

ECOBBOXES

榮成低碳紙箱

Recycling for a better tomorrow

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- The company does not release any financial forecast. However, the description involving the company' s opinions on its future operation and industrial development in respect of the company' s finance, business and Q&A made in this presentation could be different from the future actual results. The reasons for such differences may include changes in market demand, price fluctuations, competition behavior, international economic situation, exchange rate fluctuations, upstream and downstream supply chain, and other risk factors which are out of the company' s control.
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Longchen carbon reduction mission

Longchen is committed to developing technology that utilizes resources efficiently

Recycling waste paper from garbage into cartons for product packaging

We continue to improve our recycling technologies and net-zero carbon emissions

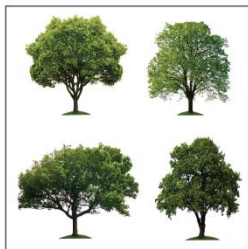
Leave more resources and a cleaner living environment to the next generation

1kg low carbon papermaking reduces carbon emissions by 5.3kg compared to traditional papermaking



Low Carbon Papermaking

1kg cartons made of recycled paper produces only 0.8kg CO₂ e.



Traditional Papermaking

Burning the 1kg cartons made of trees, it produces about 6.1kg CO₂ e.

Longchen P&P manufactures environmentally friendly paper products with a circular economy business model

- We exercise an integrated service-based manufacturing approach for low carbon paper making and eco packaging

We can provide enterprise customers with customized, high added value for an all-round product packaging solutions, such as product protection, stacking, logistics, display.



Collection Center



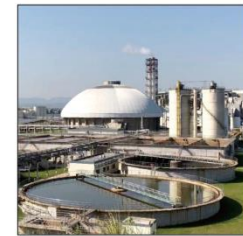
Recycled Paper Storage



Pulping



Paper Machine



Waste Water Treatment



High Quality Packaging



Corrugated Box



Corrugated Board



Containerboard Products



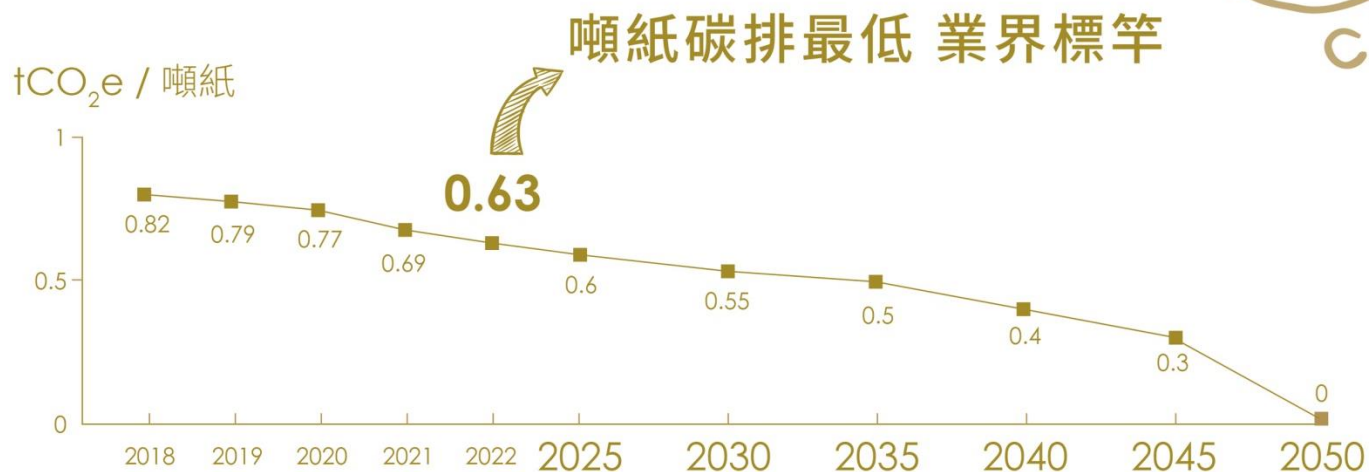
Air Pollution and Waste Materials Treatment

ESG Net Zero Carbon Emissions Plan



榮成集團目標於 2050 年達到
「淨零碳排」

Longchen aims to achieve
"Net Zero Carbon Emissions" by 2050!



ESG The important milestone in sustainable development



ESG Five Core State-of-the-Art Technology

- **Utilization of Recycled Fiber**

Constant research and development of fiber regeneration technology, 0.91 kg of recycled fiber can be retrieved from 1 kg of waste paper.
Possessing the patent of biological sludge reuse technology, and reuse the paper fiber in the sludge.
Recycling waste paper to produce 1 kg of containerboard can reduce carbon emissions by 5.5 kg for the earth.
- **Low Carbon Production Process**

The carbon emission per ton of recycled paper has been reduced to 0.63 tons
Embed low-carbon production processes with complete historical big data
1.1 – 1.4 tons of steam and 330 – 400 kwh of electricity are to produce one ton of paper
- **Water Efficiency**

A drop of water is reused for 26 times, and the water used per ton of paper is less than 4 tons.
The water discharged from paper production is sent back to the process for reuse through the white water recovery system, reducing the amount of clean water
The discharged water after passing through the sewage treatment system and the rainwater collected by the factory area are recycled and reused.
- **Near Zero Emission Reduction**

The SOx emission concentration level is 80% lower than the regulatory standard.
The NOx emission concentration level is 20% lower than the regulatory standard.
The COD concentration level of treated wastewater is 15% lower than the regulatory standard.
Reduction of waste generated in the manufacturing process and R&D reuse
- **Minimum Space**

The annual waste paper processing capacity per square meter in the factory reaches 43.5 tons.
The annual paper production per square meter in the factory reaches 16.8 tons.
The minimum space can achieve the least construction, the least power, the least transportation distance, and the least carbon emission

