

MANUFACTURE

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TECHNOLOGIES INNOVATE



CIRCULATION

TRANSFORMATION — RECYCLING DRIVES

2022

SUSTAINABILITY REPORT

WASTE TO MATERIAL

AI LEADS IN DIGITAL

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About this report

The CLC published its first environmental report in 2011 and began to publish it annually since 2013. We completely disclose the ESG-oriented goals and achievements of the economy, environment, society and corporate governance, share CLC's sustainable strategies, practices and performance with all stakeholders, and pursue a sustainable cycle of goodness.

Reporting Scope and Period

The scope of this report mainly covers all CLC's operation locations in Taiwan (including four paper mills, seven box plants, and Headquarters) and some overseas bases in China and Vietnam, with a combined disclosure ratio reaching 99.5% of the 2022 consolidated revenue. The information disclosed in this report mainly covers data in the fiscal year 2022 (January 1, 2022 to December 31, 2022). Part of the contents and performance data of fiscal years 2020 and 2021 are also included, and the short-, medium-, and long-term goals are stated.

Principles of Report Writing and Guidelines

To provide the related information for all stakeholders to understand the CLC's sustainable development, this report has been prepared in accordance with the framework and contents of the GRI Standards (2021) published by the Global Reporting Initiative (GRI). Meanwhile, it is compiled with reference to the framework of the Task Force on Climate-related Financial Disclosures (TCFD) and the Sustainability Accounting Standards Board (SASB) "Standards for the Pulp and Paper Products Industry", and the Sustainability Classification Criteria which is being planned by the Financial Supervisory Committee.

Report Management

Internal Management	<div> <div>1</div> <div>Draft preparation by the six working teams of the ESG Committee</div> </div> <div> <div>2</div> <div>Content accuracy and integrity review by unit heads</div> </div> <div> <div>3</div> <div>Report data consolidation and report writing by the executive director of the ESG Committee</div> </div> <div> <div>4</div> <div>Review by the chair of ESG Committee</div> </div>
External Assurance	<p>Quality: This report was verified and assured by the third-party French Standards Institution, bellCERT, AFNOR Asia Ltd. in accordance with the Moderate Assurance in Type 1, AA1000AS(v3) in March 2023.</p> <p>Financial data: All financial data has been audited and certified by the KPMG and expressed in New Taiwan Dollars (NTD).</p> <p>Management systems: All international management systems adopted by the CLC, including ISO 9001, ISO 14001, ISO 14064-1, ISO 22000, ISO 45001, ISO 50001, have been certified by world-leading certification bodies, including the BSI, SGS, and DNV GL.</p>

Reporting Cycle and Report Publication

The CLC publishes the Sustainability Report (ESG Report) annually.

Current Issue: June 2023 (alongside the English version)

Previous Issue: June 2022

Next Issue: June 2024



Contact Us

If you have any comments or recommendations about this report or the CLC, welcome to contact us through the following methods:

Ching-Yi Chen, Manager, CLC ESG Committee

Phone: +886-2-22225131 ext. 225

Email: csr@mail.clc.com.tw

Spokesperson: Tai-Lang Ho, Vice President

Phone: +886-2-22225131

Email: spokesperson@mail.clc.com.tw

Report Download Link: http://www.clc.com.tw/_upload/files/2022ESG_EN.pdf



Inspired by the idea to create a virtuous cycle between the industry and society, CLC offers the option of green consumption to the market through the smart papermaking to enrich convenience of life. The cover, maintaining the original color of the paper, represents to life-extending of recovered paper. We also adopted the 2023 PANTONE representative color-viva magenta to show how CLC brings new life to society through Green Energy & Innovation and Love Paper & Earth.

Note 1: Consolidated statement includes Taiwan parent company and subsidiary (2022 annual report p.102)

Message from Top Management



Pursuit of Excellence, Progress from Stability,
Sustainable Transformation of Value Circulation,
Social Inclusion with Stakeholders

Building an integrated papermaking base in Vietnam Transforming into a new low-carbon & green energy paper company

With a 60-year history, we tirelessly establish circular economy locations globally, guided by three principles: circular economy, low-carbon and green energy, and innovation. Our notable projects encompass biomass CFB boiler systems at ChuPei Mill, recycled pulp lines of Tayuan Mill, and various paper production facilities. CLC Bac Giang Box Plant, Ben Cat Box Plant and Binh Duong Paper Mill Phase II, and the first box plant in northern Vietnam start the commercial operations in 2023H1. Alongside our integrated

papermaking base with a capacity exceeding one million metric tons. Moreover, we are commissioning our third industrial paper line, propelling CLC's transformation into a leading low-carbon and green energy paper company in Asia.

Deploying 3R PLUS total circular economy Implementing low-carbon smart paper

Capturing the zero-emission business opportunities, we smoothly completed the NT\$12.6 billion syndicated loan for low-carbon smart papermaking transformation in 2022. Apart from continuously increasing the number of circular economy locations around the globe, we will expand the scale of recycling technology and combine with investments in green power facilities such as including wind power, photovoltaic, biogas, and biomass power to develop carbon neutralization pathways that are eco-friendlier to the local environment. To turn global climate change risks into opportunities, we activated the "Smart Paper 4.0" low-emission transformation in 2019 to scale up green influence with smart production and sales. In addition, we to implement four scientific carbon reduction pathways: enhance energy efficiency; develop renewables; strengthen circular, low-emission fuels; and innovate application of carbon negative technology by establishing the "Climate Change and Circular Economy Office". In 2022, we also established Asia's first "Academy of Circular Economy" in collaboration with 11 corporations and National Chung Hsing University dedicated to engaging in the recycling and reuse of agricultural and forest surplus materials, developing the roadmap for 3R PLUS total resource circulation and thereby optimizing sustainable competitiveness. To make the green supply chain a reality, we took the lead to form the "Industrial Paper Carbon Neutrality Alliance," Taiwan's first carbon reduction appliance for industrial paper, to support the "getting seniors to help juniors" policy of the IDB so as to demonstrate our leadership influence.

Developing S.M.A.R.T. talents keeping up with the times

In 2022, we successfully secured a NT\$12.6 billion syndicated loan for our low-carbon smart papermaking initiatives. We continue









to expand our global presence in circular economy locations, investing in recycling technology and green power facilities such as wind, solar, biogas, and biomass power. Our "Smart Paper 4.0" initiative drives smart production and sales to create a greener impact. To reduce carbon emissions, we focus on four pathways: enhancing energy efficiency, developing renewable energy, utilizing circular low-emission fuels, and implementing carbon negative technology. Our dedicated "Climate Change and Circular Economy Office" oversees these efforts. Additionally, we collaborated with 11 corporations and National Chung Hsing University to establish Asia's first "Academy of Circular Economy" in 2022. This academy focuses on recycling agricultural and forest materials, optimizing sustainable competitiveness, and developing the roadmap for total resource circulation (3R PLUS). Furthermore, we initiated the "Industrial Paper Carbon Neutrality Alliance," supporting the IDB's policy of mentoring new companies and promoting a green supply chain.

Strengthening enterprise risk management towards new globalization

The year 2023 will be characterized by challenge and the emerging geopolitical risk also announces the advent of new globalization. Hence, it is necessary for international companies to actively develop productivity around the globe to meet the local demands. Apart from coordinating with industry development, we will dynamically review medium- and long-term investment plans and strategies and develop and enforce glocalization and actively strengthen enterprise risk management to ensure the continuity of key operations and services. Looking out to 2023, we will continuously focus on innovation strategies, lead CLC to scientifically practice zero-waste and green energy governance, and guide the supply chain to comply with the principles of sustainable development so as to advance net-zero smart papermaking alongside various stakeholders.

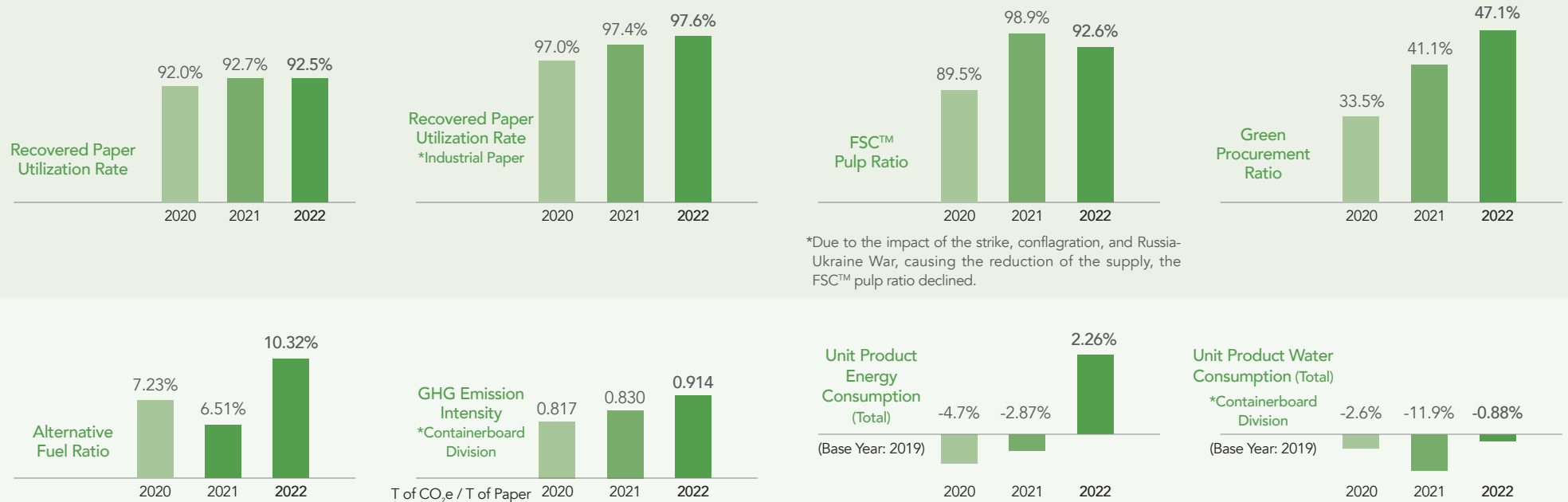
Chairperson **Frank Cheng**

ESG Goals & Results

ESG / SDGs		Material Issues	Index	2022	2025	2030	
Environment		Sustainable Products and Development	Recovered Paper Utilization Rate *Industrial Paper		97.6%	> 97%	> 97%
<div>SDG 6</div> <div>SDG 7</div> <div>SDG 12</div> <div>SDG 13</div> <div>SDG 15</div>	Biodiversity	FSC™ Pulp Ratio	92.6%		> 98%	100%	
	Climate Change Action	GHG Emission (Base Year: 2018)	-2.53%		-5%	-30%	
	Energy Management	Alternative Fuel Ratio	10.32%		15%	20%	
		Unit Product Energy Consumption (Base Year: 2019)	2.26% (Total)		-5% (Total)	-10% (Total)	
	Water Resources Management	Unit Product Water Consumption *Containerboard Division (Base Year: 2019)	-0.88% (Total)		-5% (Total)	-10% (Total)	
	Green Procurement	Green Procurement Ratio	47.1%		45%	50%	
	Air Quality Management	Air Quality Management (Base Year: 2019)	SO _x	-43%		-30%	-42%
			NO _x	-36%		-33%	-45%
			TSP	-47%		-57%	-65%
	Waste to Resources	Waste-to-Resources Ratio	95.6%		95%	96%	
Social		Social Inclusion	Social Welfare Investment	NT\$14.21 million	> NT\$10 million	> NT\$10 million	
<div>SDG 1</div> <div>SDG 4</div> <div>SDG 8</div> <div>SDG 10</div>	Social Inclusion	Paper Library	25 (Total)		> 30 (Total)	> 40 (Total)	
	Talent Cultivation and Development	Training Hour Per Staff (yearly)	56 hrs		> 45hrs	> 48hrs	
	Supply Chain Management	Local Procurement Ratio	66.4%		73%	75%	
	Healthy Workplace	Health Promotion Participation (yearly)	1,014		2,000	+5%/year (from 2025)	
Governance		Supply Chain Management	On-site Supplier Audit	68 suppliers completed	85% complete	100% complete	
<div>SDG 12</div> <div>SDG 17</div>	Product Responsibility and Customer Service	Customer Satisfaction Score	86.6		87	88	
	Risk Management	Material Violation Incidents	0		0	0	

ESG Key Results

Environment



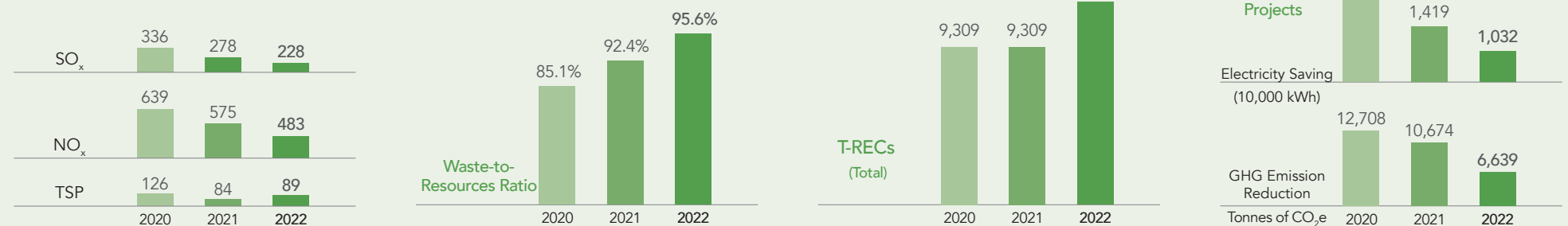
*Due to the impact of the strike, conflagration, and Russia-Ukraine War, causing the reduction of the supply, the FSC™ pulp ratio declined.

*2021: the reduction of SRF use in the boiler at Tayuan Mill

*Note 1: Due to the breakdown of the smart warehousing equipment and the depression in Houli Mill, leading to the reduction of the production, which affects the Unit Product Energy Consumption increased.

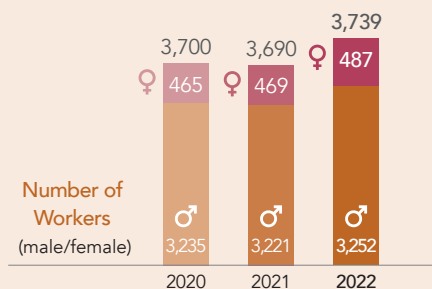
*Note 2: The ratio of unit product energy consumption was positive in 2022, which indicated decline. The ratio of 2020 and 2021 were both negative, which indicated progress.

Air Quality Management (MT)

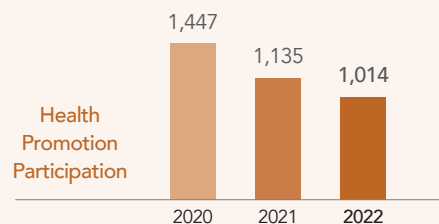
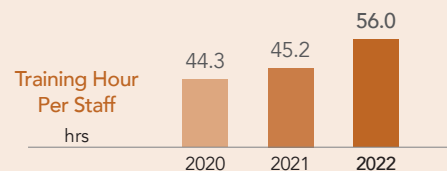


*2021: The wind turbine in Chupei Mill is damaged, and the foreign technicians cannot come to Taiwan due to the epidemic, which affects the repair progress.

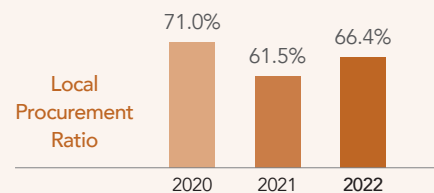
Social



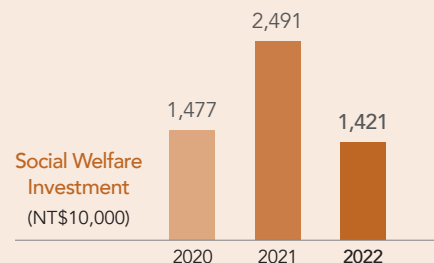
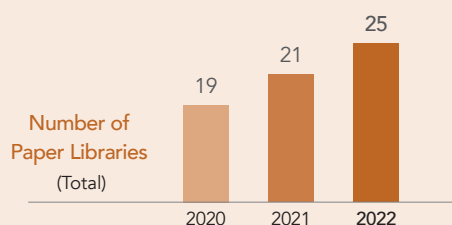
*Enhance the power of women in the industry, so the ratio of female colleagues is increasing year by year.



