponding account manager to obtain our report.



Comparison of electricity and steam consumption between 2021 and 2022

S/N	Item	Consumption of electricity purchased from the state grid	Electricity generated by clean energy sources	Total electricity consumption for dipping	Percentage of clean energy
01	Carbon Emissions Data in 2021	8666000	1261134.1	2941379	/
02	Carbon Emissions Data in 2022	9744578	1423003.5	3006200	/

S/N	Item	Steam purchase volume	RTO generation volume	Actual consumption	Percentage of renewable energy
01	Carbon Emissions Data in 2021	74701	2236	76937	2.91%
02	Carbon Emissions Data in 2022	78321	4107	82428	4.98%

Our goal is to make better gloves while protecting the environment we depend on for survival. Our achievements in 2022 are as follows (take a production line as an example)

Input and output content of dipping	2021	2022	Compared
Output (dozen/day)	668	840	25.7%
Electricity consumption (kWh)	890.29	760.10	-14.6%
Steam consumption (ton)	29.22	28.11	-3.8%
Electricity consumption per dozen (kWh/dozen)	1.33	0.9	-32.1%
Steam consumption per dozen (ton/dozen)	0.04	0.03	-23.5%
Integrated energy consumption (kgce, equivalent value)	2876.26	2755.16	-4.2%
GHG emissions (kgCO ₂)	9427.81	9014.71	-4.4%
Water consumption (m³)	11.97	11.43	-4.5%
Integrated energy consumption per dozen (kgce/dozen, equivalent value)	4.54	3.44	-24.3%
Fresh water consumption per dozen of gloves (m³/dozen)	0.0179	0.0136	-24.1%
GHG emissions per dozen of gloves (kgCO ₂ /dozen)	14.11	10.73	-24.0%





IMPROVEMENT OF PRODUCTION EFFICIENCY

Apply fully automated production lines

The introduction of fully automated equipment, such as automatic dipping, cleaning, and stamping equipment, has substantially improved production efficiency and product quality and reduced manual operation and production time.

Optimize the dipping process

We analyze the production process in detail to identify bottlenecks and apply more efficient methods for production, such as reducing raw material waste and transfer steps, to improve production efficiency.

Improve employee skills

Through extensive training and hands-on exercises, the skills and capabilities of our employees are enhanced, resulting in improved productivity and product quality.

Strengthen production management

Establishing a scientific production management system, including developing a sound production plan, enhancing the monitoring and control of the production process, and optimizing the layout of production lines, can improve production efficiency and product quality and reduce production costs.



IMPROVEMENT OF ENERGY CONSUMPTION IN PRODUCTION

High-efficiency equipment used

With the use of high-efficiency equipment, the energy efficiency level of the motors and other facilities selected for the production line is above the second level, effectively reducing the consumption of equipment and energy.

Energy-saving process applied

The production line oven is enclosed in two layers, and the heat dissipation arrangement is optimized to improve the heat utilization rate by 20% and reduce the energy waste in the dipping process.