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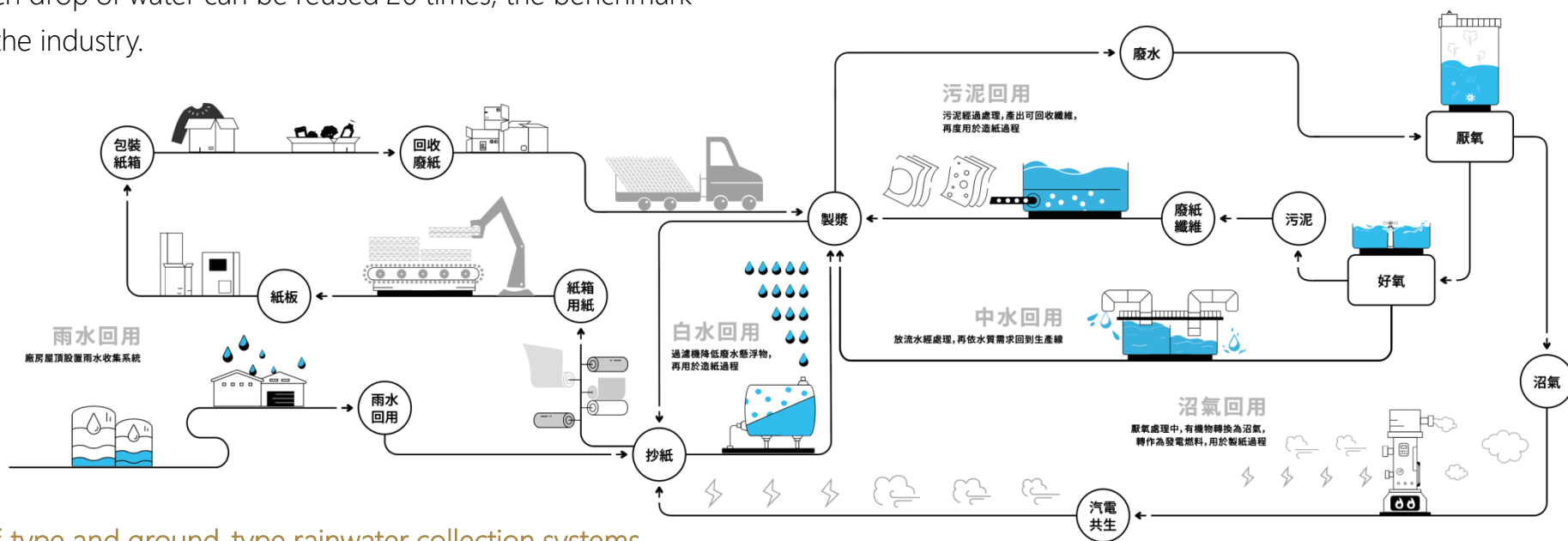
white water recycling system

After special treatment, the white water discharged from the paper machine is returned to the production process for reuse, reducing the consumption of clean water..

Each drop of water can be reused 26 times, the benchmark in the industry.

sludge reuse

23,475 tons of sludge reuse patented technology recovered in 2022 Replacement pulp 17,606 tons



Roof-type and ground-type rainwater collection systems.

Recycling rainwater and uses it as process water instead of fresh water.

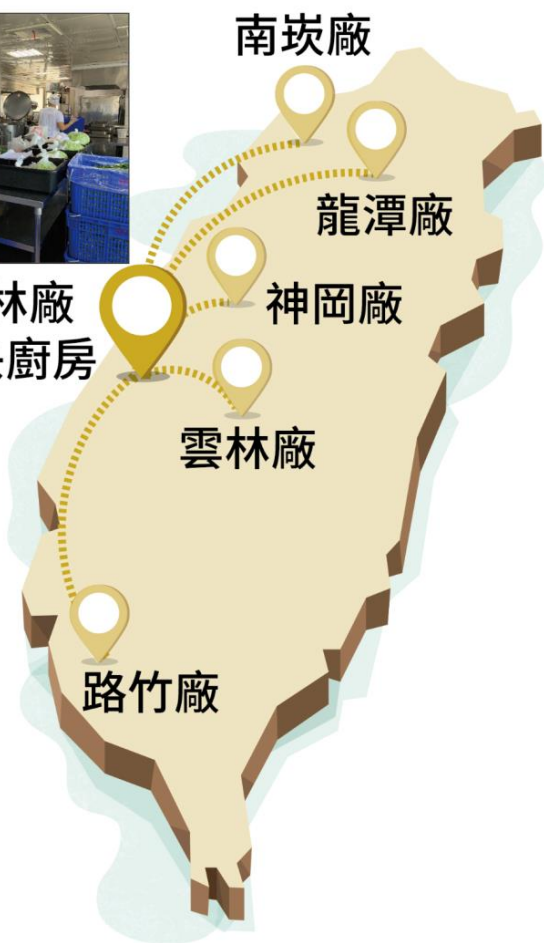
The annual rainwater collection amount was 56,000 tons.

The reclaimed water recovery system

Purifying the discharged water from sewage treatment and sends it back to the manufacturing process for reuse, reducing waste water discharge and clean water consumption.



二林廠
中央廚房



Care about employees

Recruit nutritionists to design nutritionally balanced menus to ensure healthy eating for employees
Employee meal satisfaction survey reached over 90 points, listening to employees' dining needs
Install air purifiers in restaurants to maintain air quality

Environmental benefits

Food carbon footprint reduced by 80%
The ordering system accurately estimates daily food purchase quantities
Centralized procurement and pre-processing of ingredients
Delivered to the satellite kitchens of each factory with the morning shift of raw paper trucks
The food waste is then sent back to Erlin Factory with the raw paper truck to be used as fuel.
Domestic water consumption in each factory reduced by 20%
Efficient space utilization reduces cleaning water use
Ingredients are processed uniformly to reduce washing water
Food waste 0 emissions
The processed food and food waste are transported to the boiler for combustion

ESG Longchen Shan-Yu-Tien Education Foundation

Longchen Shan-Yu-Tien Education Foundation

Founded in 1996, it is committed to caring for rural areas and promoting environmental protection education.

Combining corporate mission with sustainable circular education, planting hope for the next generation.

Remote Area Supporting plan for Nantou Minhe Junior High School

Since 2008, the Foundation has sponsored various teaching resources that Nantou Minhe Junior High School has demanded for a long time,
Sports Enrollment Program: We engaged Olympic Class Coach Wu (Wu, Congzhe) to cultivate taekwondo athletes for enrollment purposes, and also cultivate outstanding national sports talents; Gu, Xiaoshuang, the Gold Medalist at Asia Games, is one of them.
Campus Renovation Program: Due to shortage of budget, we accomplished command stage reconstruction, sport field reconstruction, roof sewage and restrooms, and achieve renovation for dormitory for teachers.
Healthy Meal Program: Replacing and upgrading old kitchen equipments. The central kitchen of Longchen Changhua Erlin mill will directly send fresh ingredients personally prepared by nutritionists to supplement the indispensable nutrition of students during their growth period.