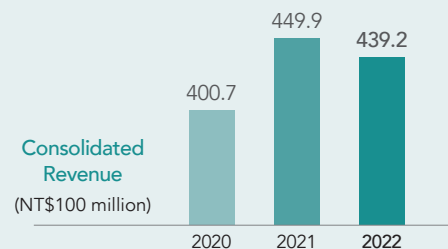
*2022: Due to the epidemic, physical health promotion activities have been reduced, and 5,614 people have been included in physical & online courses



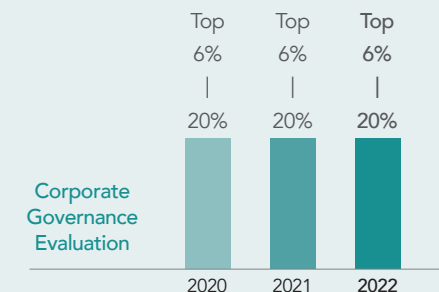
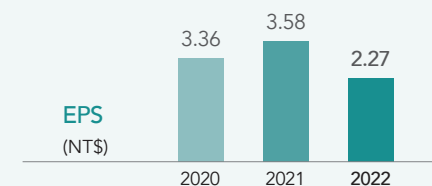
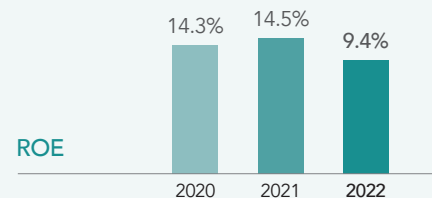
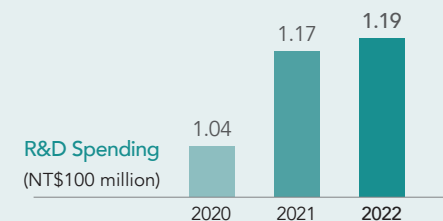
*2021: The rise in international raw materials has led to an increase in the amount of overseas purchases



Governance



*Affected by the Russian-Ukrainian war, high inflation, continuous interest rate raise by the FED, and supply chain restructuring under the China-U.S. struggle, which also made the demand for the Company's products has decreased in line with the global economic situation.



Honors & Recognition



《Global environmental NPO-CDP》
Climate Change Questionnaire
"A-"Leadership Level

First Taiwan Papermaker



《Corporate Knights》
2022 CLEAN 200
Selected as the global top 200 clean company

The only 2 in Taiwan



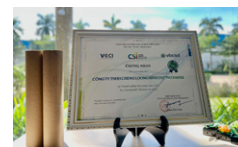
《Businessweekly》
TOP 100 Carbon Competitiveness-1st Survey in Taiwan

Leading the industry



《CommonWealth Magazine》
The "Excellence in CSR (No.30)" Award for the 9th time

Leading the industry



《Vietnam Chamber of Commerce and Industry (VCCI)》
TOP 100 Sustainable Businesses 2022 (CSI 2022)

First Rewarded Taiwan Corporation



《Asia Business Research and Development Center》
《Vietnam Private Business Association (VPBA)》
2022 TOP10 Vietnam Leading Brand



《Taiwan Institute for Sustainable Energy (TAISE)》
1st Asia-Pacific Sustainability Action Awards: Silver

Leading the industry

Environment

《Corporate Knights》	"2022 CLEAN 200" Selected as the global top 200 clean company
《Businessweekly》	《TOP 100 Carbon Competitiveness》 Survey
《EPA》	《Resource Circulation Prospective Certification》 -Chupei Mill
《EPA & Environmental Protection Bureau (EPB)》	《Green Procurement Excellent Performance Unit》 -All Factories
《Industrial Development Bureau, Ministry of Economic Affairs》	《Industry GHG Reduction Excellent Performance Enterprises》 for the 2nd time -Tayuan Mill 《Green Factory Certification-Cleaner Production Assessment System Conformity》 -Hsinchu Mill
《Taichung City-Environmental Protection Bureau (EPB)》	《Excellent Performance Circular Economy for Pollution Reduction and Coal Reduction》 Excellent for the 2nd time -Houli Mill
《Taichung City-Economic Development Department》	《Sunshine A+ Competition: Green Energy Contribution Award》 - Houli Mill

Social

《1111 Job Bank》	Awarded 《Happy Enterprise Award》 -Gold for the 3rd time
《Ministry of Health and Welfare (MOHW)》	《Healthy Workplace Certification》 -8 factories awarded
《Commonhealth Magazine》	Become "Corporate Health Responsibility" for 4 consecutive years
《Sports Administration, Ministry of Education》	"i Sports Certified Corporation" for the 2nd time
《Taiwan Index Plus Corporation》	Selected as 《EMP 99 Index》 for 12 consecutive years

Governance

《Global environmental NPO-CDP》	Climate Change Questionnaire "A-"Leadership Level
《CommonWealth Magazine》	The "Excellence in CSR (No.30)" Award for the 9th time
Taiwan Institute for Sustainable Energy (TAISE)》	1st Asia-Pacific Sustainability Action Awards: Silver
《Taiwan Institute for Sustainable Energy (TAISE)》	TCSA: Taiwan's Top 100 Sustainable Enterprises, the Corporate Sustainability Reporting Award : Platinum, the Award for Circular Economy Leadership (TOP4) and the Award for Talent Development Leadership (TOP3)
《Vietnam Chamber of Commerce and Industry (VCCI)》	TOP 100 Sustainable BusinessesEnterprises 2022 (CSI 2022) -Cheng Loong Binh Duong Paper Mill
《Asia Business Research and Development Center》 《Vietnam Private Business Association (VPBA)》	2022 TOP10 Vietnam Leading Brand -Vina Tawana Container Plant
《Global Views Monthly》	Excellence in CSR-Circular Sustainability Model Award
《New Taipei City-Economic Development Department》	1st New Taipei City Classic Award : Enterprise Classic Award & Investment Contribution Award
《Chung-Hua Institution for Economic Research》	Taiwan Circular Economy Awards (TCEA) -corporate category- Outstanding Awards for 2 consecutive years
《TWSE》	Rated the top 6%~20% at 《TWSE》 9th Corporate Governance Evaluation for 3 consecutive years
《Taiwan Index Plus Corporation》	《TWSE Corporate Governance 100 Index》 for 2 consecutive years

※Please refer to the CLC corporate website and related sections & chapters for complete recognition information.

CLC Sustainability Practice

ESG: Climate Change Action



Upgrading Smart Manufacturing Influence for 3R PLUS Net-Zero Total Circulation

Taiwan's paper industry uses plant fiber and recovered paper as raw materials. It also engages with technology innovation to expand the scope of waste to resources to provide the market with diversified options for green consumption and create the recycling value of the circular economy, becoming the oldest and most typical resource circulation industry and the industry indispensable to achieving the carbon reduction and carbon neutrality goals of the macro environment in Taiwan.

1

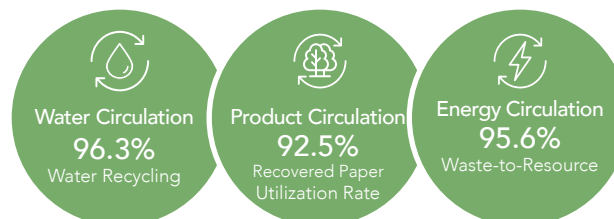
Rebuilding secondary forest through promoting total resource circulation and sustainable smart papermaking

In recent years, we have been actively integrating the total circulation of three major resources: products, energy, and water through the low-carbon S.M.A.R.T paper strategies: Subtraction-reducing resource consumption use, Materials-turning waste to energy, AI-smart production-sales, Recycling-reusing recovered paper, and Technologies-advanced processes to transform traditional factories into eco-friendlier smart and recycling plants. With an annual conversion rate of up to 92.5 %, we recycle up to 40% of recovered paper weighing 1.6 million MT into eco-friendly products. Additionally, we replace fossil fuels with large amounts of solid recovered fuel (SRF) produced from the manufacturing process to reduce carbon of nearly 9.1 million MT for Taiwan each year, creating the largest scale of waste recycling in Taiwan. Through resource circulation and recycling, we provide green products for the market to indirectly mitigate the habitat damage from logging to retain about 5,233 Daan Forest Parks so as to build secondary forest and maintain biodiversity for Earth. Encouraging "reduce carbon from a piece of toilet tissue," we became Taiwan's only enterprise awarded the Carbon Footprint Label for six household paper products to help consumers easily practice carbon reduction in daily life.

2

Accomplishing carbon neutrality through four scientific carbon reduction roadmaps for agricultural and forest resource circulation

Since 2019, CLC has been implementing the "Smart Paper 4.0" low-carbon transformation to achieve a scalable green impact through intelligent production and sales. Our goal is to shift papermaking from "near-zero" to "net-zero" by implementing energy-saving, carbon reduction, and waste reduction measures. With a comprehensive strategic blueprint focusing on four scientific carbon reduction pathways—energy efficiency, renewable energy, circular low-carbon fuels, and innovative carbon-negative technologies—we are driving deep and sustainable innovation. In 2022, we actively invested in sustainable circular economy practices, collaborating with industry, government, academia, and research institutions. Through initiatives such as plant fiber regeneration, high-value applications of bio-based materials, and increased use of biofuels, we are constructing a 3R PLUS circular blueprint and contributing to the nation's goal of achieving carbon neutrality by 2050.



Develop the supply of agricultural and forest surplus materials to help build the domestic biomaterial supply ecosystem

We have set the target of 20% alternative fuels by 2030. To explore more applications of carbon neutral biomass fuels, we have established the Agricultural and Forest Materials to Resource Team to actively source domestic agricultural and forest surplus materials, including wood sheets and sawdust, bamboo, spent mushroom FIBC bags, roadside trees and withered branches, to create more possibilities for turning surplus natural materials into biomass fuels.

Establish the "Academy of Circular Economy" in collaboration with National Chung Hsing University

In 2022, CLC teams up with National Chung Hsing University and 11 indicative enterprises, including TSMC, practicing the circular economy, we established in 2022 the first "Academy of Circular Economy" in Taiwan and Asia to focus on developing talents in three major fields: emerging agriculture, smart technology, and green semiconductor. We also aim to develop sustainable agricultural and forest circulation, such as plant extract, biomass fuel application and natural carbon sink.

ESG: Sustainable Products and Development

CLC Binh Duong Mill Becoming Paper Leader in Vietnam First Taiwan-invested Paper Mill Ranked CSI TOP 100

Focusing on innovation, circulation, and green energy and setting the new low-carbon & green energy paper company in Asia as the goal, we actively engage in global expansion and expanding sustainable production capacity to deploy competitive strengths in sustainable and low-carbon papermaking.

1

Expanding production lines for sustainable packaging materials! Commercial operation of CLC Binh Duong Mill Phase II, Mass production of first box plant in northern Vietnam in 2023

According to the statistics of International Corrugated Case Association (ICCA), the global corrugated case consumption in 2022 exceeded 274 billion m², with an annual growth of 0.6%. With an annual GDP growth expected at 8%, the highest in Southeast Asia, Vietnam's paper box consumption exceeded 2.58 billion m², with an annual growth of 14.4%. To capture the green package business opportunities, we make continuous operations deployment at home and abroad with circulation and recycling as the strategic goals to expand the scale of recovered paper recycling. Alongside the industrial paper line with an annual capacity of 400,000MT of CLC Binh Duong Mill Phase II will start the commissioning in 2023H1, which its annual capacity of CLC's paper and corrugated board will be boosted to 2.502 million MT. Following the upcoming start of the mass production of CLC Ben Cat Box Plant, and Bac Giang Box Plant, our first box plant in northern Vietnam will start the commissioning in 2023H1, with the box capacity will increasing by 264 million m² to a total capacity of 2.051 billion m². And the third industrial paper line scheduled and the deployment of a one-million-MT integrated papermaker base in Vietnam will be completed.



2

TOP 100 Sustainable Businesses 2022 (CSI 2022): CLC scales for good to contribute to local industry resources

Since its establishment in 2016, CLC Binh Duong Paper Mill has adhered to the group's core principles of "caring for life, resource utilization, and contributing to society," aiming to become a benchmark for sustainable paper industry in the local community. In 2022, the mill utilized approximately 330,000 metric tons of recycled paper, achieving a 100% recycling rate and processing over 30% of locally sourced recycled paper in Vietnam, practicing "full resource circulation". The mill also implemented ISO 50001 energy management, surpassing annual energy and steam conservation goals. Internally, talent development through Total Productive Maintenance (TPM) and proposal improvement systems, along with competitive salaries, annual free health check-ups, six months of maternity leave, and other comprehensive compensation benefits, contribute to local employment growth and increased income. Externally, Binh Duong Paper Mill established Binh Duong Hospital, assisted the Vietnamese government in purchasing COVID-19 vaccines, and provided epidemic prevention materials. These efforts were recognized with the "2022 CSI Vietnam Top 100 Sustainable Businesses" award, ranking 14th among over 400 participating companies.

CLC Binh Duong Mill practices ESG to scale for good so as to contribute to local industry resources, earning the "TOP 100 Sustainable Businesses 2022(CSI 2022)" under the Sustainable Companies (CSI Program).

3

From first in Taiwan to first in Vietnam: Transplanting GHG control experience to set example in Vietnam's paper industry ahead of the government

Since obtaining the world's first ISO 14064-1 certificate in 2005, CLC has initiated emission reduction management. While the Vietnamese government is still in the process of drafting related regulations, Binh Duong Mill has successfully obtained the ISO 14064-1 certificate, becoming the first benchmark enterprise in the local paper industry. In the future, the mill will continue to use low-carbon and circular fuels, improve circular energy efficiency, utilize local agricultural residue such as cashew shells and rice grain as bioenergy fuel, and actively introduce advanced equipment and innovative technologies to enhance energy efficiency and reduce resource consumption.



By transplanting Taiwan's GHG management experience, CLC Binh Duong Mill obtained the first ISO 14064-1 GHG inventory certificate in Vietnam to set a carbon management example for Vietnam's paper industry ahead of the Vietnamese government.



ESG: Supply Chain Management

Building Sustainability National Team by Organizing Paper Industry Carbon Neutrality Alliance

To support IDB's "getting seniors to help juniors" policy, we have established the "Industrial Paper Carbon Neutrality Alliance," Taiwan's first carbon reduction appliance for industrial paper, in collaboration with upstream and downstream industry partners to build and implement a true green supply chain by optimizing the fundamental capability for carbon reduction through progressively inventorying the carbon reduction needs of partners, improving carbon management knowledge, and integrating government consultation resources.

1 Leading the whole industry chain through "getting seniors to help juniors"

According to CLC President Ching-Biao Chang, "Facing the upcoming carbon border tax of the EU and carbon fee of Taiwan, and the carbon reduction needs of branded customers of the supply chain, it needs the cooperation of the whole industrial chain to work together." As the center business of the Industrial Paper Carbon Neutrality Alliance, CLC will team up with upstream materials, equipment suppliers and downstream container customers of industrial paper to start the survey of the carbon reduction needs, organizational carbon inventory, and product carbon footprint inventory of members and build a carbon database for investment in low-emission technology and green energy, promotion of actual emission reduction, and acceleration of the low-carbon transformation of the industry chain led by CLC so as to turn the produced industrial paper into the first option of world-leading manufacturers. As we are the demonstration business of the appliance, we will share the experience in an alliance operation with competitors to promote the total low-carbon, green supply chain transformation to the paper industry.



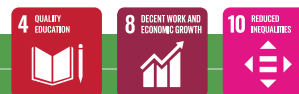
To support IDB's "getting seniors to help juniors" policy, we have established the "Industrial Paper Carbon Neutrality Alliance," Taiwan's first carbon reduction appliance for industrial paper.