Equipment maintenance and management strengthened

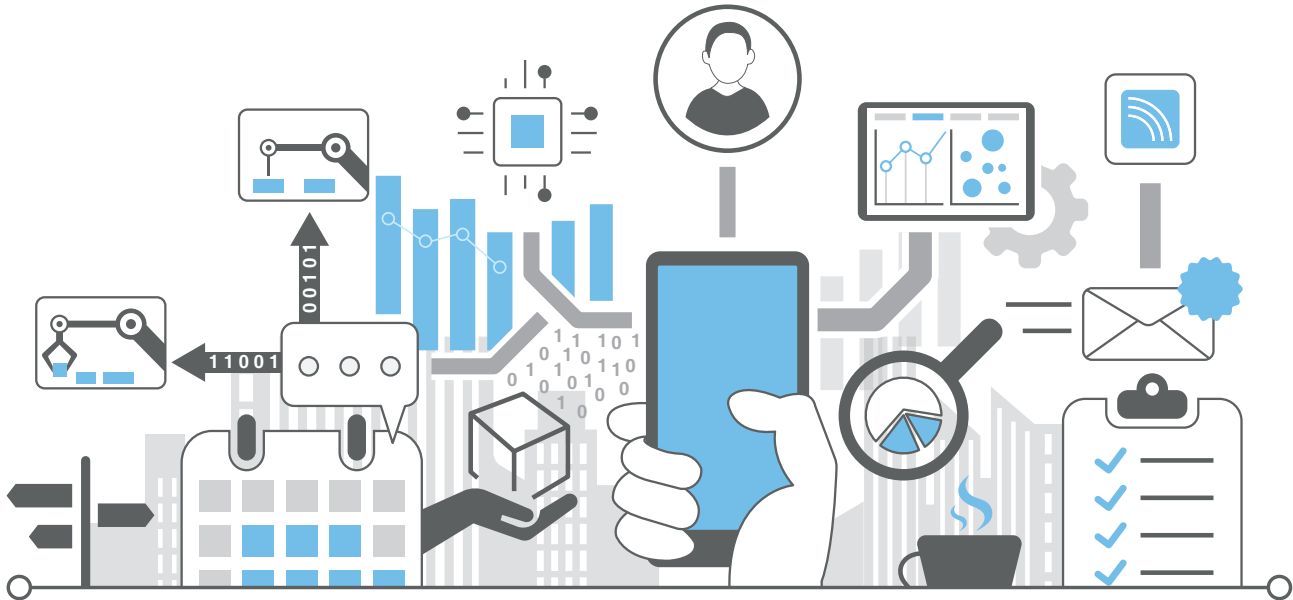
Regular inspection and maintenance are conducted on the dipping equipment to maintain its operating condition and stability and reduce energy waste and loss.

New technology introduced

More solar panels are installed on the roof of the dipping workshop to provide 24-hour lighting to the workshop, replacing the traditional electric energy consumption method and reducing energy consumption.

Employee awareness raised

We can reduce unnecessary energy waste and improve energy efficiency by strengthening the awareness of our employees, such as turning on/off lights and using air conditioners rationally.



IMPROVEMENT OF EFFICIENCY BY AGV TRANSFER

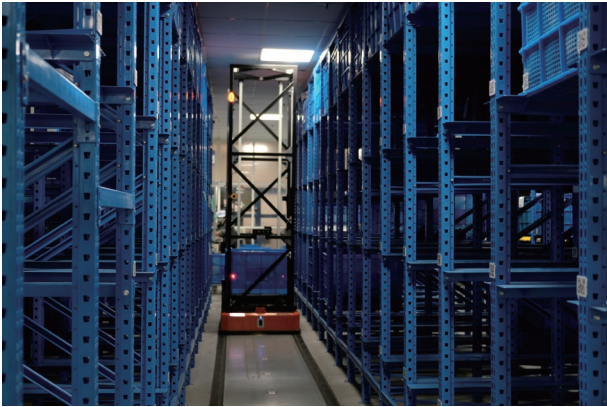
The introduction of an intelligent logistics system in the factory makes the production process more convenient and efficient.

Firstly, AGVs can implement unmanned autonomous navigation without manual control, which greatly reduces labor costs while avoiding errors and fatigue in manual operation and improving production efficiency and quality.

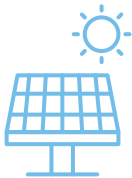
Secondly, AGVs can automatically adjust the travel path and speed according to the physical environment and production requirements, adapting to changes in the workshop and improving production flexibility.

In addition, AGVs allow for accurate positioning and navigation, which can avoid errors in manual operation and ensure production accuracy and quality.

In the production process, AGVs are equipped with various safety devices, such as LiDAR (laser radar, or light detection and ranging) and infrared, which can automatically avoid obstacles and people, ensuring the safety of the production process. The use of AGVs can also reduce labor and logistics costs and improve production efficiency while creating a safer, more comfortable, and more efficient working environment for workers.