Minhe Self-Strength Project won the 2023 Asian Corporate Social Responsibility Award (AREA) - Social Welfare Development Award
Launch the Minhe Self-Strengthening Project in 2022 to encourage students to set their academic goals early and encourage learning and independent learning
Already handled off-campus visits (2 times, 6 schools), alumni return to school sharing (1 time)



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ESG Longchen Shan-Yu-Tien Education Foundation

The Foundation promotes the "Protect the Ocean Mother, Youth Environmental Education Program"

Use Heping Island Park as a marine environmental education base

Since 2018, the foundation has cooperated with environmentally friendly seed companies. Promoted a total of 3 marine protection course themes "Protecting Mother Ocean" "Little Marine Scientist" and "The Secret of a Drop of Seawater". Use diverse and interesting environmental education methods to take root in the concept of marine protection. A total of 222 sessions have been held, with a total of 6,588 primary and secondary school students participating.

Starting from 2023, it will be based on Yuguang Island in Tainan.

Promote the "Yuguanghai Forest Project" and bring out the importance of coastal forest conservation through curriculum design. A total of 20 sessions have been held, with a total of 591 primary school children participating.

National Erhlin Industrial and Commercial Vocational High School's "Erhlin boxing school team" scholarship program

Erhlin Industrial and Commercial Boxing School Team is one of the top three boxing teams in China. Since 2018, the foundation has promoted the boxing seed scholarship program, and nearly 200 students have benefited. The scope includes competition funds, training instructor fees, equipment updates and scholarships for underprivileged students. Excellent results in the 2023 competition, winning 1 silver and 2 bronze in the National Presidents Cup Boxing Championships, National Games 2 Silver, Changhua County Education Cup Boxing Team Third Place.

good neighborliness educational resource subsidy

Since 2003, the foundation has been adhering to the concept of mutual prosperity between enterprises and communities. Over the years, the foundation has provided scholarships, grants, and nutritious lunches to 14 schools around the factory based on the number of students and their needs.



ESG Longchen Sustainable Development Foundation

National Taiwan Ocean University Cooperation Program

In 2019, with the enthusiastic support of former president Zhang Qingfeng and current president Xu Taiwen, the foundation signed a cooperation agreement with Taiwan Ocean University to cultivate domestic marine environmental science and technology talents with the goal of marine environmental protection and sustainable development.

Several research project results have been published in international journals and patented. The fourth phase of the research project will be launched in 2024.

1. Discussion on the production process of nanocellulose using microorganisms and seaweed
Department of Life Sciences and Biotechnology / Professor Huang Pei-an
2. Apply environmental DNA and metabarcoding technology to investigate the utilization status of sensitive marine species
Department of Aquaculture / Professor Xu Dehua
3. Research on the application of visual sensory characteristics of land crabs and Portunidae for ecological conservation
Department of Environmental Biology and Fishery Sciences / Professor Lan Guowei



Tamkang University Cooperation Program

In 2022, the foundation signed a cooperation agreement with Tamkang University to promote the sustainable development of ESG with goals such as circular economy, net-zero carbon emissions, and clean production. This industry-university collaborative research project focuses on issues such as net-zero carbon emissions, energy efficiency, and product carbon footprint analysis of low-carbon paper mills. Developed jointly by Dean Li Zonghan of the School of Engineering and a team of professors, it obtained ISO 14064 product carbon footprint certification in 2023.



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ESG Longchen ESG Awards and Recognition

2023 Sustainable Comprehensive Performance

TCSA "Top 100 Sustainability Model Enterprises Award"

TCSA "Sustainability Report Award" Gold Award

TCEA Taiwan Circular Economy Award "Enterprise

Friendly environment

APSAA Asia Pacific Sustainability Action Goals Award "Water Recycling" Gold Award

APSAA Asia Pacific Sustainability Action Goals Award "Resource Recycling" Gold Award

TSAA Taiwan Sustainability Action Goal Award "Resource Recycling" Gold Award

TCSA Individual Performance Award "Water Resources Management Leadership Award"

Excellent Green Procurement Enterprise by the Ministry of Environment

Asia Pacific Sustainability Expo "Green Design" Gold Award

Changhua County Air Quality Adoption Unit Excellence Award

social responsibility

APSAA Asia-Pacific Sustainability Action Goals Award "Rural Education" Bronze Award

TSAA Taiwan Sustainability Action Goal Award "Rural Education" Gold Award

AREA Asia Corporate Social Responsibility Award "Social Development Award"

1111 Manpower Bank "Happy Enterprise" Silver Award

2022 TSAA Taiwan Sustainability Action Goal Award "Water Recycling" Gold Award

TCSA "Top 100 Sustainability Model Enterprises Award"

TCSA "Sustainability Report Award" Gold Award

TCEA Taiwan Circular Economy Award "Sustainability Classification Standard Award"

BCCT British Business Council Award for Best Corporate Climate Action

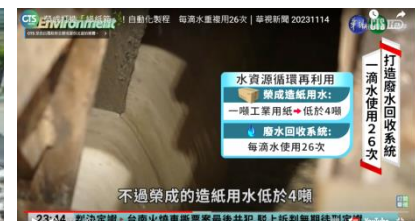
2021 TCSA Corporate Sustainability Award "Corporate Performance Award"

British Standards Institution (BSI) "Sustainability Excellence Award "