2 Scale for Good! Expanding sustainability competitiveness with 300 suppliers

Emphasizing "Scale for Good!" As a leading player in the paper industry, CLC actively leads ESG dimensions such as improving low-carbon products, innovative applications, responsible production, employee development, and social inclusiveness through supply chain management. This includes setting SOPs, evaluation mechanisms, and guidance to establish a sustainable supply chain ecosystem. We organizes an annual ESG conference for suppliers, commending outstanding suppliers and exchanging ESG strategy trends. The third "2022 CLC Supplier ESG Conference" focused on three sustainability issues: climate change, low-carbon products, and information security. In addition to expert sharing, we planned a third-party "cybersecurity risk assessment service" to help the supply chain quickly understand cybersecurity risks, aiming for collaborative supply chain cybersecurity defense. With 300 key suppliers, CLC strives to create a sustainable ecosystem together.



Getting ahead of competitors, we have organized the "Supplier ESG Conference" for three consecutive years, teamed up with 300 key suppliers to build a sustainable ecosystem for operations, and commended outstanding suppliers.



ESG: Talent Development

Activating Sustainable Talent Development 10-Year Plan for One-stop Green Talents Development

Looking forward the labor shortage and global supply chain trends in the manufacturing industries, we set the Low-Carbon Smart Paper Transformation Project and established the Sustainable Talents Development 10-Year Plan according to the S.M.A.R.T. reform in operations and manufacture during the Company's 60th anniversary in 2019 to build the green leader talent pool. We set 48 hours of education and training per employee, development of 300 internal instructors, and realization of young management by 2030 as the targets to systematically implement ESG competency education and develop multifaceted international talents through job rotation in response to the increase in overseas business locations. Additionally, by increasing employment channels with industry- academia collaboration and optimizing performance in recycling and emission reduction through technological exchange, we devote ourselves to reversing the talent shortage disadvantage of traditional industries to promote the sustainability and mutual prosperity of the paper industry.

1 CLC 60+ Developing S.M.A.R.T. green leaders keeping up with the times

CLC's "Smart Paper 4.0" not only emphasizes the S.M.A.R.T. approach to deepen internal carbon reduction effectiveness through technology and operations, but also emphasizes the cultivation of forward-thinking green talents in various areas, including technical engineering, ESG governance, digital technology, crisis management, and international languages. In line with trends in each field, apart from dynamically adjusting internal training goals and course content, long-term talent development plans are established for key positions. CLC actively promotes industry-academia collaboration, internships, interdisciplinary programs, and the establishment of internal academies, aiming to build a stable pool of sustainable talents for the company and traditional industries.



2 Creating value up to NT\$370 million through developing sustainability competency and smoothening channels for carbon reduction proposals

We also emphasize overall training and adaptive development. We systematically develop an internal training system by pay grade and competency, develop exclusive courses by duty needs, and combine learning achievement with annual performance evaluation. In addition, we offer 455 types of E-Learning resources, benchmark speeches, and funding for advanced studies. In 2022, employees engaged in over 40,000 hours of self-imposed learning to develop a lifelong learning corporate culture. In response to the transformation targets for the next 60 years, we have developed over 300 internal instructors and combined the training system with the total production management (TPM) implemented from operations to manufacture from 1999 based on the core of "experience inheritance and virtuous competition". Every year we invite employees to make proposals for optimizing operations, management, and production equipment use to smoothen the communication channel between frontline manufacturer to senior management at headquarters. Finally, outstanding proposals are determined through inter-departmental selection and implemented for the Company to improve the overall production synergy. A benefit of up to NT\$367 million is expected to create in 2022. Employees are also rewarded with plentiful "sense of achievement" to develop a better "sense of honor" and "sense of responsibility" together with the Company.



“

Looking forward into the trend of operations and sustainable supply overseas, CLC values green leader development, and recruits and retains excellent talents at home and abroad through building a total learning organization and friendly and happy workplace so as to lay the foundation for sustainable business development.

”

VP, Administration Division, CLC Headquarters
Hsiang-Chu Lin

ESG: Social Inclusion

Ingraining Education for Secondary Forest Unveiling Green "Inclusion" in Future Taiwan

In response to the spirit of SDG4 Quality Education of the United Nations, we began to build paper libraries across Taiwan based on our papermaking core competency in 2014 to bring reading and environmental education resources to remote townships so as to promote Secondary Forest education. In recent years, we have further teamed up with various sustainable partners, including producing teaching aids of sustainable development and organizing teacher training camps with Tetra Pak and Future Parenting Platform and building paper libraries with Good Neighbor Foundation of President Chain Store Corporation. In 2022 we further built the first paper library outside Taiwan Island on offshore island Kinmen. We have already built a total of 25 paper libraries, supplied 6,300 books, and developed nearly 500 sustainability teachers to devote to developing the total sustainability awareness in society through elementary education.



CLC builds paper libraries in collaboration with Good Neighbor Foundation of President Chain Store Corporation.



Building 40 100% recyclable paper libraries by 2030

Promoting the "Second Forest, Paper Loves Reading" for a long time and creates sustainable and aesthetically pleasing "paper" reading spaces in elementary schools throughout Taiwan. Unlike traditional libraries, the design of paper libraries features display racks that allow themed books to be more prominently showcased. They are complemented by adorable paper trees, elephants, paper desks, and chairs, transforming traditional, cold libraries into inviting spaces that greatly enhance children's desire to read. With a goal to establish 40 libraries by 2030, CLC will continue to accept for its projects in Taiwan and collaborate with sustainable partners from various sectors to promote the establishment.



The lower section of new paper bookshelves combines display and storage functions for lower-year students to use more easily.

Four main sustainable features of paper libraries

100% recyclable Use the natural color of corrugated board to ensure 100% recycling into recovered paper, like the natural color of trees.

Lightweight The all-paper design facilitates children to handle, and teachers can also make flexible re-arrangements based on instructional needs.

Safe The professional structure design is stable and load-bearable, and all legs have safety design to prevent impacts and comply with ergonomics.

Eco-friendly The modular design enables flexible disassembly and replacement and is 100% recyclable.



Ingraining the circulation seed of secondary forest, developing nearly 500 sustainability teachers

To promote the correct sorting of recovered paper and thereby realize the circular economy, we developed lesson plans, picture books, and card games and gave presentations in collaboration with Tetra Pak and Future Parenting Platform and activated the "Paper circulation and recycling" Sustainability Education Teacher Camp across Taiwan to actively empower elementary school sustainability teachers. Since the start of the project in 2021, we have arranged face-to-face instruction, training, and sharing with teachers in Taichung, Hsinchu, Kaohsiung, Taipei, New Taipei, Hualien, and Chiayi through a total of 10 training camps to empower nearly 500 elementary school sustainability teachers to continuously ingrate the correct concept of recycling and sorting so as to sow the seed of circulation in society.



CLC develops teaching aids for sustainable development and organizes training camps together with Tetra Pak and Future Parenting Platform to develop nearly 500 teachers of sustainable development.

“ Use picture books to teach lower-year students paper sorting for recycling, it is easy to understand and can motivate learning in children. After understanding the whole paper recycling process and products made with recycled paper, children can better understand that resource recycling is not just a slogan but a practice in the daily life. ”

Teacher, Kaohsiung Ming Yi Elementary School Miss Pi-Hsuan Liang

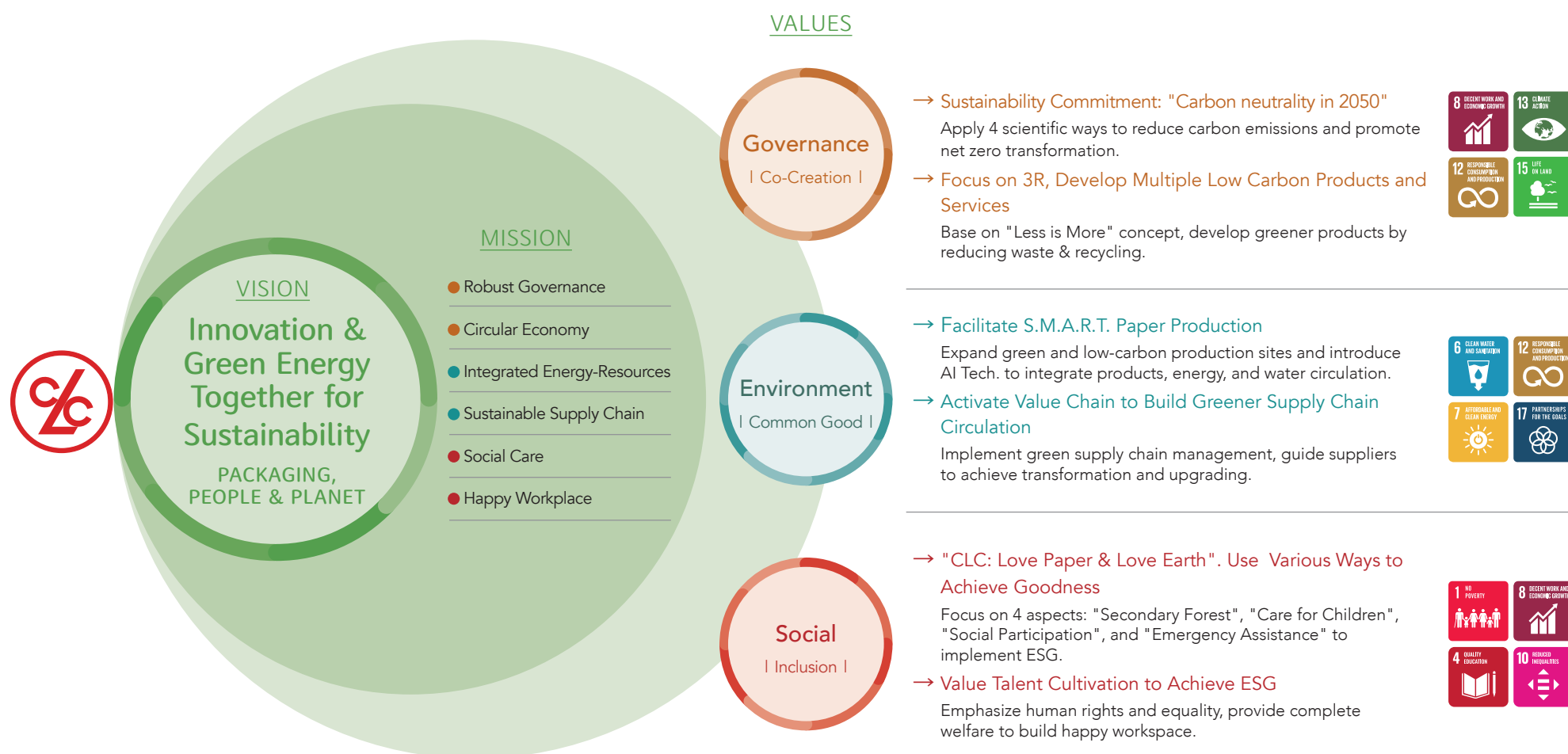
More about projects and outcomes of "Paper circulation and recycling"

Strategy and Objectives

ESG Policy





With "Together for a Greener Future" as the goal of sustainable development, we proactively link our value chain with the UN's Sustainable Development Goals (SDGs). We incorporate SDGs into the core of corporate operations, and formulate an ESG sustainable development blueprint and strategy for "green energy & innovation, and sustainable inclusion", and implement ESG in an all-round way.

CLC actively practices all aspects of ESG in our routine operations. Pursue a sustainable green future with stakeholders (interested parties), including employees, investors, customers, suppliers, government entities, and local communities.



SDGs and CLC Sustainability Goals

SDGs	CLC Sustainability Goals	CLC Results in 2022	Page
SDG1 No poverty (1.5)	Unceasing Love Toward a Social Common Good		
	Goal 1: Donate >NT\$10 million on society and underprivileged groups every year.	➡ The social welfare expenses of the CLC and two foundations exceeded NT\$14.21 million.	115
SDG4 Quality education (4.4, 4.5, 4.7, 4.a)	Advocate Lifelong Learning and Promote Sustainable Education		
	Goal 1: Establish ≥ two paper libraries every year.	➡ Established 4 paper libraries, including the first paper libraries in off-shore island (Jin Ding Elementary School in Kinmen) and in remote townships (Liu Chia (Hu Dong Branch Campus) Elementary School in Tainan), benefiting more than 16,800 children, totaling 25 across Taiwan so far.	116
	Goal 2: Organize the industry-academia cooperation and project on a yearly basis to guide young people and assist them in preparing for employment.	➡ Constantly engage in the internship programs and industry-academia collaboration projects since 2017 with Minghsin University of Science and Technology; Department of Forestry, National Chung Hsing University, and National United University, and other universities.	106
		➡ Cooperated with National Chung Hsing University and 11 coporations to found the "Circular Economy Research Institute", which is the only one in Taiwan to cultivate the industry innovative technology talents.	106
	Goal 3: Care for the education of disadvantaged students by providing scholarship funds together with non-profit organizations (NPO).	➡ Released NT\$3.26 million of grants and scholarships, totaling NT\$20 million since 2006. We expanded the first elementary school scholarships overseas to Vietnam in 2022 to let unceasing love without border restrictions.	121
	Goal 4: Encourage employees to develop different abilities and provide complete resources for educational training.	➡ Training hour per staff: 56.0 hrs, YoY 10.8 hrs.	106
SDG6 Clean water and sanitation (6.3, 6.4, 6.b)	Save Water and Optimize Water Resource Management		
	Goal 1: Achieve at least 1% of water saving in manufacturing every year.	➡ Unit product water consumption decreased by 0.88% (*Containerboard Division, total)	86
	Goal 2: Implement water resource conservation, take charge of maintaining sanitation of public toilets and form river patrol teams on a yearly basis.	➡ Provided rivers and wetlands with stable water sources from safe and regulation-compliant effluents, and mitigated greenhouse effect through carbon fixation. Adopted up to 90 public toilets across Taiwan and continuous participation in river clean-ups of Tayuan Mill and Hsinchu Mill. Formed river patrol teams.	88
SDG7 Affordable and clean energy (7.2, 7.3, 7.a)	Improve Energy Efficiency and Support Renewable Energy Development		
	Goal 1: Reduce energy consumption per product unit by more than 1% every year.	➡ Saved energy by 10.32 M kWh and decreased GHG emission by 10,674 tCO ₂ e through 49 energy conservation projects, and unit product energy consumption was 2.26% (total).	80
	Goal 2: Raise alternative fuel ratio to 20% by 2030.	➡ Implement ISO 50001 Energy Management System overseas.	80
	Goal 3: Adopt wind and solar power generation systems; increase the capacity of renewable energy to 10% of the contract capacity by 2025.	➡ Alternative fuel ratio: 10.32%.	84
		➡ Accumulated 11,917 T-RECs during 2017-2022, support power consumption by 3,310 households. Green energy output will increase after activating the biogas power generation of Tayuan Mill and PV system of Houli Mill in 2022. The biggest high-performance biomass CFB boiler system project in Chupei Mill in 2023.	82