Intelligent logistics system AGV car

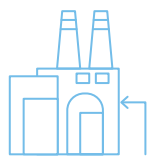


SOLAR PHOTOVOLTAIC POWER GENERATION

We vigorously promote the use of solar photovoltaics. Solar energy is a renewable energy source. Using solar energy for power generation can reduce dependence on traditional energy sources, reduce energy costs, and also bring environmental benefits by reducing harmful emissions, such as carbon dioxide, with a positive effect on environmental protection. Solar power systems have a long service life and low maintenance costs and require little to no human intervention during operation, which can reduce labor and operating costs and increase production efficiency. Furthermore, solar power systems can provide a stable supply of electricity, reducing power shortages, outages, and other issues and increasing the stability and reliability of production. The figure below shows a scene where we use solar PV panels for electric lighting.



Solar photovoltaic panels



CENTRALIZED TRANSPORT OF CHEMICAL MATERIALS

We have introduced a centralized conveying system for chemical materials in our dipping glove production workshop, which substantially improves production efficiency and environmental protection index.

Firstly, the centralized conveying system can store raw chemical materials in one place and transport them to each production workshop through pipelines, reducing the storage space and logistics cost of raw materials and improving production and logistics efficiency.

Secondly, the centralized conveying system can implement automatic conveying without manual intervention, avoiding errors and fatigue in manual operation and improving the quality and stability of production.

Furthermore, the centralized conveying system can ensure the purity and stability of raw chemical materials, reduce pollution and errors in manual operation, and improve production accuracy and quality.

In terms of safety, the centralized conveying system allows for automatic control and monitoring, which can detect and address problems in time, avoiding the safety hazards in manual operation and ensuring the safety of the production process. Finally, the use of a centralized conveying system also contributes to environmental protection by saving energy and reducing emissions.



AUTOMATIC PACKAGING

We apply automatic packaging technology in our dipped gloves production workshop, which has great advantages.

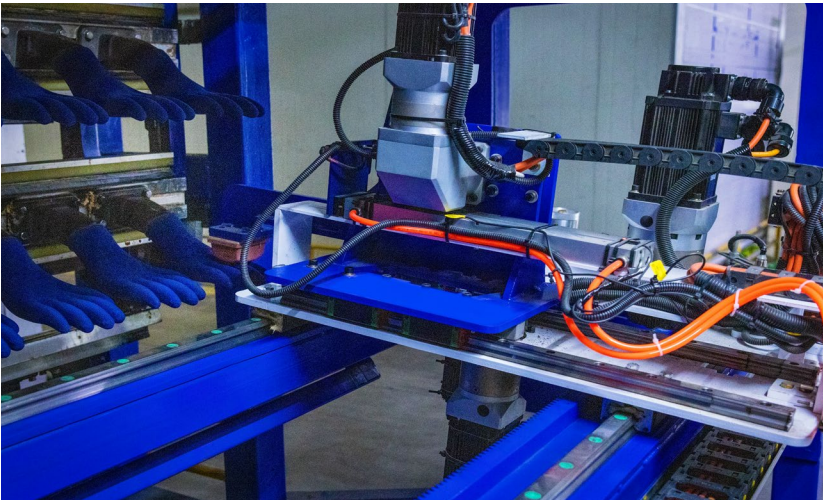
Firstly, automatic packaging allows for automatic control and operation without human intervention, thus avoiding errors of manual operation and improving packaging efficiency and quality.

Secondly, automatic packaging can automatically identify and classify products and implement automatic packaging of different specifications and varieties of products, which reduces the workload and time of manual packaging and improves production efficiency and logistics benefits.