2020 Industrial Bureau BS8001 Circular Economy Business Model Level 4, the highest level



The TVBS world is turning upside down - Exclusive interview with Longchen

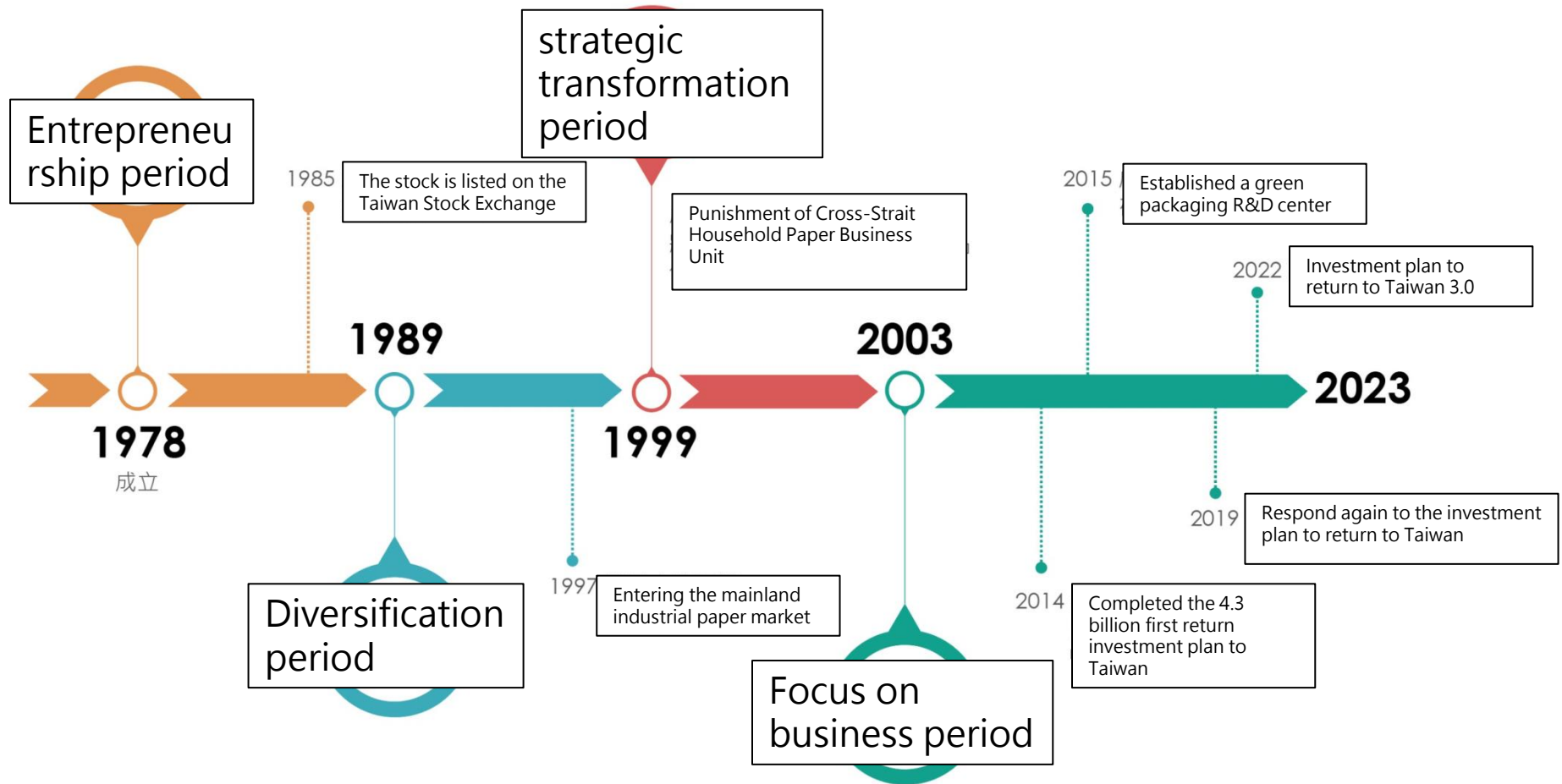


History and Strategy

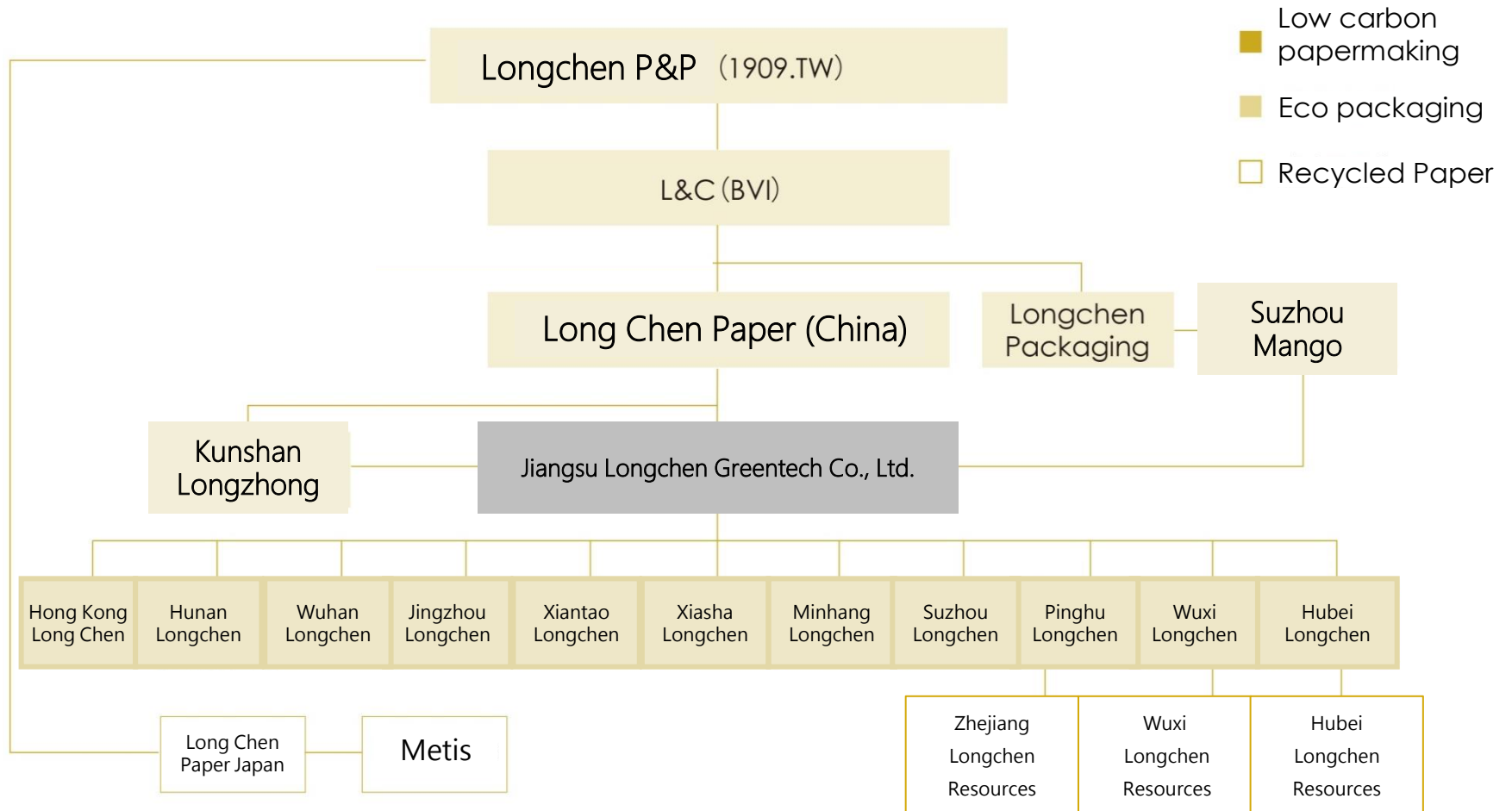
- Company History
- Group holding structure
- Paper Collection Centers
- Low Carbon Paper Mills
- Eco Packaging Plants