SDGs	CLC Sustainability Goals	CLC Results in 2022	Page
	Increase Employment Rate Transition into New Low-Carbon & Green Energy Paper Company		
 SDG8 Decent work and economic growth (8.2, 8.4, 8.5, 8.8)	Goal 1: Serve as the new low-carbon & green energy paper manufacturer and continue to develop domestic and overseas green production bases.	➡ Added a recovered bleach pulp line at Tayuan Mill; initiated Binh Duong Phase II, which has started the commissioning in the end of 2022, and the commercial operation in 2023 H1; and CLC Ben Cat Box Plant and Bac Giang Box Plant, our first box plant in northern Vietnam, also already started commercial operation in 2023 H1.It enhances the operation energy of the circular economy.	27
	Goal 2: Create a new generation of smart paper making; optimize production for the future.	➡ Completed 5 smart paper projects; deepened smart production and marketing.	55
	Goal 3: Build a safe and health workplace of inclusion; increase wages, promote various welfare and health promotion plans every year.	➡ Raised salary for 16 consecutive years, up 1.5~3% per year, and per employee benefit expenses at NT\$50 thousands (+2.04% YoY). ➡ Up to 5,614 persons participated in health promotion activities (including physical and online).	101 114
 SDG10 Reduced inequalities (10.2, 10.3)	Eliminate Inequalities and Build an Amicable and Harmonious Work Environment		
	Goal 1: Be concerned and listen to employees. Conduct survey to collect employee's opinions aperiodically.	➡ Has organized the Employee Opinion Survey since 2019, and about the overall outcome of the satisfaction continues to improve in "work environment", "career development", "encouragements from supervisors", and other dimensions every year, and set the improvement goals and implements.	100
	Put Circular Economy in Practice and Construct a Green Circular System for Production and Marketing		
 SDG12 Responsible consumption and production (12.2, 12.4, 12.5, 12.6, 12.8)	Goal 1: Industrial Recovered Paper Reuse Rate up to 97% and waste-to-resource ratio up to 96% by 2030.	➡ Reused recovered paper over 1.572 m MT, with a utilization rate up to 92.5%. ➡ Waste-to-resources up to 95.6% (+3.2%). In 2023 we will further introduce Taiwan's largest biomass CFB boiler system to enhance the waste-to-resources capacity. ➡ Created channels for consuming waste food paper containers and trimmed PE laminated paper to increase material sources and maximize material uses, with a total consumption of 30,100 MT in 2022.	51 91 47-48
	Goal 2: Promote green consumption and sustainable awareness of correct classification.	➡ Opened visits of the factory's recycling process for over 1,000 persons. ➡ Online marketing affects millions of people. ➡ Held 10 Sustainable Teacher Training Camps, cooperating with Tetra Pak, Future Parenting Platform and local government. It has cultivated a total of nearly 500 sustainable teachers, affecting 338 classes and 6,902 students. ➡ 6 household paper products acquiring "Carbon Footprint label", with 100% of growth and sales reaching 107 million packages.	119 119 119 45
	Save Energy and Reduce Carbon Emission Develop Low-Carbon Products and Services		
 SDG13 Climate action (13.3)	Goal 1: Reduce GHG emission by 30% in 2030 (base year:2018).	➡ Established "Climate Change and Circular Economy Office" and the Agricultural and Forest Materials to Resource Team to deepen the Resource Circulation blueprint. ➡ First replied to CDP climate change questionnaire and acquired "A-" Leadership Level. ➡ Binh Duong Mill in Vietnam completed the verification of ISO 14064-1 GHG inventory management system. ➡ First established "Industrial Paper Carbon Neutrality Alliance" in the paper industry, through collaborating with the partners to aim to the transformation of the carbon reduction in the industrial chain.	72 71 76-77 77
	Goal 2: Develop innovative low-carbon products and services, and sustainable packaging materials; increase the production and sale of environmentally friendly household paper products on a continuous and yearly basis.	➡ Developed new products of fresh-keeping/high-waterproof multi-functional carton, Dandelion eco-friendly household cleaning series.	42
	Goal 3: The green procurement ratio is up to 50% in 2030.	➡ The amount of green procurement reached a new high to NT\$9.17 billion, with 47.1% of the overall total procurement amount, an annual increase of 6%.	65

SDGs	CLC Sustainability Goals	CLC Results in 2022	Page
	Implement Forest Sustainable Management		
	SDG15 Life on land (15.2) Goal 1: Promote the FSC™ pulp and raise its procurement ratio to 100% by 2030 to save the forest diversity.	➡ Purchased up to 92.6% procurement ratio of FSC™ pulp.	65
		➡ Adopted an area of 2,000 pings right in front of headquarters from 2009 to build the Cheng Loong Park, where nearly 20 native plants are grown.	94
		➡ Building the ecological monitoring system with NCU through adoption of Chaxi River for 8 years.	93-94
	Seek Common Good for Industry and Consolidate Partnership		
	SDG17 Global partnership (17.16, 17.17) Goal 1: Support local suppliers and assist two suppliers in their transformation and upgrading. Goal 2: The on-site supplier audit is up to 100% in 2030. Goal 3: Spend 2,000 volunteer service hours for social welfare activities.	➡ Keep activating the Recovered Paper Supply Chain 2.0 Upgrading Guidance Program to guide 10 recycling suppliers to complete transformation and upgrading, and personally care for the work situation of 151 frontline waste collectors so far.	66
		➡ Organized the Supplier ESG Conference for three consecutive years and visited 68 important suppliers (accumulated to 156 suppliers , achievement rate =50%), and also planned the third-party "information security risk assessment service" to enhance the supply chain's risk management.	60
		➡ Engaged in social welfare with 907 persons for 1,831 hours.	122

ESG Committee

Valuing corporate sustainability, CLC led the industry to set up the CSR Committee in 2013 to be responsible for the formulation of sustainable strategic goals and performance tracking. In 2021, the Committee was renamed the "Corporate Sustainability Committee", referred to as the ESG Committee, to focus on ESG issues and continue to improve, working together with stakeholders to create a win-win situation.

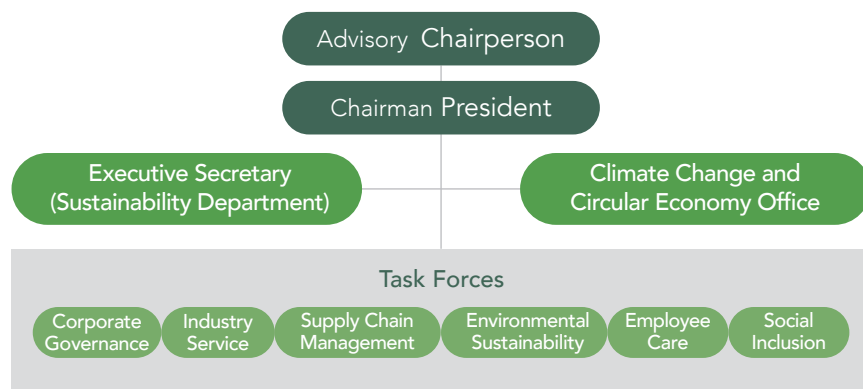
At the ESG committee, the Chairperson serves as an advisory committee member and the President chairs the committee. The Sustainability Department is designated as the dedicated unit, along with six task forces in charge of implementation and the execution methods of material issues. These six departments consist of "corporate governance", "environmental sustainability", "employee care", "supply chain management", "industrial services", and "social inclusion". The most senior executives of each relevant departments serve as the commissioner of each task force. Additionally, in view of the environment and climate change issues, we established "Climate Change and Circular Economy Office" under our ESG committee, with President as the chair and the head of the R&D Division as the vice chair to actively promote the Net-Zero transformation related tasks. We actively consulted external professional organization, including Taiwan Green Productivity Foundation.



The Committee holds more than two meetings for the formulation and review of strategic targets each year, and the Chairman regularly reports to the BoD on ESG issues and implementation results quarterly. The BoD identifies and reviews the Company's ESG performance and proposes for strategic planning and recommendations. Each department reports and reviews the impact of various issues and how to respond on the company through regular reports. In 2022, the ESG Committee held 15 committee meetings to establish the medium- and long-term ESG goals. To improve the expertise and constantly enrich the new knowledge in the sustainable management, the BoD has attended related training courses every year.

*Please refer to [annual report](#) p.30-32 for related training courses.

CLC's ESG Committee



*Top management officers relating to economic, environmental, and social departments are members of the six major groups.

Main Duty:

- ◆ Reports to the board of directors / Quarterly
Chairperson reports the ESG results and performance, and the BoD proposes strategic planning and recommendations.

2022 Report Highlights:

- (1) In response to the Financial Supervisory Committee (FSC) to conduct a greenhouse gas inventory of "all subsidiaries within the Group"
- (2) Amended the ESG Sustainable Development Best Practice Principles in response to the Taiwan Stock Exchange
- (3) Filled out the CDP climate change questionnaire to review the level of climate governance
- (4) Reviewed the ESG performance and revised mid-term and long-term ESG goals
- (5) Emphasized the quality of ESG information disclosure and stakeholders engagement and communication

- ◆ Meetings for the formulation and review of strategic targets / Half-yearly
Discuss and implement the material issues, and keep to track and improve. Held 2 committee meetings in 2022.

- ◆ Six task forces / Aperiodically
Held 13 committee meetings in 2022

Identification of Stakeholders and Material Issues

We firmly believe that well communication with internal and external stakeholders is the prime mission of corporate accountability. Therefore, the ESG Committee holds the consensus meeting for sustainable development strategy and identifies stakeholders and material issues to provide important references for the contents disclosed in the sustainability report to meet all types of stakeholders' responses.

Flowchart of Stakeholder and Material Issues Analysis



Identification of Stakeholders

Every year, the ESG Committee scores stakeholder groups with the Likert 5-point scale based on the five attributes of stakeholders: dependency, responsibility, tension, influence, and diverse perspectives stated in AA 1000 Stakeholder Engagement Standard 2015. The ESG Committee officers, including the chairperson, president, senior management officers, and members of each work promotion group, answer the stakeholder identification questionnaire to identify six major stakeholder groups with contacts or influence on the CLC in business operations. These six stakeholder groups include: (1)employees, (2)customers, (3)shareholders/investors/financial institutions, (4)suppliers/contractors, (5)government/industry associations, and (6)society (media, local communities, NPOs, academic institutions).

Identification of Material Issues

We collected the materials issues internal and external through communication channels with respect to the GRI Standards (2021), SASB, TCFD, CDP, FTSE, the Sustainability Classification Criteria being planned by the Financial Supervisory Committee and other opinions gathered from stakeholders' and internal and external experts' communication. To discern the tension of stakeholders over the material issues in order to deepen topic management approaches and improve the quality of information disclosure, we collected responses to our ESG questionnaire every 3 years since 2022. In 2022, depending on 19 sustainability topics in the previous year, considering the whole operation environment and regulations trend. In response to emphasizing the climate change in domestic and international society, we regarded "Climate Change Action" as the material issue. We integrated the assessment of impacts on operations of individual topics, conducted the risk assessment, and produced the matrix of material topics to respond to the stakeholders. The next ESG questionnaire will be held in 2024. During this period, we will continue observing the trend of the ESG sustainability issues and tracking the ESG performance. By collecting the various communication channels, we respond to the feedback and recommendations from the stakeholders. Meanwhile, through stakeholder communication and engagement mechanism, we regularly or irregularly communicate with stakeholders by using various platforms to perform "due diligence" on the issues of environment, society (including human rights) and corporate governance. It is expected to practically identify, prevent, mitigate and explain the actual or potential negative impacts and positive influences on various issues.



2022 CLC Materials Issues

● Direct impact △ Indirect impact (facilitation and business relationships)

Meaning	Materials Issues	Corresponding to SDGs	Corresponding to GRI	Corresponding to SASB	Significance to CLC	Related Chapter/Management Policy	CLC	Shareholders/Banks	Suppliers/Contractors	Customers	Government/Industry Association	Society
Governance	Corporate governance	–	Customize Issue		Compliance with the company principle of employees is the key to CLC's sustainability.	1.2	●	●	△	●	●	●
	Risk management	SDG 13.3	Customize Issue		Reduce potential operational risks, avoid financial & reputational losses, and strengthen competitiveness.	1.3	●	●	●	●	△	●
	Ethical corporate management	–	–		Integrity is the root for social progress, and actively achieves legal compliance to pursue a virtuous circle.	1.4	●	●	●	●	●	△
	Operational performance	SDG 8.2, 8.4	GRI 201		Help to maintain industry leadership and diversify value for stakeholders.	1.1	●	●	●	●	△	△
	Supply chain management	SDG 17.16, 17.17	GRI 204 GRI 308 GRI 414	Supply Chain Management RR-PP-430a.1 RR-PP-430a.2	Practice the sustainable supply chain to create common good and win-win.	3.1	●	△	●	●	△	△
	Green procurement	SDG 12.7, 15.2	GRI 204		Procurement is core value indispensable to corporate sustainability.	3.2	●	△	●	△	△	△
	Product responsibility and customer service	–	GRI 301 GRI 416	Paper production RR-PP-000.B Total wood fiber sourced RR-PP-000.C	Provide good customer service, ensure product safety & health are CLC's responsibility.	2.2	●	△	△	●	△	△
	Sustainable products and development	SDG 12.2, 12.5	GRI 301		Play a key role in the circular economy by integrating knowledge experience, and technology.	2.1	●	●	●	●	△	△
Environment	Climate change action	SDG 13.2	GRI 305	GHG Emissions RR-PP-110a.1 RR-PP-110a.2	Focus on climate issues and actively carry out net zero transformation.	4.1	●	△	△	△	●	●
	Energy management	SDG 7.1, 7.2 SDG 13.2	GRI 302	Energy Management RR-PP-130a.1	Reduce pollution through energy and resource management and green production.	4.2	●	△	△	△	●	△
	Water resources management	SDG 6.3, 6.4, 6.b	GRI 303	Water Management RR-PP-140a.1 RR-PP-140a.2	Prioritize water resource management as CLC important policy.	4.3	●	△	△	△	●	●
	Air quality management	SDG 12.4	GRI 305	Air Quality RR-PP-120a.1	Make active improvements to air pollution.	4.4	●	△	△	△	●	●
	Waste into resource	SDG 7.a SDG 12.4, 12.5	GRI 306		Put production waste-to-resources as prime concern.	4.5	●	△	△	△	●	●
	Biodiversity	SDG 15.2	GRI 304		Commit to sustainable forest stewardship to stabilize the ecosystem.	4.6	●	△	△	△	●	●
	Digital transformation	SDG 8.2	Customize Issue		Using AI digital tools to improve operational efficiency.	2.3	●	△	●	●	△	△
Social	Healthy workplace	SDG 8.8	GRI 403		Responsible for building a safe and healthy workplace.	5.3	●	△	●	●	△	△
	Workplace diversity and equality	SDG 8.5, 10.2	GRI 202 GRI 401		Maintain fair treatment and dignity for employees.	5.1	●	△	△	△	△	△
	Talent cultivation and development	SDG 4.4	GRI 404		Promote employee rights, interests and retain talents.	5.2	●	△	△	△	△	△
	Social participation	SDG 1.5, 4.7, 17.17	Customize Issue		Leverage CLC's strengths to promote social inclusion.	6	●	△	△	△	△	●

Communication Channels, Frequency and Important Interaction

By addressing the issues that concern the six major stakeholder groups with this report and disclosing related information over the corporate website and multiple platforms, the CLC aims to promote positive opinion exchange with stakeholders.

“Emphasizing all channels' interaction and communication can help the CLC understand the reasonable expectation of stakeholders more clearly and allow us to address social needs and maintain optimization and growth.”