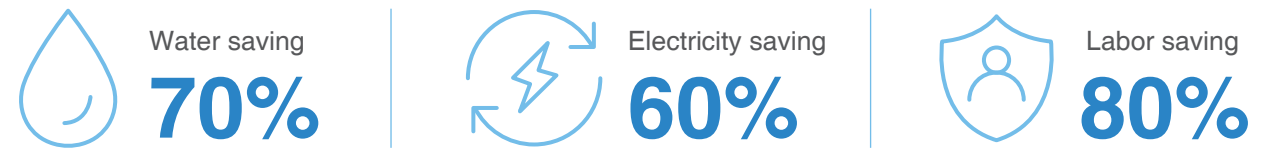
In addition, automatic packaging can also complete the operation of packing, sealing, and labeling automatically, which ensures the standardization and consistency of packaging and improves the quality and image of products.

In terms of safety, automatic packaging can be controlled and monitored automatically; any problem can be detected and dealt with in a timely manner, thus avoiding the safety hazards in manual operation and ensuring the safety of the production process.

Finally, the application of automatic packaging can also reduce labor and logistics costs, improving production efficiency and economic benefits.



WATER FOR PRODUCTION



Water Conservation


HANVO combines the continuous batch washer (CBW) and washing machine, as shown in the figure. Currently, the drying section of the HANVO factory has 1 fully automatic CBW + 7 drying lines. Compared with the traditional washing machine, the CBW equipment uses water circulation and filtration technology, which substantially reduces water and steam consumption. CBW has superior performance and very high reliability.

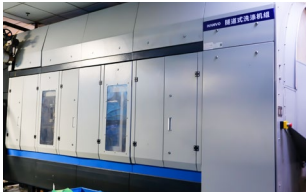
CBW adopts water circulation and filtration technology, which substantially reduces water and steam consumption; it can save 70% of water, more than 60% of electricity, and 80% of labor. CBW has superior performance and very high reliability.

CBW has 7 chambers + 4 dehydrators. All chambers can perform washing simultaneously. Each chamber section can work according to different instructions from the computer and perform pre-wash, main wash, rinse, neutralization, and other programs. The commonly used cleaning programs can be set for automatic cleaning, which is easy and convenient to operate.

Combined with the Company' s intelligent renovation, CBW is integrated with the manufacturing execution system (MES). Through automatic transportation by AGV and runner, it can implement fully automatic reservation programs, call delivery, cleaning, transportation, and all other actions, achieving unmanned production in the whole process.

HANVO vigorously promotes the use of renewable energy, actively explores the recycling of water and resources, continuously improves the efficiency of resource utilization, and is committed to creating a conservation-oriented and environment-friendly enterprise.

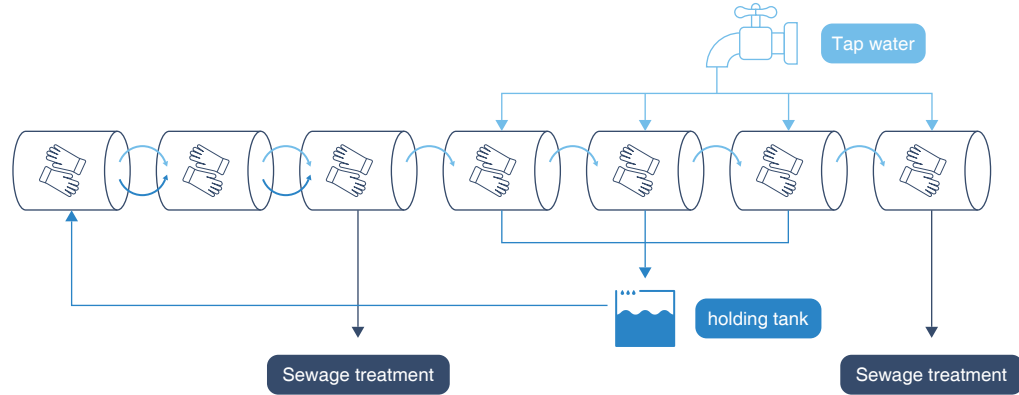
 **1 CBW**
=10 ordinary washing machines
Washing rhythm:
Wash 550 pairs of gloves in 2 minutes
Maximum annual washing capacity:
4 million dozens.