Company History



Company Structure



Paper Collection Centers

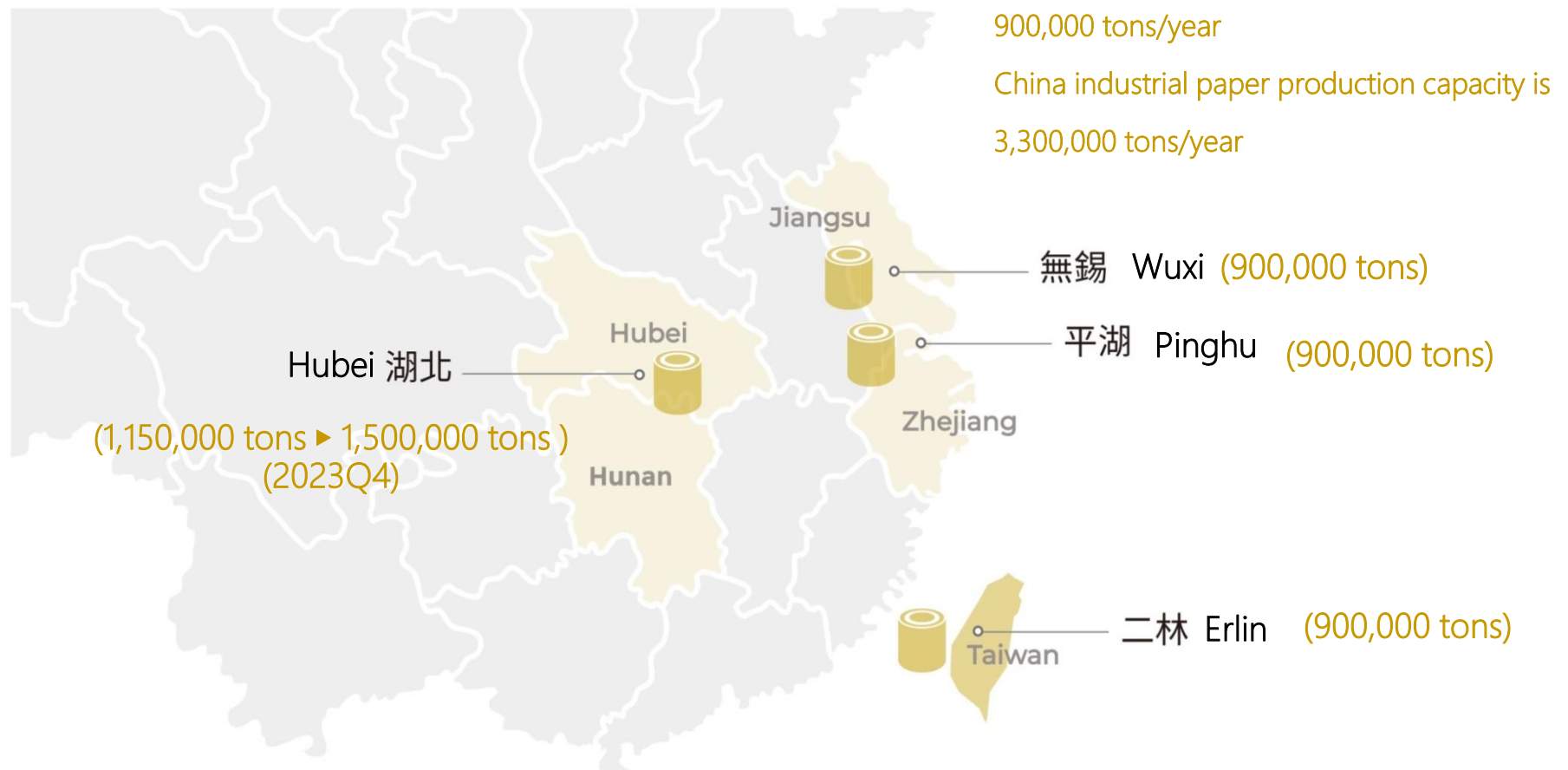
■ 29 waste paper collection centers

- Taiwan recycled waste paper 200,000 tons/year
- China recycled waste paper 1,000,000 tons/year