Significance to CLC	Communication Channels / Frequency	Issues of Concern	CLC's Response	Important Exchange in 2022
Employees Putting people first, the CLC treats employees as its important asset and the creator of profit. Therefore, it expects the value of each employee to increase as the company grows.	<ul style="list-style-type: none"> Department meeting / Weekly Factory meeting / Monthly Enterprise union / Annually Labor conference / Quarterly Welfare committee / Semiannually Year-end meeting / Annually CLC bimonthly journal EIP, Grievance mailbox, etc./ Aperiodically Proposal system / Aperiodically Employee Opinion Survey / Annually Education and training / Aperiodically HSE talks & health promotion activities / Aperiodically 	Operational performance Healthy workplace Sustainable products and development	→ Offered Competitive Salary. → Built Company healthy and safety culture. → Developed the "Excellent Case Improvement and Management Mechanisms", and encouraged the employees to enhance the energy of innovative services. → Continue to invest in R&D, develop low-carbon packaged goods and services, and obtain a number of patents. → The Andante and Dandelion Household Products series successfully extended the product line to personal and household lotions, grasping the post-epidemic business opportunities.	→ Raised salary for 16 consecutive years, with an annual rate of 1.5-3%. → First conducted the Employee Opinion Survey in 2019. Collected and analyzed systemically employee's opinions and started the cross-functional team from the "workplace environment", "career development", and "supervisor's encouragement"; set the improvement goals and action plans, and integrated into the human resource strategies and plans to develop the growing workplace. → OH&S training hours of employees reached 23.5 hours per person and participants of health promotion activities were 5,614 persons in 2022 (Included physical and online). → The number of excellent cases generated up to around NT\$370 million in profit in 2022. → Leading the paper industry, 6 household paper products acquiring "Carbon Footprint label", with 100% of growth and sales reaching 107 million packages. → Dandelion eco-friendly products series developed 6 new Eco-Household Detergent passing the Green Mark, including 5 detergents wrapped with the recycled plastic bottle.
Customers Creating value for customers based on the market and customer needs is the competitive strength of the CLC.	<ul style="list-style-type: none"> Instant customer service hotline Instant customer complaint E-Management system Customer satisfaction survey / Annually, Aperiodically Innovative technical description / Aperiodically Business description / Aperiodically Customer meeting / Aperiodically 	Ethical corporate management Product responsibility and customer service Operational performance	→ Committed to maintaining customer privacy, and conducting anti-corruption education and training for sales staff. → Set a long-term and mid-term target of 88 and 87 scores in customer satisfaction in 2030 and 2025, actively introduce intelligent tools to promote the customer management and service. → With the strategy of "improving Taiwan, leaning China, and expanding Vietnam", continue to expand the scale of recovered paper recycling at home and abroad, and deploy circular economy transportation capacity.	→ Implemented annual satisfaction survey on 253 customers, with satisfaction score +0.1% YoY, and analyze customer opinions and feedback to make improvements. → Arranged mill/plant visits for 19 customers for them to understand CLC's technology, facility, environmental protection measures, and R&D and service capacity. → Organized 6 education and training activities on legal compliance for 138 participants. → Initiated Binh Duong Phase II, CLC Ben Cat Box Plant and Bac Giang Box Plant, have started the commercial operation in 2023 H1, and continue to move towards to a one-million-MT integrated papermaker base in Vietnam.

Significance to CLC	Communication Channels / Frequency	Issues of Concern	CLC's Response	Important Exchange in 2022
Shareholders/Investors/Financial Institutions The CLC management team must be responsible for any person who has invested in or will invest in the CLC. This is also the core of our corporate governance.	<ul style="list-style-type: none"> Spokesperson and stock affairs Shareholders' meeting / Semiannually Institutional Investor Conference / Semiannually Investor Related meetings / Aperiodically Reply the phone & email / Aperiodically Financial Statements / Quarterly Annual report / Annually MOPS / Aperiodically Company website / Aperiodically 	<p>Ethical corporate management</p> <p>Risk management</p> <p>Operational performance</p>	<p>→ Emphasize stable operation and law-abiding governance, continuously improve and formulate various norms, and conduct education, training and publicity.</p> <p>→ Improve various risk management systems, the TCFD framework was introduced, and actively identify and manage internal and external risks including finance, talents, raw materials, climate change, and information security risks to reduce operational impact.</p> <p>→ Committed to maintaining good operating performance and provided investors with positive investment returns.</p>	<p>→ Explained CLC's operations, domestic and overseas investment projects, business outlook, and ESG strategies and action results through 3 investor con-calls and 2 online investor conferences (Mar 25 and Aug 19).</p> <p>→ In response to the information security risk, established Information Security Center and Chief Information Security Officer to improve our information security capacity.</p> <p>→ The operating results in 2022 was EPS \$2.27 and ROE reached 9.4%.</p>
Suppliers/Contractors As partners of the CLC, suppliers/contractors support and growth with the CLC to develop a stable and sustainable supply chain and ecosystem.	<ul style="list-style-type: none"> Real-time supplier management system Supplier audit and evaluation meeting / Annually Suppliers' visits / Aperiodically Supplier self-assessment questionnaire / Annually Supplier ethics advocacy / Aperiodically Supplier ESH education and training activities / Periodically Supplier guidance / Aperiodically Supplier ESG conference / Periodically 	<p>Supply chain management</p> <p>Waste into resource</p> <p>Sustainable products and development</p>	<p>→ Launched the recycling paper supply chain guidance to enhance the competitiveness of the industrial chain. Supported 2 supplies to upgrade to reduce every year.</p> <p>→ Organized ESG Supplier Conference to enhance the sustainable ecosystem.</p> <p>→ Set the long-term and mid-term goal of 100% and 85% on-site audit of major suppliers in 2030 and 2025, and strengthen supplier management performance.</p> <p>→ Develop circular economy and low-carbon fuel, and set a long-term and mid-term goal of recycling 96% and 95% of waste into resources by 2030 and 2025.</p> <p>→ Request contractors to equip the GPS on all trucks to trace and management the flow of waste.</p> <p>→ Committed to the full recycling of resources, and set the mid-term and long-term goal of 97% recycling rate of industrial paper, and 100% and 98% FSC™ pulp by 2030 and 2025.</p> <p>→ Assist recyclers to appropriately divert recycled paper, and set a target of 50% reduction in non-fiber impurities.</p>	<p>→ So far, we have successfully supported 10 recyclers to upgrade and transform.</p> <p>→ Organized 3rd online ESG Supplier Conference, focusing on carbon reduction, talents ,quality, and information safety issues, and commend 17 excellent suppliers.</p> <p>→ Conducted onsite factory evaluation on 68 suppliers to expand to evaluate the commercial agents and dealers without factories; Added the "Climate Action "item into Suppliers Evaluation.</p> <p>→ Responded to "leading partners" policy from Industrial Development Bureau of MOEA, first established "Industrial Paper Carbon Neutrality Alliance" in the paper industry and actively promoted the green supply chain.</p>

Significance to CLC	Communication Channels / Frequency	Issues of Concern	CLC's Response	Important Exchange in 2022
<p>Government/Industry Association</p> <p>Complying with the government's laws and regulations and competent authorities, the initiatives of industry associations, and making recommendations for industrial policies.</p>	<ul style="list-style-type: none"> Official document exchanges and visits / Aperiodically Face-to-face interviews, phone calls to provide industry experience and suggestions / Aperiodically Meetings / Aperiodically Public association communication platform / Aperiodically 	<p>Corporate governance</p> <p>Risk management</p> <p>Social participation</p> <p>Climate change action</p>	<p>→ Continue to improve corporate governance and information transparency to enhance the corporate governance evaluation results.</p> <p>→ In accordance with the ISO system, enhance the environment and safety and health management.</p> <p>→ Cooperate with EPA to care for disadvantaged people and expand the influence of social care.</p> <p>→ Cooperate with industry, government, academia and research to actively promote the education of recycled paper classification.</p> <p>→ Actively participate in the government, and industry associations to promote the draft strategy of climate change-related regulations on net zero carbon emissions, renewable energy, circular economy, digital transformation, etc.</p> <p>→ Manage climate change issues: Improve climate sustainability governance through the introduction of TCFD, and set up a "Climate Change and Circular Economy Office".</p>	<p>→ The corporate governance evaluation results in 2022 was the top 6% to 20% for 3 consecutive years.</p> <p>→ The HSE mill/plant visits by EPA, OSHA, fire brigade, and so on, for 111 times.</p> <p>→ Improve climate sustainability governance, first replied to CDP climate change questionnaire and acquire "A-" Leadership Level.</p> <p>→ Set up the Agricultural and Forest Materials to Resource Team under "Climate Change and Circular Economy Office" to expand the circular economy and agricultural and forest materials to resource.</p>
<p>Society (media, local communities, NPOs, academic institutions)</p> <p>There are different aspects of society. The media transmit information for the CLC, local communities are the major recipient of our social contributions, and NPOs and academic institutions bring the CLC diverse perspectives.</p>	<ul style="list-style-type: none"> Local community activities / Aperiodically Cheng Huotien Charity Foundation Cheng Loong Children's Care Foundation Face-to-face, email, telephone interviews / Aperiodically Press conferences, advertisements, press releases / Aperiodically Symposium / Aperiodically Factory visits / Aperiodically e-Newsletter / Quarterly ESG area of CLC Website / Irregularly 	<p>Social Participation</p> <p>Sustainable products and development</p> <p>Air quality management</p>	<p>→ With the vision of "Love paper, love Earth, we promote the four aspects "Secondary Forest", "Care for Children", "Social Participation", and "Emergency Assistance" to pursue common good.</p> <p>→ Actively open the mill/plant to visit and promote circular economy, with more than 1,000 people every year.</p> <p>→ Committed to improving air quality, introducing innovative technology and equipment, and promoting air pollution reduction.</p>	<p>→ Participated in local communities to provide services with 907 persons for 1,831 hours.</p> <p>→ Continue to improve the quality of information disclosure, including the release of 38 press releases on the corporate website, 8 interviews with the media, and 3 CLC e-Newsletter.</p> <p>→ SO_x and NO_x have been reduced consecutively.</p> <p>※ Refer to more information for stakeholders communication on press release of CLC website.</p>

Sustainable Initiatives



As a founding CWS Member for a National Team of Sustainability, we cooperate with benchmark enterprises in Taiwan. Additionally, CLC joined "TALENT, in Taiwan" to put DE&I into practice and foster the sustainable talents.



Responded to "leading partners" policy from Industrial Development Bureau of MOEA and first established "Industrial Paper Carbon Neutrality Alliance" in the paper industry. Through collaborating with the partners to aim to carbon reduction in the industrial chain, we transformed the paper industry into low-carbon & green supply chain.



First replied to CDP climate change questionnaire to evaluate the level of climate risk governance and became the first papermaker in Taiwan to acquire "A-" Leadership Level.



Governance

Adhering to sincerity and trustworthiness, we are committed to realizing a virtuous circle in the Company's overall value chain, upholding the code of ethics, establishing a steady management mechanism, and implementing a dual-track development strategy at home and abroad to pursue sustainable growth.

1.1 Operational Performance

1.2 Governance Organization

1.3 Risk Management

1.4 Ethical Management

- Completed NT\$ **12.6** billion ESG syndicated loans

- Continue to expand the capacity, capacity increased **6.7%~20%** (2023 Goal)

Paper & Paperboard: about **2.502** million MT

Corrugated Container: **2,051** million M²

Recovered Bleached Pulp: **66K** tonnes

- Stable increase in product market share (Taiwan area)

Industrial Paper **> 40%** Corrugated Container **> 30%**

Household Product **> 20%**

- Selected as a constituent stock of the TWSE Corporate Governance 100 Index for 2 consecutive years

- Corporate Governance Evaluation ranked the top **6%~20%** for 3 consecutive years

1.1 Operational Performance

Material Issues

Operational Performance

Strategy

Become a new low-carbon & green energy paper company and pursue sustainable growth based on the dual-track strategy: Taiwan cultivation and overseas development.



Goals of 2030

- Expand green & low-carbon production bases to become "Asia's Benchmark Paper Company for Circular Economy"
- Engage in value-added transformation through technology R&D, focus on energy and resource recycling and reuse toward a "New Low-Carbon & Green Energy Paper Company"

Goals of 2023

- Deploy circular economy bases at home and abroad.
 - ➔ Add a recovered bleach pulp line with annual production capacity 66,000 MT at Tayuan Mill, Taiwan in H1.
 - ➔ Start the operations of phase II, Cheng Loong Binh Duong Paper Co., Ltd., Ben Cat, Vietnam and Bac Giang, northern Vietnam in H1.
 - ➔ Plan to expand phase III, Cheng Loong Binh Duong Paper Co., Ltd., Vietnam of BM23.
- Continue to promote green energy transformation.
 - ➔ Plan the start-up of biogas power generation system of Houli Mill in Taiwan in 2024.
 - ➔ Installed Biomass Boiler with annual production capacity 120 MT of Houli Mill in Taiwan expected to start up in 2026.

Goals / Action Results of 2022

- Deploy circular economy bases at home and abroad.
 - ➔ Start the operations of phase II, Cheng Loong Binh Duong Paper Co., Ltd., Vietnam, with an annual capacity of 400,000 MT in 2022 Q4.
 - ➔ Consolidated Revenue reached at NT\$43.92 billion, EPS NT\$2.27.
- Continue to promote green energy transformation.
- Complete commercial start-up of the biggest high-performance biomass CFB boiler system project in Chupei Mill with highest annual power generation 126 million kWh by H2.
 - ➔ The foreign technicians cannot come to Taiwan due to the impact of the epidemic, causing the project to be delayed, planning to start in 2023 H1.
- Commercial start-up of biogas power generation system of Tayuan Mill in Taiwan
 - ➔ Commercial start-up since in 2022 Q4 with annual power generation 19 million kWh.

About CLC

CLC: New Low-Carbon & Green Energy Paper Company

Established for more than 60 years, we take "Innovation, Circulation, Green Energy" as our sustainable vision. We engage in value-added transformation through technology R&D to focus on energy and resource recycling and reuse. Through the operational mode with papermaking and paper converting as the core, we provide a variety of products and comprehensive solutions for paper packaging to serve clients around the world.

Focus on circular economy, energy saving and emission reduction, the CLC has considered the recycling of paper fibers, energy, and water at the same time of production. Through cross-industry collaboration, R&D and upgrading, and quality leap, we advance the energy and resource integration for optimal use. In addition, we are also committed to the waste-to-resources of residual materials from production, an extension of alternative fuels, and development of renewable energy, and reduction of GHG emissions, in order to transform into a new low-carbon and green energy paper company.

Organization

The Organization of CLC contains four parts: Headquarters, Containerboard Division, Container Box Division and Household Products and Paperboard Division. Besides, CLC also extends its business (includes reinvestment corporations) across the world. With Administration Division, Management Information Division, Financial Division, Accounting Division, R&D Division, Information Department and China business group, headquarters is the management center of quality control, production & sales, administration, tech, global operation and affiliates governance.

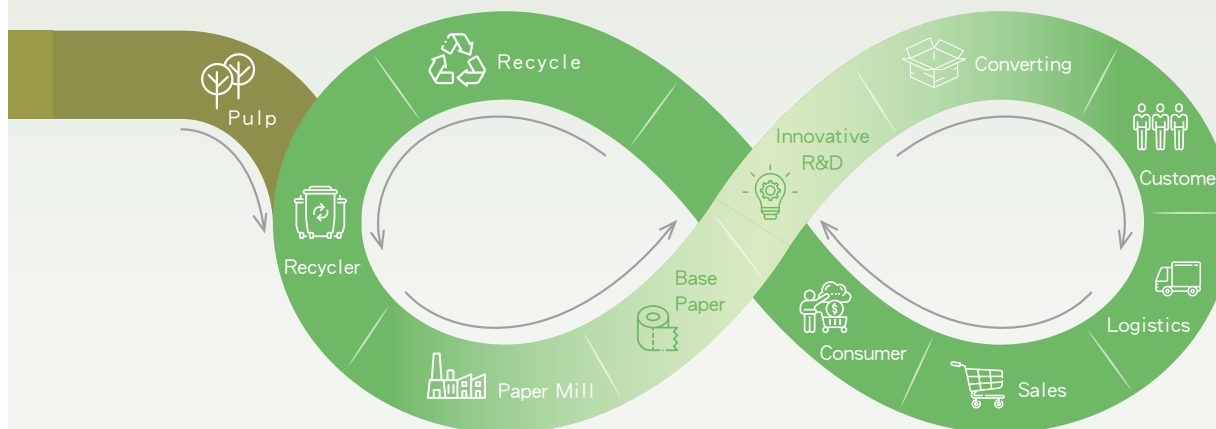
*Please refer to [the annual report Organization Chart \(P.9\)](#).

CLC: Cycling Loyalty Circulation

Secondary Forest • Circular Economy (Products & Services P.40)

Throughout the product life-cycle: raw material selection, product design, green production, logistics and delivery, and end-use, we develop comprehensive green products and services through innovation based on the circular economy featuring "resource recycling-papermaking-packaging" to create the circular effectiveness of secondary forest.

➔ Recovered paper utilization rate up to **92.5%**



Green Production • Energy Conservation and Carbon Reduction (Environment P.67)

Develop cross-plant and cross-industry energy resource integration, as well as promote waste-to-energy, sustainable development of renewable energy. By deepening the benefits of energy resource integration, we aim to mitigate climate change and environmental impacts.

- ➔ Waste-to-resources up to **95.6%**
- ➔ Unit product water consumption decreased by **0.88%** (Containerboard Division)

Promoting Supply Chain Sustainability (Supply Chain P.58)

By including sustainable development in the supplier management mechanism, we improve sustainable management, quality, and HSE in collaboration with suppliers to foster local suppliers to achieve local procurement and pursue the common good of the industry.