continuous batch washer



washing machine



Washing Machine Work Flow



Reclaimed Water Reuse

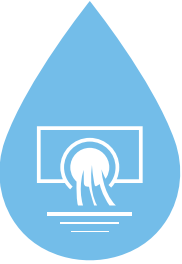
The Company has proactively invested in the construction of an advanced 600T/D water reuse technology system, recycling and pretreating the low-concentration wastewater generated by the production line before sending it to the production line for soaking. The water reuse rate of the production line has reached 50%, which indirectly reduces 41.7 tons of CO2 emissions.

Reclaimed water reuse in production workshops is an effective way to save water and has tremendous advantages. Firstly, reclaimed water reuse can lower fresh water consumption and treatment costs, cut water discharge, and reduce wastewater treatment expenses and environmental pollution.

Secondly, reclaimed water reuse can improve our production efficiency and reduce production stagnation and delays due to insufficient water resources.

Finally, reclaimed water reuse is an environment-friendly production method that reduces the Company' s environmental impact and protects natural resources and the ecological environment.

Our goal is to reduce fresh water consumption and wastewater discharge in the future by increasing water reuse and other methods, striving to achieve an industry-leading level of water efficiency.



Wastewater Discharge Management

Upholding the concept of sustainable development, HANVO actively promotes the recycling and reuse of water resources pursuant to the relevant laws and regulations. Our wastewater treatment process includes multiple methods, such as physical, chemical, and biological treatment, through which our wastewater meets the relevant national standards and can be safely discharged into the environment. Our wastewater treatment process has the following characteristics:

Firstly, we have adopted multi-stage treatment technologies, i.e., using various treatment methods, such as physical, chemical, and biological treatment, to complement each other, effectively removing harmful substances from the wastewater and meeting the relevant national standards.

Secondly, we have adopted energy-saving and environment-friendly wastewater treatment technologies to reduce energy consumption and the impact on the surrounding environment, bringing real economic and environmental benefits to the Company and society.

Furthermore, we have achieved sustainable use of water resources through wastewater recycling and reduced the dependence of the enterprise on fresh water, our water costs, and environmental pollution.

Finally, we monitor and manage the wastewater treatment process comprehensively to identify and address problems in time, which has ensured the stability and safety of the treatment process and achieved the goal of sustainable development. We will continue to uphold the concept of sustainable development, innovate and improve wastewater treatment technology, and make greater contributions to the cause of environmental protection.



HAZARDOUS WASTE MANAGEMENT



SOLID WASTE TREATMENT

The Company has invested over RMB 1 million to set up a dedicated storage warehouse for the general solid and hazardous wastes, with dedicated personnel in charge, double-lock management, and ledger records for both inbound and outbound. Round-the-clock video surveillance is implemented. All hazardous wastes are entrusted to the qualified third-party units for disposal pursuant to regulations, and the provisions of online transfer manifests are strictly enforced. The Company has been seeking better ways for the recycling, harmless treatment, and utilization of solid wastes. Currently, the general solid waste sludge of the Company is entrusted to qualified units for reuse and brickmaking.



Hazardous waste warehouse



WASTE YARN RECYCLING

Eco-friendly materials

Waste yarns can be used to make eco-friendly materials, such as sound insulation and heat preservation materials.

Handicrafts

Waste yarns can be used for hand weaving to make handicrafts, such as woven carpets and shoes.

Concrete additive

Waste high-performance polyethylene yarns can be added to the concrete after being crushed to increase the toughness and strength of concrete.