Low Carbon Paper Mills

■ 4 Low Carbon Paper Mills



Eco Packaging Plants

■ 13 Eco Packaging Plants

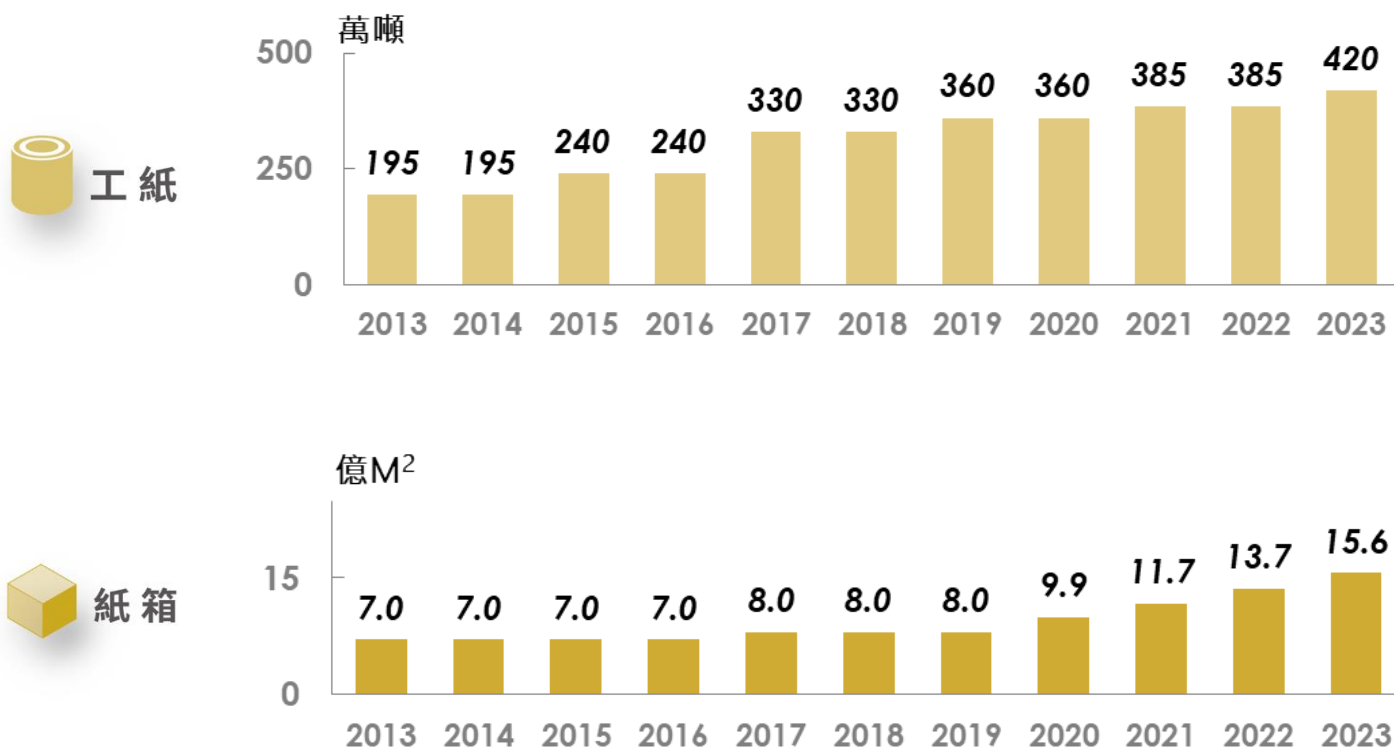


■ Taiwan carton production capacity 725 million M² / year

■ China carton production capacity 836 million M² / year

Industrial paper & carton production capacity

- In the past 10 years, industrial paper production capacity has increased by 115%, and carton production capacity has increased by 123%.



Finance and Industry

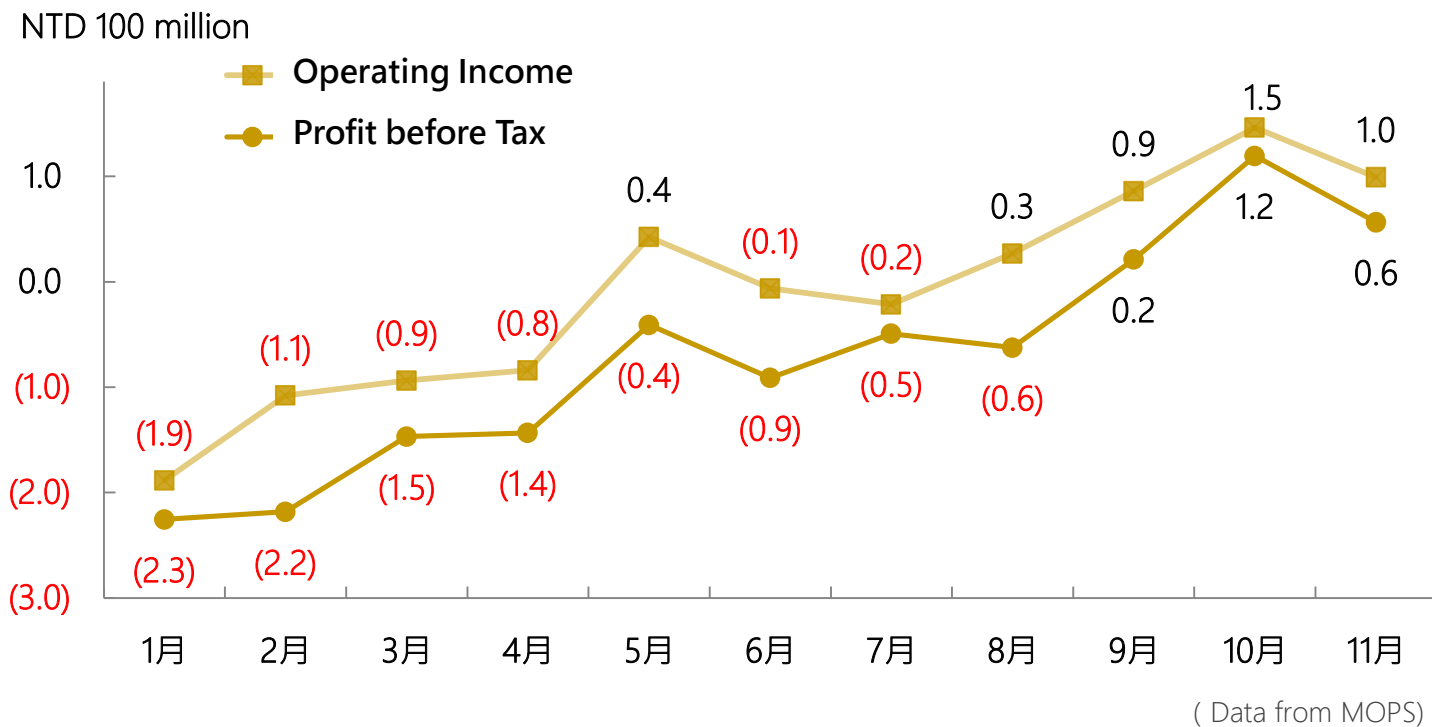
- Company Structure
- Financial Information
- Industry Overview
- Guardian Environment

Financial Information – Income Statement

							Unit/NT\$ million	
Item	2023Q3	%	2023Q2	%	2023Q1	%	2023Q1-Q3	%
Revenues	11,633	100	11,949	100	10,822	100	34,404	100
COGS	10,386	89.3	10,923	91.4	10,125	93.6	31,434	91.4
Gross Profit	1,247	10.7	1,026	8.6	697	6.4	2,970	8.6
Operating Expenses	1,117	9.6	1,089	9.1	1,086	10.0	3,291	-9.5
Operating Income	131	1.1	-63	-0.5	-389	-3.6	-321	-0.9
Non-Operating Income&Expenses	-193	-1.6	-256	-2.0	-196	-1.8	-645	-1.9
Profit before Tax	-62	-0.5	-319	-2.7	-585	-5.4	-966	-2.8
Tax	54	-0.5	10	0.1	56	0.5	121	0.3
Net income	-114	-1.0	-326	-2.7	-637	-5.9	-1,078	-3.1
EPS(NT\$)	-0.09		-0.25		-0.48		-0.81	