- All major suppliers signed the sustainability undertaking
- ➔ Local procurement **66.4%**
- ➔ Green procurement **47.1%**

CLC Integrity & Prosperity



Business Philosophy:
Sincerity and Trustworthiness



Vision:
Caring for Life, Utilizing Resources Wisely,
and Contributing to Society



Mission:
New Low-Carbon & Green Energy Paper
Company in Asia

Name Cheng Loong Corporation (CLC)

Number of employee Global: 6,715 Taiwan: 3,739

Date Founded 1959 - 02 - 04

Main Products and Services Industrial Paper/
Corrugated Container/ Household Product/
Form & Packaging Materials

Chairperson Jen-Ming Cheng

President Ching-Biao Chang

HQs No.1, Sec. 1, Min Sheng Rd., Panchiao
Dist., New Taipei City, Taiwan (R.O.C.)

Operating area Taiwan, China and Vietnam

Waste to

S

ubtraction is Addition

M

aterial

A

I leads in Digital Transformation

R

ecycling drives Circulation

T

echnologies innovate Manufacture

Laying Foundation

- 1959 ● Establishment of the CLC.
- 1961 ● Integrating manufacturing and product marketing.
- 1971 ● Listed on the TWSE.
- 1990 - 1993 ● Entering the fine paper and household tissue markets.
- 1995 ● Completion of CLC Headquarters: CLC Plaza Building.

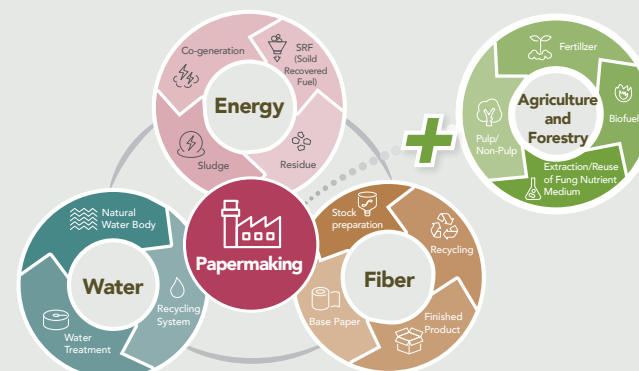
Overseas Expansion

- 2002 - 2010 ● Establishing Sales locations in Vietnam and China.
- 2005 ● Obtaining the first BSI ISO 14064-1 GHG certification.
- 2008 ● Establishment of "Chung Loong Paper Holdings Limited" to administer all companies invested in China.
- 2008 ● The first company in Taiwan to obtain carbon credits by VCS.

Innovation and Value Addition

- 2011 ● Introducing low-carbon paper manufacturing machinery in Houli Mill. (BM10)
- 2015 ● Expanding household tissue operations in Chupei Mill.(TM16)
- 2016 ● Mass production of Taiwan's first dustproof clean container box plant.
- 2018 ● Completion of Binh Duong Paper Co., Ltd. in Vietnam.
- 2019 ● 60th anniversary. Deepening the circular economy and transfer into a New Low-Carbon & Green Energy Paper Company.
- 2020 ● Start 60+ plan, Focus on Innovation, Circulation, Green Energy.
- 2021 ● Promote SMART paper and lay out a blueprint for a full circular economy
- 2022 ● Build 3R PLUS Resource Circulation

3R PLUS Total Resource Circulation



Membership of Associations

As the leader of Taiwan's paper industry, we actively participate in related industry associations to capture the industry's domestic and overseas trends to ensure corporate governance complies with related regulations by serving as a director and supervisor and participating in professional committees to promote cooperation opportunities and communication. CLC participates in the organization as a member as follows:

	Association	Director/ Supervisor	Professional Committees
Global & Regional	World Containerboard Organization	●	
	International Corrugated Case Association	●	
	Asian Corrugated Case Association		●
Local	Taiwan Paper Industry Association	●	●
	Taiwan Paper Containers Industry Association	● (Present Chairperson)	
	Taiwan Packing Association	●	
	Chinese National Association of Industry and Commerce, Taiwan		
	Taiwan Technical Association of the Pulp & Paper Industry	●	
	Taiwan Bio-Energy Technology Development Association		
	Taiwan Alliance for Sustainable Supply		
	Industrial Safety and Health Association of The Republic of China		
	Taiwan Environmental Management Association		
	Taiwan Cogeneration Association	●	
	Chinese Total Productivity Management Development Association		
	Chinese Society for Quality		
	Accounting Research and Development Foundation		
	Taiwan Printing & Machinery, Material Industry Association		
	Chinese Association of Graphics Science & Technology	●	
	Taiwan SHP Industries Alliance		

Business Strategy

Set up the Green Production Sustainability Operation Model. Become Asia's New Low-Carbon and Green Energy Paper Industry

As one of the Top 100 largest industrial papemaker, CLC's operating area includes 5 paper mills and 21 box plants in Taiwan, China and Vietnam. To expand the production lines of the sustainable packaging materials and capture the green package business opportunities, we make continuous operations deployment at home and abroad and keep strengthening the green energy and smart papermaking advantages with circulation and recycling as the strategic goals to expand the scale of recovered paper recycling. In Vietnam, the industrial paper line with an annual capacity of 400,000MT of CLC Binh Duong Mill Phase II, the annual capacity of CLC's paper and corrugated board will be boosted to 2.502 million MT. It has started the commissioning in the end of 2022, and the commercial operation in 2023 H1. Additionally, CLC Ben Cat Box Plant and Bac Giang Box Plant, our first box plant in northern Vietnam, also already started commercial operation in 2023 H1, the box capacity will increase by 264 million m² to a total capacity of 2.051 billion m². the deployment of a one-million-MT integrated papemaker base in Vietnam will be completed. CLC continues to take actions to become the new low-carbon & green energy paper company in Asia.

Low-carbon S.M.A.R.T. Paper for 3R PLUS Sustainable Total Resource Circulation

In recent years we have activated low-carbon transformation through 5 S.M.A.R.T. strategies. Every year we invest nearly NT\$10 billion in energy conservation, carbon reduction, and waste reduction to transform traditional papermills into eco-friendlier smart recycling plants so as to scale up green influence through smart production and sales. In response to the net-zero transformation trend, we are committed to building the 3R PLUS sustainable total resource circulation. Apart from integrating the 3R circulation of "product, energy, and water" of the paper industry, we also include agricultural and forestry circulation in the recycling system, expand the scope of biomass fuel application, develop the 3R PLUS total circulation roadmap by deepening plant fiber recycling and biomass value-added application so as to foster sustainable competitiveness in the global market for Taiwanese industries and assist the country in realizing carbon neutrality in 2050.



To continuously expand domestic and overseas green business locations and implement the net-zero transformation strategy, we raised two syndicated loans from the First Commercial Bank (NT\$9 billion) and Hua Nan Commercial Bank (NT\$3.6 billion) in 2022 for low-carbon paper through S.M.A.R.T. transformation to capture the business opportunities for zero-carbon transformation more quickly.

Business Plan



Products and Services

As Taiwan's paper industry leader, our product range covers industrial paper, corrugated containers, household products, and form & packaging materials with "Total Paper & Packaging Solutions Provide". By offering a wide range of paper packaging and manufacturing services, we fulfill the diverse needs of customers.



Industrial Paper

linerboard, duplex board, corrugating medium, coated duplex board, core board, etc.



Corrugated Container

corrugated sheetboard, corrugated container, display corrugated container, waterproof container, paper pallet.



Household Product

toilet tissues, facial tissues, kitchen towels, hand towels, diapers, cleaning supplies.



Form & Packaging Materials

securities, continuous form papers, roll products, bags and envelopes, invoice, stationery and consumables, labels and stickers, flexible packaging, paper forms, big data integration service.

2022 Production volume and market share

Taiwan Area

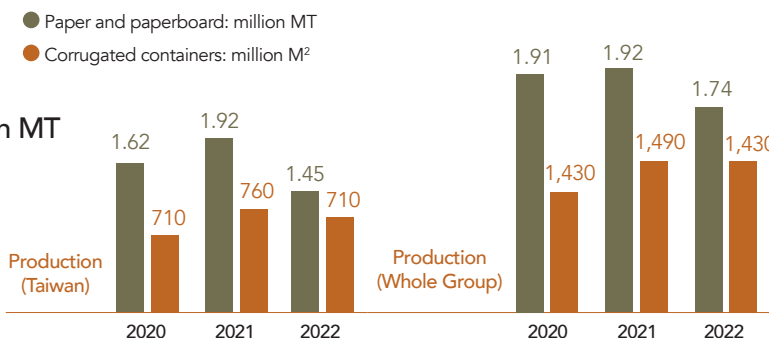
Paper & Paperboard — about 1.45 million MT

Market share → Industrial Paper > 40%,

Household Product > 20%

Corrugated Container — 710 million M²

Market share → > 30%



The leading integrated industrial paper and box manufacturer in Taiwan and Asia.
The 57th largest paper company across the globe.



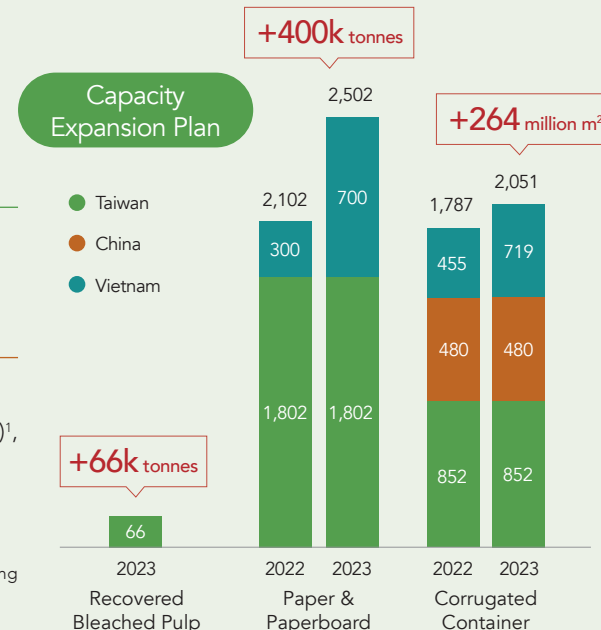
21 Box Plants

Taiwan 7 (Panchiao, Tayuan (2)¹, Miaoli, Taichung, Talin, Yenchao)

China 9 (Shanghai, Kunshan, Suzhou, Kaifeng, Dong Guan (2)¹, Zhangzhou, Qingdao, Chengdu)

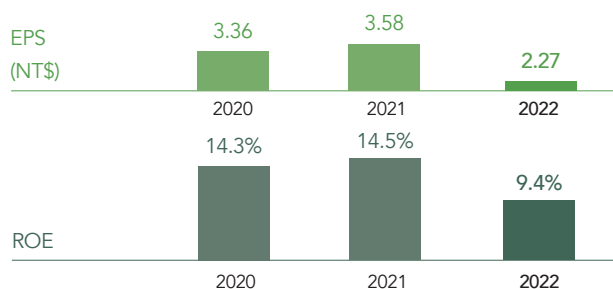
Vietnam 5 (Binh Duong, Ben Cat, Dong Nai, Long An, Bac Giang²)

Note 1: Tayuan includes Tayuan Plant I and II; Dong Guan includes Cheng Loong (Gwangtung) Paper Co., Ltd and Dongguan Minglong Paper Co., Ltd.
Note 2: Box plants in Ben Cat and Bac Giang, Vietnam will be constructed in 2023 H1.

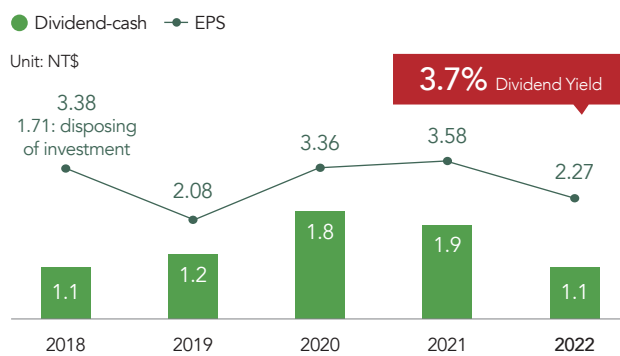


Operational Performance

Affected by events such as the Russian-Ukrainian war, high inflation, continuous interest rate raise by the FED, and supply chain restructuring under the China-U.S. struggle, the global economic growth rate dropped from 6% in 2021 to 3.4% in 2022 (from IMF statistical data), which also made the demand for the Company's products has decreased in line with the global economic situation. In 2022, the consolidated revenue totaled NT\$43.92 billion, and the individual revenue of the CLC (Taiwan) was NT\$32.63 billion, the annual net income and equity per share (EPS) was NT\$2.709 billion and NT\$2.27 respectively, and maintained solid operating performance.



Valuing shareholders' rights and interests, we distribute profits through dividends to repay all shareholders. In 2023, we distributed a cash dividend at NT\$1.1 per share, with a dividend yield up to 3.7%.^(**Note)



*3.7% dividend yield was calculated based on the average closing price of 29.91 in 2022.

Operational Performance (Taiwan)

Unit: NT\$1,000

	2020	2021	2022
Total Assets	50,932,666	54,990,007	56,833,090
Debt Ratio	50.1%	50.4%	50.1%
Equity ratio	49.9%	49.6%	49.9%
Economic Value Generated			
Operating Revenue	30,410,502	34,294,239	32,631,563
Economic Value Allocated			
Operating Cost	22,276,797	26,144,648	26,723,272
Employee Salary and Benefits	4,120,108	4,374,689	4,040,522
Payment to Funders	1,525,995	2,141,477	2,324,942
Payment to the Government	1,195,360	1,070,794	323,141
Social Expenditures	6,426	15,477	4,709
Economic Value Residual	1,285,816	547,154	(785,023)

Operational Performance (Whole group)

Unit: NT\$1,000

	2020	2021	2022
Total Assets	61,005,820	66,440,325	70,010,480
Debt Ratio	56.1%	57.3%	58.2%
Equity ratio	43.9%	42.7%	41.8%
Economic Value Generated			
Operating Revenue	40,074,390	44,986,090	43,921,728
Economic Value Allocated			
Operating Cost	29,458,625	34,783,398	36,588,956
Employee Salary and Benefits	5,165,726	5,483,904	5,258,520
Payment to Funders	1,783,636	2,294,521	2,572,321
Payment to the Government	1,462,552	1,362,951	729,231
Social Expenditures	6,750	22,067	5,071
Economic Value Residual	2,197,101	1,039,249	(1,232,371)

Tax Policy and Management

In response to the international trend of tax governance, CLC implements the compliance of tax policy, and pursues sustainable development, upholds the business philosophy of sincerity and trustworthiness, and formulates tax policy and related management methods to ensure the effective operation of the tax management mechanism. We have appointed the Accounting Division as the responsible unit of tax governance. When declaring taxes according to the relevant tax laws and regulations, the division must report and acquire for approval according to the regulations. We also support the government's policies to encourage enterprise innovation, R&D, and tax preferences in order to achieve tax information transparency.

To deal with the tax risk in business operations, we spare no effort in improving the tax expertise of personnel and engaging in constant personnel training to ensure that tax personnel are capable of handling relevant tax affairs. Whenever there are unfamiliar tax affairs, tax personnel will voluntarily communicate with the tax authority and consult with external professionals to ensure absolute legal compliance and flawless tax declaration and thereby reduce the risk of probable legal sanctions, financial losses, or reputation damage arising from tax legal incompliance. The CLC has maintained steady operations and ethical management over the years.

Income Tax Information

Unit: NT\$1,000

	2020	2021	2022
Taiwan	903,399	804,152	213,705
China	75,603	138,748	202,696
Southeast Asia	49,321	33,187	71,070
Income Tax Expenses (A)	1,028,323	976,087	487,471
Pre-Tax Income (B)	4,772,192	4,987,575	3,196,960
Effective Tax Rate (C=A/B)	21.55%	19.57%	15.25%

1.2 Governance Organization

Material Issues

Corporate Governance

Strategy

Build a management system upon integrity and the code of ethical conduct and practice business ethics and integrity in a top-down manner to promote ethical management and ensure reasonable operational effectiveness and efficiency.