Hazardous waste warehouse

SUSTAINABLE PRODUCTS

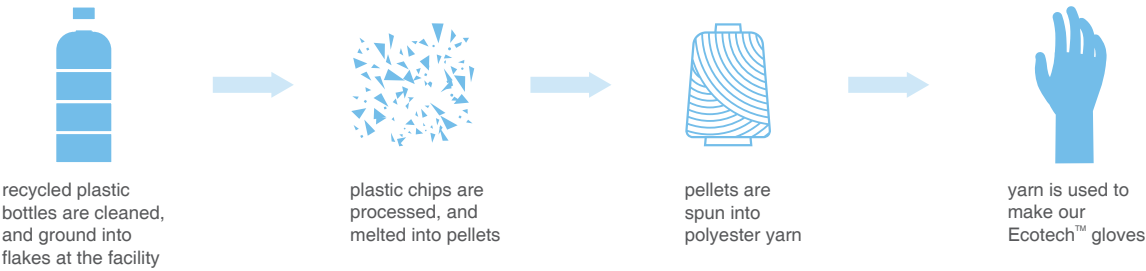
HANVO has always attached great importance to sustainable development and upheld the corporate philosophy of "eco-friendly and innovative development". In product development, we actively apply sustainable technologies and devote ourselves to launching more environment-friendly, energy-saving, and efficient products to reduce environmental impact.

Our R&D team is constantly exploring sustainable materials and manufacturing processes to make our products more environment-friendly and renewable. We continuously improve the design of our products while optimizing their energy consumption to minimize the negative impact on the environment.



R&D OF RENEWABLE RESOURCE-BASED PRODUCTS

We are committed to sustainable development. In 2022, we launched new renewable yarn products to contribute to environmental protection.



R&D OF BIODEGRADABLE YARNS & RUBBER SURFACES

Currently, with accelerated industrialization, more and more rubber waste is generated. Due to the non-degradable nature of rubber, these wastes pollute the environment and require massive labor and material costs for secondary treatment. Biological treatment technologies convert waste into end products, such as carbon dioxide, water, and methane, through biological metabolic processes before they enter the geochemical cycle. They are considered to be the most sustainable way to treat solid organic wastes due to their high degradation efficiency and economic cost. As natural decomposers, microorganisms live in a variety of environments and are highly evolved and adaptable. Almost all naturally occurring compounds can be completely utilized and degraded by microorganisms, while synthetic compounds can also be gradually used as substrates by microorganisms over time.

Based on the concept of environmental protection and biodegradability, we have launched a kind of biodegradable nitrile PPE gloves. This product has excellent resistance to oil, heat, and abrasion, comparable mechanical properties to traditional non-biodegradable nitrile gloves, and is biodegradable without sacrificing durability. The degradation rate of the biodegradable gloves is strictly tested according to ASTM D5511. The test indicates that our current product can achieve accelerated degradation while the traditional nitrile gloves barely degrade within the same amount of time.

The service life of our gloves is virtually unaffected by the length of time they are kept in stock in a normal storage environment, with the same storage life as traditional nitrile gloves. As biodegradation requires biologically active soil, it is not possible until the gloves are treated. The rubber surface can hardly degrade when used in the natural environment. Currently, only disposable biodegradable gloves are available on the market, and there is no competing product in China for non-disposable nitrile biodegradable PPE gloves yet. HANVO has established in-depth partnerships with the South China University of Technology, Beijing University of Chemical Technology, and other universities to promote this project jointly. We have a professional R&D technical team, including several doctors, masters, and bachelors, committed to promoting these future products ahead of their time.

COLLABORATING WITH SGS ON MEASURING CARBON FOOTPRINT IN 2022

With the goal of "Carbon Peaking and Carbon Neutrality" (Dual Carbon), in line with the new clean and low-carbon economic order, HANVO strives to be a key player in this endeavor towards the Dual Carbon goals in the high-end textile industry, actively respond to China's medium- and long-term goals and plans to address climate change, such as peaking carbon dioxide emissions by 2030 and achieving carbon neutralization by 2060. In 2023, HANVO conducted an inventory of 2022 GHG, verified the data mainly from three categories, and invited SGS to verify 2022 GHG data and issue the ISO14064 GHG verification certificate.