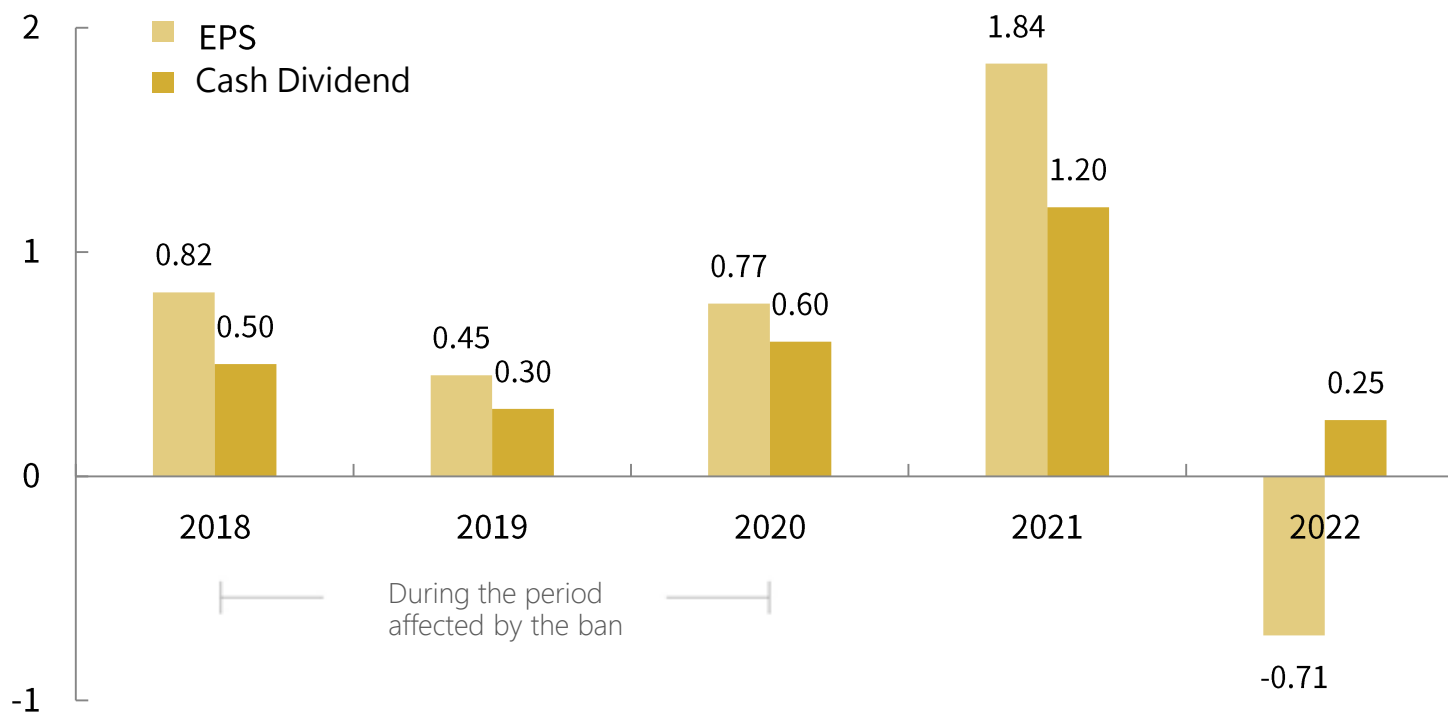
Financial Information – Operating Income & Profit before Tax

- In 2023, after the mainland epidemic is lifted, the economic momentum will recover. September to December will enter the peak season for traditional industries, and the demand for paper will increase.



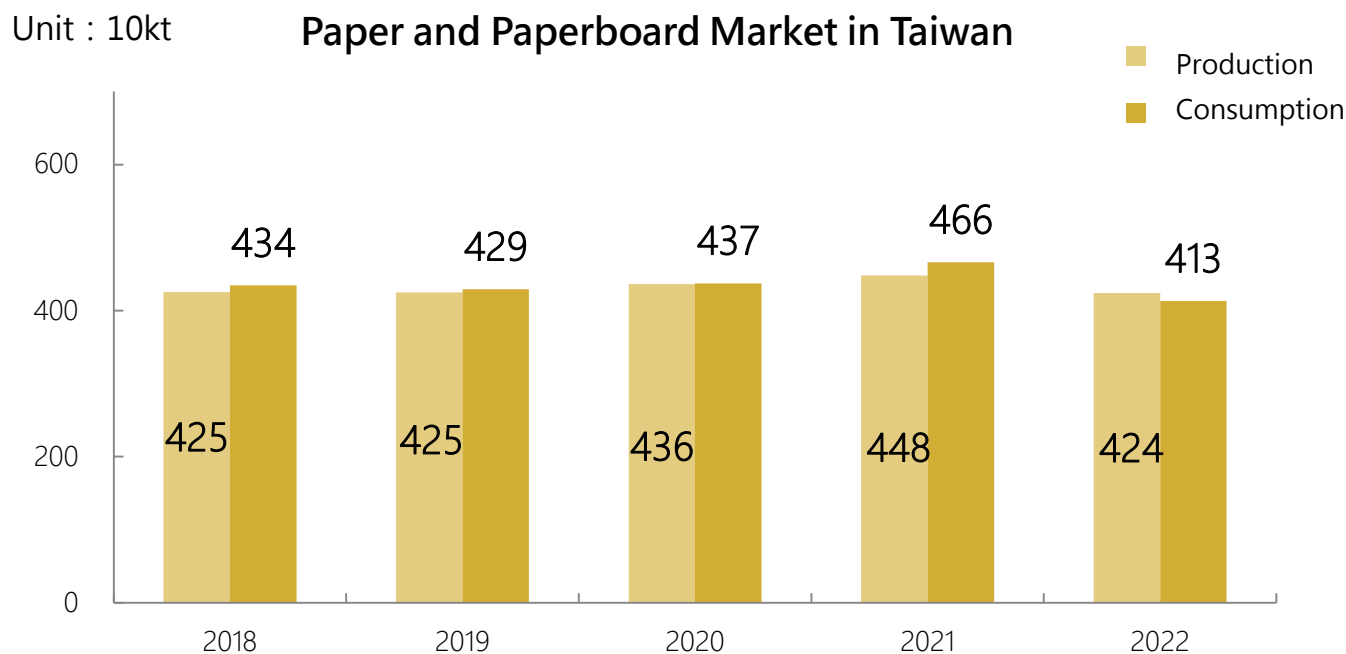
Financial Information-Dividend Policy

- In 2023, the board of directors resolved to distribute a cash dividend of 0.25 yuan per share.