Goals of 2030

- Enhance the competence of the board of directors and raise the Company's sustainable value.
- Deepen the governance and operational outcomes.
- Improve the quality of information disclosure.
- Constantly optimize the performance in corporate governance evaluation.

Goals of 2023

- Implement board performance evaluation.
- Disclose the suggestion and the improvement measures to BoD from the external institution on the corporate website.
- Make the board external performance evaluation.
- Optimize governance-related regulations.
- Strengthen corporate governance and establish ethical management mechanism.
- Strengthen anti-corruption education and training, and information disclosure.
- Improve the quality of information disclosure.
- Committed to improving the performance of corporate governance evaluation.

Goals / Action Results of 2022

- Implement board performance evaluation.
 - ➔ Completion of assessment which first outsourced external institution in 2022 and reported to BoD on December 22, 2022.
- Optimize governance-related regulations.
 - ➔ Revised the "Code of Practice on Corporate Governance" and the "Insider Trading Prevention Management Regulations".
- Strengthen corporate governance and establish ethical management mechanism.
 - ➔ A total of 6 sessions of integrity management and anti-corruption education and training were held, with a total of 138 participants.
 - ➔ No reported cases of corruption were received in 2022.
- Improve the quality of information disclosure.
 - ➔ Organized two online investor conferences (Mar 25 and Aug 19) and 3 joint conference calls, with a total of 124 participants.
- Improve all aspects of corporate governance evaluation and operational transparency.
 - ➔ Improved to 3.1 points (out of 5 points) in the FTSE4Good TIP Taiwan ESG Index ratings, up by 0.2 points.
 - ➔ The corporate governance evaluation ranked the top 6%-20% for 3 consecutive years.
 - ➔ Selected as a constituent stock of the TWSE Corporate Governance 100 Index for 2 consecutive years.
 - ➔ 2022 Sustainalytics ESG Risk Assessment at 19.64 marks (Leading the industry).

Business Philosophy: Sincerity and Trustworthiness

“ Emphasizing steady and ethical operations, legal compliance and governance, CLC not only establishes a robust organizational structure but also sets up an Auditing Division, Audit Committee, Compensation Committee, and Ethics and Integrity Team directly under the Board of Directors (BoD). Adhering to a fair, impartial, and open management approach, the company aims to enhance operational transparency and protect the rights of stakeholders. Valuing the sustainable development of the company, the chairman of the ESG Committee reports the promotion of ESG and the results of implementation to the BoD quarterly, assisting them to master and review ESG performance and formulating medium and long-term strategies to lead the Corporate Sustainable development. ”

We actively improve the competencies of the board of directors through board performance evaluation, director diversification, and designating a chief governance officer. For directors to dedicatedly demonstrate their competence, we have bought the director liability insurance for directors to rationalize the responsibility and authority of directors in order to maximize profit for shareholders. In addition, to ensure the independence of board supervision, for proposals involving the related parties of directors, the corresponding directors are requested to avoid the conflict of interest by recusing themselves, including their proxies, from the discussion and voting of such proposals at a board meeting. As for the status of cross-shareholding with other interested parties or the disclosure of controlling shareholders or related parties, this information are disclosed in MOPS, the company's website or the [annual report](#) p. 57, 59.

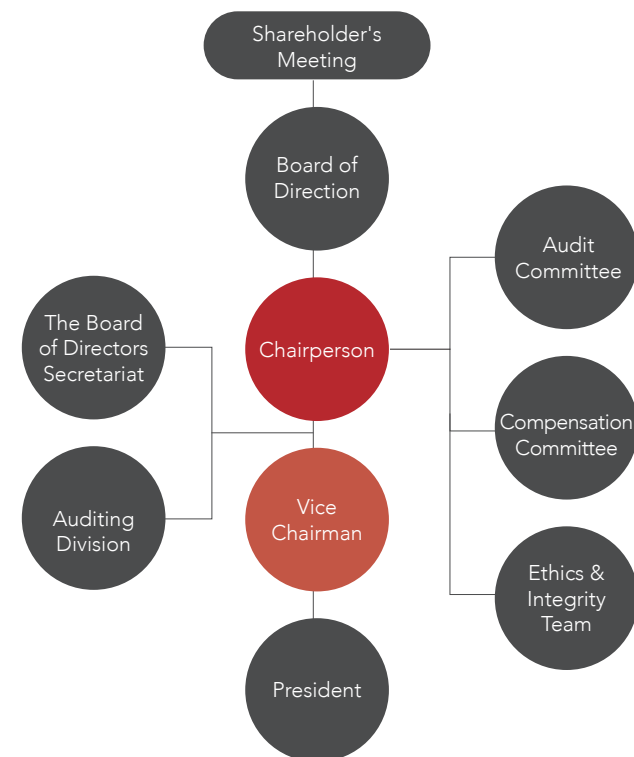
We amended the "[Corporate Governance Best Practice Principles](#)" and the "[Insider Trading Prevention Management Regulations](#)" in 2022 to improve CLC's governance performance. The BoD holds at least one board meeting each quarter. In 2022, the board held a total of 7 board meetings with 98% director attendance. The term of the current board of directors is between June 10, 2022 and June 9, 2025.

Focus on ESG issues

As a CLC management team member, CLC's chairperson hosts the monthly management meeting in person. Besides discussing and planning the business strategies with management team, the chairperson also involves in social, environmental, and economic issues and assesses the efficiency of individual projects periodically.

- Experience of board members: Please refer to P.10-12 of the [CLC's Annual Report 2022 \(AR2022\)](#) or [corporate website](#) at <http://www.clc.com.tw/>.
- Further education of directors: In 2022, all directors completed further education with respect to the "Directions for the Implementation of Continuing Education for Directors and Supervisors of TWSE Listed and TPEX Listed Companies." Please refer to P31-32 of the [AR2022](#) for details.

Organization Framework



BoD Diversity and Implementation

The BoD consists of nine Directors, including three Independent Directors. We adopt the candidate nomination system, which is selected by the shareholders' meeting from the list of director candidates for a term of 3 years. The company held an election for the 18th BoD on June 10, 2022, including one female Director (accounting for 11%), two Directors with professional background in financial accounting (accounting for 22%), six Directors with relevant management experience in the papermaking and circular economy (accounting for 67%) and three Independent Directors (accounting for 33%). The seniority of one of the Independent Directors is one to three years, one of the Independent Directors is seven to nine years, and the other one of the Independent Directors is over nine years; two of the Directors are under 49 years old, and the other seven Directors are over 50 years old.



In order to implement the diversification of the Board of Directors, we has formulated appropriate guidelines with reference to the business operation and development needs:

Basic conditions and values: gender, age, nationality, and culture.

Professional knowledge and skills: professional backgrounds (such as law, accounting, industry, finance, marketing, or technology), professional skills, and industrial experience.

To achieve the ideal goal of corporate governance, the Board shall have the following overall capabilities:



* The diversity of 18th Board of Directors' implementation situation: Please refer to the [corporate website](#) for details.

Board Performance Evaluation

The BoD passed the amended "Board Performance Evaluation Regulations" on December 24, 2020. These regulations state that the board performance shall be assessed at least once annually. An external institutional or expert evaluation shall be conducted once triennially, with the results serving as the reference for the selection or nomination of directors.

Internal Evaluation: The first assessment of the board's 2020 performance had been conducted since 2021, and the assessment of the board's performance is conducted annually. The scope of assessment covers the whole board of directors, individual board members, the Audit Committee, and the Compensation Committee. The assessment results were disclosed on the board meeting.

External Evaluation: The Company outsourced Taiwan Institute of Ethical Business to conduct the 2022 performance evaluation of the BoD. The scope of assessment covers the whole board of directors, the Audit Committee, and the Compensation Committee. The assessment results of External Evaluation were disclosed on the board meeting on December 22, 2022 and reported the improvement plan to BoD on March 14, 2023.

* About the improvement plan, please refer to the [corporate official website](#) for details.

Audit Committee

- The Audit Committee assists the board in carrying out the supervision duty and the duties to be performed by the supervisors as stated in the Securities and Exchange Act, Company Act, and other laws. Besides communicating with the Company's certified public accountants (CPAs) periodically, the Audit Committee also audits the appointment, independence, and performance of CPAs. The chief auditor presents audit reports to the Audit Committee periodically. The Audit Committee holds at least one meeting quarterly. In 2022, the Audit Committee held a total of eight meetings, with 100% member attendances.
- The 3rd Audit Committee is formed with the three independent directors, including Mr. Yung-Chi Wang, Mr. Fuh-Sing Chang, and Mr. Feng-Chih Huang. The three independent directors all have relevant industry experience.

Compensation Committee

- The Compensation Committee periodically reviews the policies, systems, standards, and structures of director and officer performance evaluations, makes recommendations for board discussion, and holds at least two committee meetings annually. In response to the board's re-election, the board appointed three independent directors to be members of the 5th Compensation Committee on June 24, 2022, with Mr. Yung-Chi Wang as the chair. In 2022, the Compensation Committee held three committee meetings, with 100% member attendances.
- The reasonable compensation for directors, supervisors, and officers is determined in accordance with the Company's Articles of Incorporation and Regulations for Board Performance Evaluation and in consideration of the industry's macro environment and the engagement with and contribution to corporate operations of individual directors. Officers are remunerated in accordance with the Company's salary framework, salary raise mechanism, annual performance evaluation with items including the Company's overall operating performance, personal contribution, and effectiveness in ESG implementation. The fairness of performance evaluation and remuneration of directors, supervisors, and officers have been discussed in the Compensation Committee meeting and resolved in the Board meeting.

Operation of Corporate Governance

To assist directors in carrying out their duties in order to protect the rights and interests of shareholders and strengthen the board's competence, the CLC has established the "chief governance officer (CGO)" position acted concurrently by Mr. Kun-Ming Yang, head of the Financial Division. Mr. Yang has completed 15 hours of CGO training to improve his governance capacity. Please visit the [CLC corporate website](#) for the details of our governance performance in 2022.

Valuing the quality of corporate governance and information disclosure, the Company conducts inter-departmental discussions on the results of corporate governance assessments every year, sets goals and keeps track of them, so as to improve the results of corporate governance assessments. **At the improvement projects of the 8th Corporate Governance Evaluation in 2021, and we has been ranked the top 6%-20% for 3 consecutive years (in 2020-2022):**

Strengthen the structure and operation of the BoD

- The company has built the BoD members diversity policy and put the specific management goals, and the implement situations were disclosed in the official website and annual report.
- The company has made the successor plan for the BoD members and important management, and disclosed the operation situations in the official website.

In addition, to improve the quality of information disclosure and communicate with important stakeholders, we held two online investor conferences (Mar 25 and Aug 19) and 3 joint conference calls in 2022 to report the status of operations to investors and the media. We also participated in various major ESG ratings at home and abroad to review our information disclosure quality.

Protect shareholders' rights

Protecting the rights and interests of shareholders is the ultimate goal of our corporate governance. We also maintain fair treatment of all shareholders and ensure their rights to know, participate in, and determine the Company's material matters by the law. Relevant measures are stipulated in the Corporate Governance Best-Practice Principles to encourage shareholders to actively participate in corporate governance.

Highlights

- ★ Ranked **57th** among the world's top 75 paper industries by The Paper 360° magazine in 2021, advancing 2 places
- ★ The 9th Corporate Governance Evaluation in 2022 ranked the **top 6%-20%**
- ★ The FTSE4Good TIP Taiwan ESG Index ratings improved to **3.1 points** (out of 5 points, increased by 0.2 points)
- ★ The only Taiwan Papermaker, Excellence in CSR Award (No.30) for the 9th time by CommonWealth Magazine, advancing 4 places
- ★ Selected as a constituent stock of the TWSE Corporate Governance 100 Index for **2 consecutive years**



1.3 Risk Management

Material Issues

Risk Management

Strategy

Establish business strategy and foster corporate culture that emphasizes risk management, enhances risk management to improve operational transparency, and protects employees' and shareholders' rights and interests.



Goals of 2030

- Strengthen the risk warning system to be supervised by the functional committees, such as the Audit Committee or Risk Management Committee, under the board of directors.
- Establish business strategies and management policies based on the quantified results of risk management.

Goals of 2023

- Implement loss control inspection of mills/plants periodically
- Complete risk management system
- Implement ISO 27001 Information Security Management System
- Implement the leaking and prevention system of confidential data

Goals / Action Results of 2022

- Implement loss control inspection of mills/plants periodically.
 - ➔ Completed 8 onsite inspections.
 - ➔ Audit conducted total of 3,703 items at home and abroad.
- Conduct risk assessment, implement risk control and action, and make the internal control statement.
 - ➔ Summarized the operation of Risk Management and the performance of "Intellectual Property Management Plan", and reported to BoD.
 - ➔ Completed the internal control statement and reported to BoD.
- Responded to the important risk, and established the responsible unit:
 - ➔ In response to the information security risk, established Information Security Center and Chief Information Security Officer.
 - ➔ To manage the climate-related risks and opportunities, the company established "Climate Change and Circular Economy Office".

Risk Management

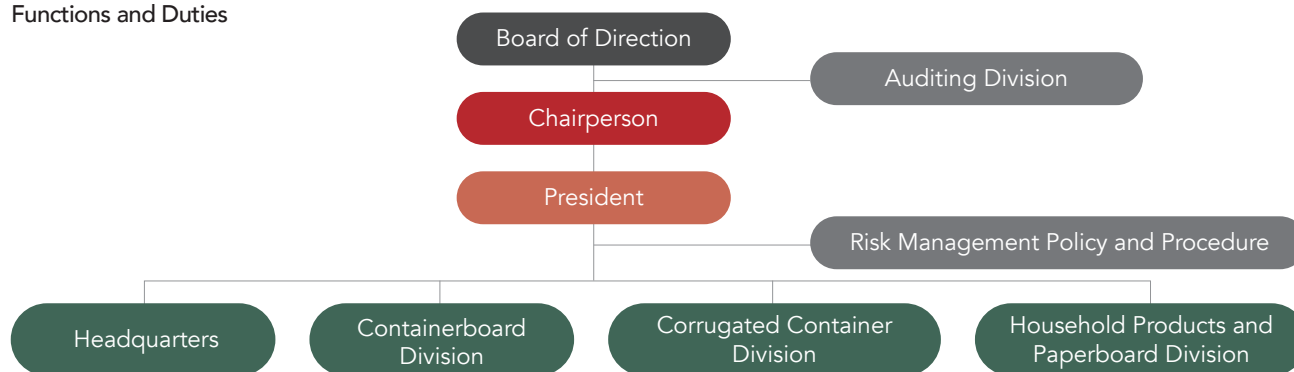
The implementation and operation of risk management are the roots to ensure CLC's steady operations. To optimize the risk management system, we followed the "Risk Management Policy and Procedure", with the BoD being the highest command of risk management and authorizing the president to engage in risk management decision-making. Based on the risk management procedure, by identifying and managing internal and external risks, each department measures and analyzes the impacts that risk factors brought to the Company in terms of operations, finance, and climate change, and the president annually reports to the BoD.

Paying attention to the climate change crisis and responding to the Financial Supervisory Commission Corporate Governance 3.0 Sustainability Blueprint in advance, the Company responded to the TCFD initiative in 2021, signed up as a supporter and conduct third-party verification of TCFD compliance to actively manage climate change issues and take action, becoming the first paper company in Taiwan to pass the TCFD audit and obtain the highest rating certification, demonstrating resilience in the face of climate risks.