Direct GHG emissions	Indirect GHG emissions from input energy	Indirect GHG emissions from transportation
stationary source combustion emissions, mobile source combustion emissions, industrial process emissions, fugitive emissions, etc.	indirect emissions from electricity and heat	emissions from transportation of raw and auxiliary materials from suppliers to the organization, emissions from transportation of the organization's products to downstream customers, emissions from employee commuting and travel, etc.

By 2030, HANVO will cut GHG emissions through green raw material substitution, recycled product development, biodegradable rubber, energy conservation and emission reduction, intelligent manufacturing, etc. Compared with the baseline data in 2022, the integrated energy consumption per RMB 10,000 output value will be reduced by about 30% year-on-year, and CO2 emissions per RMB 10,000 output value will be reduced by about 40% year-on-year, achieving the long-term goal of peaking carbon dioxide emissions by 2030 and achieving carbon neutralization by 2060 successfully.

DEVELOPMENT OF MULTI-DIMENSIONAL GLOVE PERFORMANCE & NON-STANDARD TESTING EQUIPMENT R&D FOR PRODUCT COMFORT IMPROVEMENT AND MORE PROPERTIES

After years of development, HANVO has formed a multi-dimensional innovation model of market-oriented technology, management, production, and quality innovation, implementing multiple cycles of innovation mechanisms and comprehensive development of innovation capacities. Currently, we have established provincial enterprise technology centers, engineering technology research centers, intelligent workshops, etc.; established industry-university-research cooperation relationship with Jiangnan University, Nanjing University of Aeronautics and Astronautics, University of Science and Technology of China, Jiangsu College of Engineering and Technology, etc.; made multiple achievements in industry-university-research and innovation; reached a strategic cooperation agreement with Beijing University of Chemical Technology.

In the future, HANVO will aim at building a national research platform, fully leverage our own advantages in the industry, technology, and market and advantages in talents, science and technology, and think tanks of universities and research institutes; focus on the major demands of green, environmental protection, and new materials; develop plans for projects "across the chain" from basic research, applied basic research, engineering, to industrialization. At the same time, based on the high-level talent team, we will conduct comprehensive strategic planning in scientific research, engineering transformation, industrial integration, talent training, etc., striving to achieve breakthroughs in basic research and core technology, realize the industrialization of scientific research and innovation results, and further drive the rapid development of green and innovative transformation of HANVO, making every effort to build a leading enterprise in safety industry based on green materials and an innovative enterprise in new materials R&D and production.

GREEN ADVOCACY



SUPPORT AND DEVELOP SUSTAINABLE PRACTICES

Our Company is committed to driving sustainable development. In addition to making great efforts in product development, we also vigorously support and develop a series of sustainable practices.

Firstly, we encourage our employees to choose low-emission/eco-friendly travel modes, such as riding electric bikes/bicycles, walking, or using public transportation. We also provide employees with convenient facilities such as charging stations and parking lots to encourage them to lead an eco-friendly lifestyle.

Secondly, we also actively participate in public welfare activities, such as planting trees and cleaning up the environment, hoping to contribute to community environmental protection through our own efforts.

Finally, we encourage our suppliers and customers to participate in sustainable practices to drive sustainable development in the industry as a whole. We have established long-term partnerships with our suppliers and customers, and we communicate with them regularly to share our experiences and approaches to sustainable development.



PROVIDE TRAINING AND RESOURCES FOR EMPLOYEES ON SUSTAINABLE PRACTICES

We hold regular training courses on environmental protection and sustainable development to help our employees understand the significance of sustainable development and related practices. We invite professional lecturers, industry experts, and scholars to communicate, share, and explain to our employees to provide a more comprehensive perspective and deeper insight.