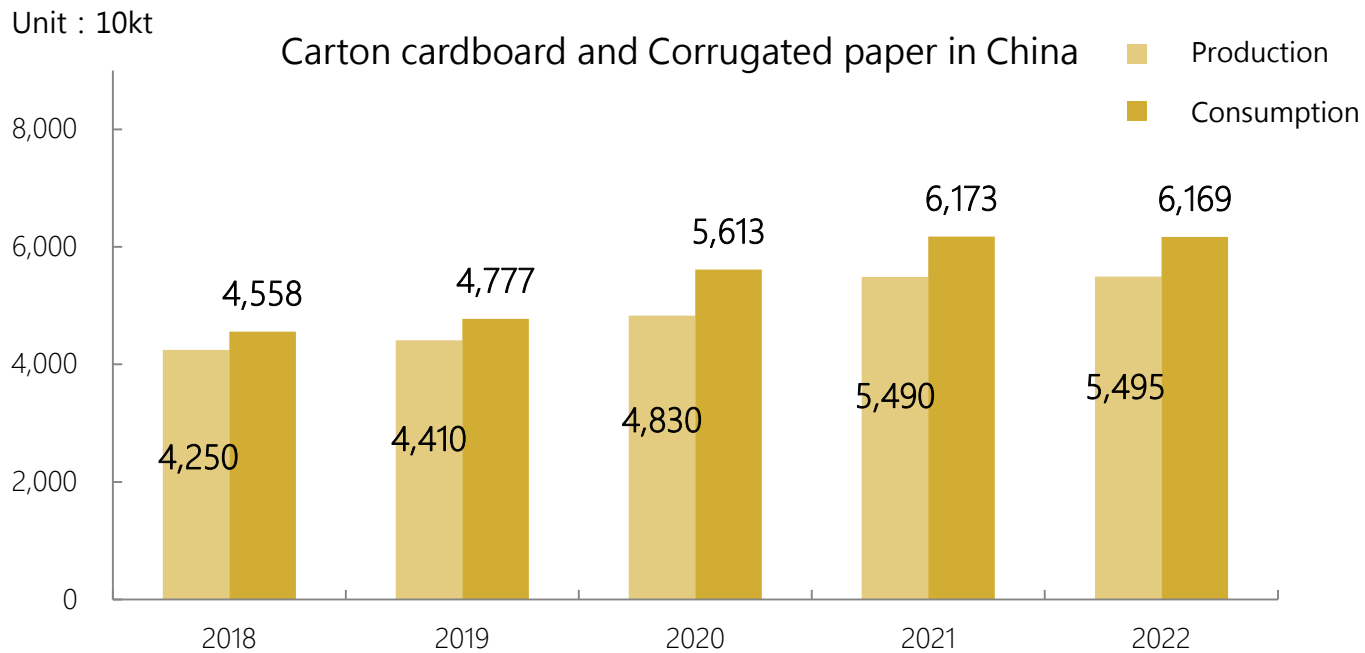
Industry Overview-Taiwan Market

- In 2022, the consumption of paper and cardboard (including industrial paper, cultural paper and household paper) in Taiwan will be about 4.13 million tons, an annual decline of 11.5%
- In 2022, Taiwan industrial paper consumption will be about 1.94 million tons, an annual decline of 16.4%, and Taiwan carton consumption will be about 2.18 billion square meters, an annual reduce of 4.4%.



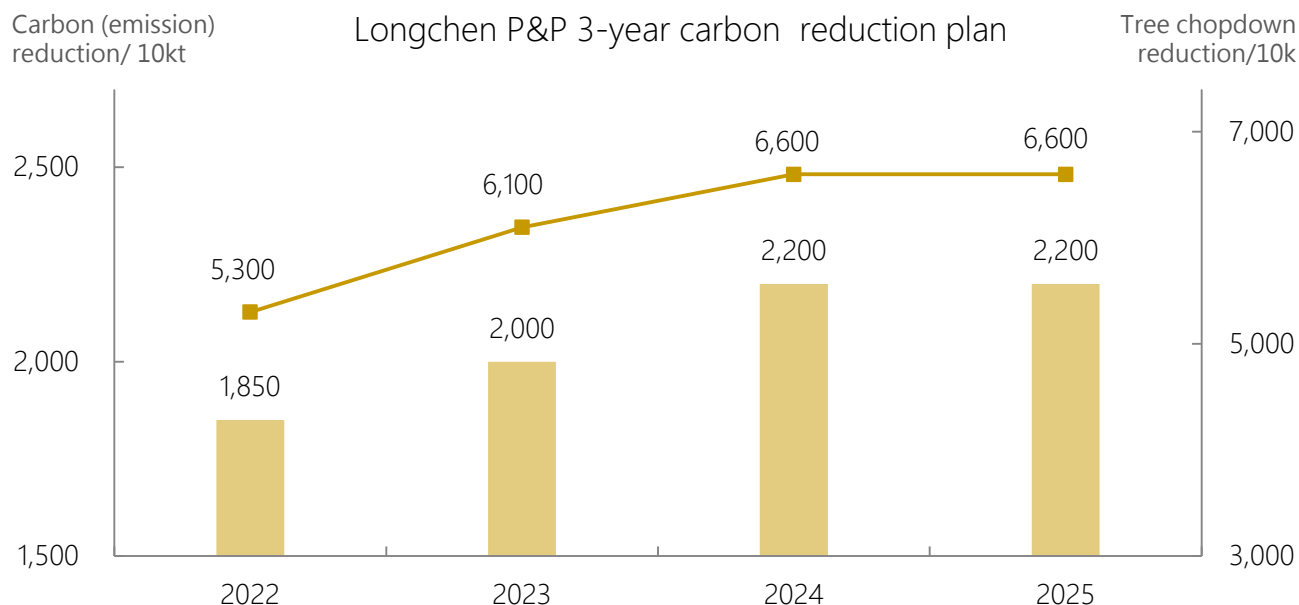
Industry Overview-China Market

- China carton cardboard and corrugated paper consumption was about 61.69million tons in 2022
- 2022 Longchen P&P had a market share of 7 % for corrugated paper and 2 % for carton cardboard in China industrial paper market, which was one of the top four in China. Nine Dragons ,Lee & Man paper and Shanying were in lead of the market share in China.



Longchen P&P 2025 reduce 22 million carbon emission for Earth

- The estimated production capacity in 2025 is 4.22 million tons = we can save 66 million trees = The carbon absorption is equal to 57 thousand Daan Forest Parks.



(Each hectare of forest absorbs 15 tons of carbon per year, the area of Daan Forest Park is 25.94 hectare.)



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Recycling for a better tomorrow

Longchen recycled 3.53 million tons of waste paper and produced 3.36 million tons of containerboard in 2022 ,Equivalent to preserve 53 million trees.