We also provide our employees with the relevant resources and tools, such as paper, cups, and cutlery, all of which are eco-friendly and renewable, to encourage them to reduce their reliance on disposable items. Meanwhile, we provide waste classification and recycling facilities for our employees and encourage them to participate in such practices. We further encourage our employees to participate in environmental protection activities, such as tree planting and environmental cleanups, so that they can better understand the significance and methods of environmental protection and sustainable development through hands-on experience.

We believe that through the support of these training and resources, our employees will gain a deeper understanding and recognition of the significance of sustainable development, actively participate in its practices, and make greater contributions to the Company and society.



REDUCE WASTE

Reducing waste is a vital concept that we promote. We have done a lot of work in this aspect, including encouraging employees to save electricity and water, promoting eco-friendly products, and arranging staff meals in a reasonable manner to reduce waste.

When it comes to employee meals, we have taken multiple measures to reduce waste. We encourage employees to help themselves to meals and provide the right amount to prevent waste due to excess food. We also encourage employees to bring their own tableware, reduce the use of disposable items, and provide eco-friendly tableware and reusable lunch boxes to reduce the generation of plastic waste.

In terms of electricity and water use, we encourage employees to develop good habits, such as turning off unneeded electrical appliances, reducing the flushing frequency, and using energy-saving equipment if possible; we turn off non-essential electric lights for 1 hour at noon, so as to reduce the waste of electricity and water.

In terms of eco-friendly products, we actively promote these products, such as biodegradable paper towels, stationery, and paper. We also encourage employees to reduce inefficient paper-based work and promote digital storage to reduce the consumption of natural resources.

We deeply believe that the promotion of these measures will lead to a sustainable culture by making employees pay more attention to resource conservation and environmental protection. We also expect that through these efforts, we will contribute to the realization of sustainable development and create a better future for Mother Earth.



PROMOTE ENVIRONMENTAL PROTECTION EFFORT

There is only one Earth! On this green planet we depend on for survival, we have seen inevitable disasters caused by environmental pollution to humans and wildlife. For this reason, we have taken many measures to protect the natural environment and wildlife.

We are committed to implementing green production methods and using eco-friendly materials and processes to reduce environmental pollution and minimize the negative impact of our business on the environment. We also conduct regular environmental risk assessments and monitoring to correct environmental problems in a timely manner and make continuous improvements.

We attach great importance to ecological conservation and are actively involved in wildlife conservation projects. We work with local environmental organizations and communities to promote wildlife conservation and habitat restoration, contributing to the sustainable development of the local natural environment through the protection and restoration of ecosystems.

We also provide training for our employees on environmental awareness and conservation to stimulate their awareness of environmental protection and enhance their understanding of and concern for the natural environment and wildlife protection. Meanwhile, we encourage them to actively participate in public welfare activities for environmental protection to help the development of the environmental protection cause.

We believe that through the relentless efforts of our Company and the active engagement of our employees, we can contribute more to the protection of the environment and wildlife and create a more harmonious, healthy, and beautiful ecological environment.



ENCOURAGE EMPLOYEES TO USE PUBLIC TRANSPORTATION

With the green and low-carbon concept continuously integrated into urban development and daily life, green travel is also gaining public attention gradually. As an environmentally conscious company, we have been actively promoting and encouraging our employees to travel greener and provide them with more eco-friendly, healthy, and convenient ways to travel.

We encourage our employees to travel by public transportation, walking, cycling, and other low-carbon ways. We also offer a series of convenient support and services, set up dedicated parking spaces, provide charging facilities, and conduct regular green travel training for employees. We advocate for our employees to reduce CO2 emissions and vehicle pollution by choosing eco-friendly travel modes to contribute to the cause of environmental protection.

Moreover, we regularly carry out green travel promotion activities, encourage employees to actively participate, and enhance their awareness and enthusiasm for green travel through incentive mechanisms and preferential policies. We believe that through these efforts, employees' awareness of green travel will continue to increase and make greater contributions to the cause of environmental protection.