*Refer complete information in this Report ch4.1 Climate Action – TCFD Report



Functions and Duties



Operation Mechanisms

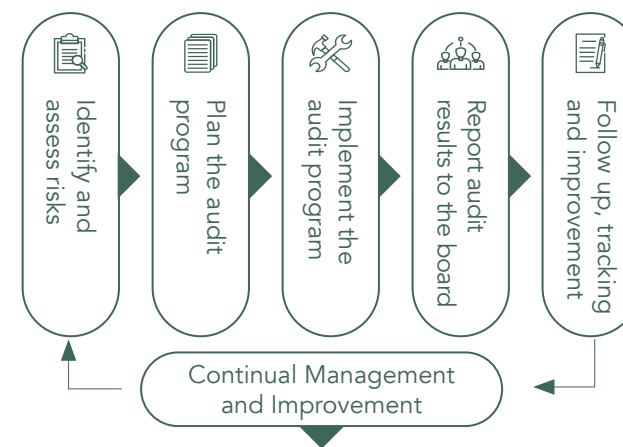
 Board of Directors	 Auditing Division	 President & Management
<p>The Highest Command of Risk Management</p> <ul style="list-style-type: none"> Based on the overall operational strategy and macro operation environment, the board of directors discerns the risks in operations, focusing on the promotion and implementation of overall risk management to ensure the effectiveness of and assume full responsibility for risk management. 	<p>An Independent Department under the Board</p> <ul style="list-style-type: none"> The Auditing Division periodically audits the performance based on the Company's internal control and audit programs, produces the audit reports based and presents them to the board, and follows up the performance of each unit. 	<ul style="list-style-type: none"> Make decisions for risk management and coordinate cross-department risk management interaction and communication. Being responsible for risk management and analyzes and monitors related risks within the unit to ensure the effective implementation of the risk control mechanism and procedures. <p>Monthly: Hold meetings. Annually:</p> <ul style="list-style-type: none"> Before the management review of each management system, the Containerboard Division, Corrugated Container Division, and Household Products and Paperboard Division shall complete assessing the risks and opportunities in quality, HSE, and energy, to assess the risk level and likelihood of occurrence of each mill/plant and calculate the investment cost and return on investment. In response to the risk assessment results, each unit of the HQs formulates countermeasures and required investment resources for risk values or potential development and higher opportunities, and regularly responds and discusses.



Loss control inspection of mills/plants

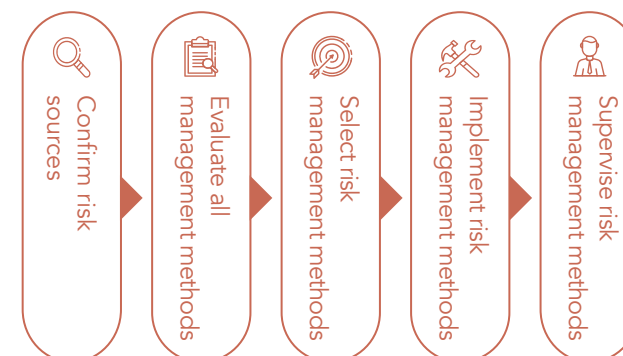
In 2022, CLC conducted 8 loss control inspections on all mills/plants in Taiwan and HQs to ensure that all assets are under suitable protection. (Loss control: Protect the buildings, equipment, and materials against fires and explosions with insurance to minimize resultant losses.)

Risk Identification and Audit Processes



In 2022, CLC (including Taiwan, China, and Vietnam) completed the self-assessment for internal control of a total of 3,916 items. The Auditing Division conducted 3,703 Audit at home and abroad, including 67 annual items reporting to the authorities. Among them, there were 5 nonconformities, including sales collection operation, ship operation, seal management operation, order amendment to invalidity operation, and quality control operation. The improvement was completed before the submission of approval at the end of the year.

Risk Warning Management Process



Intelligent Property Management, Risk and Achievements

To enhance CLC intellectual property management system, we have established a responsible unit to promote affairs relating to intelligent property management. To diversify product ranges, enhance product competitiveness, protect the R&D outcomes, and lower the operational risk, we have implemented an intelligent property (IP) management system with two main goals:



Patent Production

Our IP strategy mainly includes IP protection and respect for other's IP. Over the years, we have been actively integrating the sources of various units to plan patent strategies, and enhancing patent deployment to protect the Company's interests. We emphasize on patent quality and encourage innovation in our products and technologies.



We held 13 Taiwan patents and one German patent. Pending patents included 1 in Taiwan, 2 in China, and 2 in Vietnam.



Trademark protection

When applying for trademark registration, our affiliated brands aim to obtain exclusive rights protection for trademarks in each country. We adjust our trademark portfolio in accordance with market and product line changes. At the same time, we conduct trademark monitoring and raise objections or evaluations against third-party trademark applications that are similar to our trademarks, in order to maintain the uniqueness and distinctiveness.



We have made trademark deployment in Taiwan, China, and Vietnam: In Taiwan, we have 123 trademarks, 8 more over last year and 7 are pending, 27 in China and 4 in Vietnam. Additionally, we have applied for registration of 6 trademarks in Vietnam, and have been verified by authority.

Key Risks and Countermeasures

Major Risk	Risk Item	Control Strategy and Opportunity Development
Finance	<ul style="list-style-type: none"> Financial Transaction 	<ul style="list-style-type: none"> Covering financing, investment, liquidity, dividend, and exchange rate & interest rate hedging, besides periodically acquiring external evidence, the financial and accounting divisions created transaction records of individual suppliers and customers to assure the account stability and security of all transactions. Carefully evaluate major capital expenditures and benefits, and formulate countermeasures to deal with possible risks.
Talents Risk	<ul style="list-style-type: none"> Labor Shortage Talent Gap 	<ul style="list-style-type: none"> Checked talent pool, and deployed interdisciplinary talents covering climate change management, digital transformation, and international management based on CLC future development. Collaborated with universities to understand more about CLC and the industry to cultivate talents development.
Raw Materials	<ul style="list-style-type: none"> Supply Disruption 	<ul style="list-style-type: none"> Captured market trends of materials, built a collaborative e-platform for real-time information exchange, optimized inventory management to prevent supply disruption. Established a multiple supply system to ensure stability of materials.
Operation	<ul style="list-style-type: none"> Operation 	<ul style="list-style-type: none"> Complied with no breach of trust, fraud, insider trading, or unconventional transfer of benefits that is detrimental to shareholders' interests. Established a mobile platform to well manage business operation and management anomalies. Deployed a real-time warning system to immediate solved in-house production problems. Implemented continual technology improvement and product development to fulfill customer needs, and enhanced customer relationship through irregular visits and customer relationship management. Prevented the risk of customer or sales centralization by providing services to all industries. In response to information security risk management, the Company aims to strictly control the risk elements, develop awareness of information security, and strengthen the enterprise anomaly monitoring mechanism to ensure the normal operation of the Company.
HSE	<ul style="list-style-type: none"> Environment Occupational Safety Employee Health 	<ul style="list-style-type: none"> Established management systems & mechanisms and reviewed legal compliance periodically. Introduced the best available control technology (BACT) to strengthen air pollution control and enhance water conservation to realize the circular economy. Built occupational safety and health management, and fostered risk control culture, constantly sharing related cases to enhance employee's risk awareness. Adopted preventive and comprehensive employee health management and promoted the employee health advance program.
Climate Change and Energy	<ul style="list-style-type: none"> GHG Emission Climate Disaster 	<ul style="list-style-type: none"> Implemented GHG inventory and energy management through the Energy Management Committee, to enhance energy efficiency, alternative fuel ratio, reduce carbon emission, and develop low-carbon products. Created the "Emergency Response Management SOP" to prevent production reduction or disruption caused by typhoons, floods, and droughts and enhance the adaptability of organization. Introduced the TCFD framework to improve climate sustainability governance. Established the "Climate Change and Circular Economy Office" to take action on the transition to low carbon.

Information Security Control Risk

We have established a responsible unit in accordance with the Company Information Security Policy. In 2022, we further increased the expenditure by nearly 50% to establish complete network and computer protection framework. Additionally, we established Information Security Center and "Chief Information Security Officer" position acted concurrently by head of Information Technology Division to improve our information security capacity and planned to implement ISO 27001 the Information Security Management System(ISMS) . 4 Highlights of 2022:



I. Enhancing information security management:

1. The president convenes the information security review meeting each quarter to review the performance in information security.
2. Based on the PDCA cycle, we inventory information assets and assess their risks, check cybersecurity KPIs and the performance of relevant measures, and make improvements.

II. Enhancing information security protection:

1. Periodically review and revise the cybersecurity policy and information security SOP.
2. Set up the information security monitoring center and situation room to make real-time detection, response, and handling to effectively block viruses and malicious attacks.
3. Set access control and maintain personnel access records for important information infrastructures (e.g. server rooms) to ensure protection for physical information equipment.

III. Building joint defense for information security:

1. Sign up to organizations such as the Taiwan Computer Emergency Response Team/ Coordination Center (TWCERT) of the Ministry of Digital Affairs, Executive Yuan, and the Taiwan Chief Information Security Officer Alliance (Taiwan CISO Alliance) to enhance alert, detection, report, and intelligence sharing.
2. Review the information security performance of suppliers from time to time. The questionnaire survey at the 2022 CLC Supplier ESG Conference shows, each supplier has one to two responsible information security staff, the average score for overall information security protection was 72 marks, and 63% of suppliers drilled social engineering periodically.

IV. Shaping a culture of information security:

1. Arrange awareness education and post notices of information security at the EIP information security section; offer e-learning information security courses; help employees prevent attacks such as email scams and malicious website links; and enhance their awareness of the correct protection and alert to confidentiality and security.



2. Drill social engineering from time to time and request employees to change logon passwords periodically. In 2022 the mail opening rate was 7.2%, 11.5% less over last year, suggesting that employees have raised their awareness of and become more alert to information security.

提升全員資安防護意識

社交工程演練:



1.4 Ethical Management

Material Issues

Ethical Management

Strategy

Based on the business philosophy of "Sincerity and Trustworthiness," we emphasize steady and ethical operations, legal compliance, and governance to eliminate unethical and unlawful behavior. We also establish regulations, arrange education, training, and awareness education; and provide reporting channels and protection to engrain business ethics in our corporate culture.

Goals of 2030

- Education and training on business ethics and legal compliance, with a completion rate of 100%
- Constantly arrange anti-corruption publicity, education, and training activities for suppliers, with a completion rate of 100%
- Pursue zero non-conformity

Goals of 2023

- In Taiwan, make the promotion system for connected with online course related to integrity management
- Refer to local regulations in China, plan to make an online course related to integrity management
- 3 legal compliance articles
- Organize anti-corruption publicity, education, and training activities for suppliers
- Zero material violation event

Goals / Action Results of 2022

- Organize 6 education and training activities on legal compliance
➔ 6 education/ training activities for 138 participants
- Add 1 online course related to integrity management
➔ An online course on "integrity management, Code of Ethics and Anti-Corruption Promotion" was newly held, with a total of 84 participants
- 3 legal compliance articles were published
➔ Complete 3 articles
- Major and new suppliers sign the "Supplier Code of Conduct" with the signing rate of 100%
➔ Complete the signing rate of 100%
- Zero material violation event (a single event with administrative fines accumulated up to NT\$1 million)
➔ None

“Emphasizing steady and ethical operations, legal compliance, and governance, we have been conducting business activities with the highest standard of ethics and integrity since our inception. In addition, through the regulation establishment, education and training, consistent implementation, self-assessment and review, and unfettered reporting channels, we request compliance by all CLC members.”

”

We have established the "Ethics and Integrity Team" (Please refer to Organization Framework this [report P.31](#)) under the board of directors to take charge of business ethics and integrity. The team operates according to the "Procedures for Ethical Management and Guidelines for Conduct" and periodically report its performance to the board of directors. "Sincerity and Trustworthiness" is CLC's core value and the important standard of employee conduct. To ensure all employees practice legal compliance, apart from strictly requesting employees to uphold integrity and fairness, avoid conflicts and interest, protect corporate assets, fulfill the non-disclosure obligation for customers in business operations, we provide channels for reporting unlawful or unethical behavior and arrange education (also for new employees) and training for related personnel to practice "Sincerity and Trustworthiness" in the routine business activities.

Supplier Business Ethics

We request all major and new suppliers to sign the "Supplier's Code of Conduct" while undertaking CLC's construction contracts and procurement contracts, with a total of 100 suppliers in 2022. In addition, we make communication with suppliers at the supplier ESG conference and supplier visit to promote CLC's code of business ethics and legal compliance.

Handling of employees' unethical behavior:
Report Channels



Performance in Ethical Management Promotion in 2022

1. Revised the "Regulations for Prevention of Insider Trading" and established the "Regulations for No Stock Trading of Directors before Publication of Financial Statements." Apart from notifying all directors, we also informed the senior management that no stock transaction is allowed during the accounting closing period to prevent directors and officers from unintentionally violating those regulations.
2. A total of 6 sessions of integrity management and anti-corruption education and training were held, with a total of 138 participants.
3. The anti-corruption reporting channel of "Dealing with Dishonest Behavior of Company Personnel" has not received any corruption-related reporting cases in 2022.

Legal Performance

Implementing various business activities through legal compliance and compliance with the Code of Ethical Conduct is the basic business philosophy of the CLC. By establishing related work rules and regulations, we request employees to abide by and practice them. In addition, we enhance their dissemination through education and training, corporate website, internal publications, and meetings. Besides understanding and capturing the status of legal compliance of all units, the legal unit published three legal articles, such as stalking harassment Prevention Act, New Traffic Rules, and so on in 2022 to strengthen the legal compliance concepts of employees. With case studies, the legal unit helps employees understand related legal matters in routine business activities or daily life.

In legal compliance, no material fine in 2022 (single event with administrative fines accumulated up to NT\$1 million) was reported. Please refer to P. 72-73 of [the annual report](#) for details regarding other fines for violation (Labor Standards Act, Occupational Safety and Health Act, and environmental protection laws and regulations) and improvement action.



"Code of Ethics and Anti-Corruption Promotion" Seminar



Product & Service

Develop circular economy, accelerate digital transformation, strengthen low-carbon and green energy production-sales, provide quality products and services, to become Asia's new low-carbon & green energy paper company.

2.1 Sustainable Products and Development

2.2 Product Responsibility and Customer Service

2.3 Digital Transformation

- Invested **NT\$119** million in R&D

Developed a variety of low-carbon products and won a number of national patents

- **6** household paper products acquiring "Carbon Footprint label", with 100% of growth and sales reaching **107** million packages

- Resource recycling, the scale is the 1st in Taiwan
1.572 million MT of recovered paper
30,100 MT waste food paper containers

- Creating value up to **NT\$370** million through ESG excellent performance projects

2.1 Sustainable Products and Development

Material Issues

Sustainable Products and Development

Strategy

Adhering to the 3Rs: Reduce, Reuse, Recycle, and develop a variety of green and low-carbon products and services with a recycling business model of resource regeneration, and expand the total circular economy.



Goals of 2030

- Recovered paper utilization rate > 97% *Industrial paper
- Exert creativity capability to develop niche products

Goals of 2023

- Recovered paper utilization rate > 97% *Industrial paper
- Engage in innovation and R&D, increase recovered paper application, and develop niche products
- Implement the Carbon Footprint Management of the main household paper products and apply for the certifications of Carbon Reduction Label
- Continue to expand the full circular economy application

Goals / Action Results of 2022

- Recovered paper utilization rate (industrial paper): 97%
 - ➔ Industrial paper: 97.6%, Overall: 92.5%
- R&D investment: NT\$119 million, cultivated the application of recyclable packaging materials
 - ➔ High water-resistant, fresh-keeping functional corrugated containers are applying for the patents
 - ➔ "Paper Studio" brand "folding eco-cultural and creative paintings" won the national new design and development patents
 - ➔ Sold 1,050,000 bags of Dandelion eco-toilet tissue and reduced plastics up to 35,000 kg since the launch of the Dandelion multipurpose bag
 - ➔ 6 new Dandelion household laundry products
- Apply for carbon footprint inspection for household paper product line expansion
 - ➔ Added 3 household paper products acquiring "Carbon Footprint label", with a total of 6 and sales reaching 107 million packages
- InnoCircular Economy
 - ➔ Recycled waste food paper containers up to 30,100 MT (+23.8% YoY)
 - ➔ Selected nearly 50 cases and Creating value up to NT\$370 million through excellent performance projects

Sustainable Products and Development

Indispensable to food, clothing, housing, and transportation, paper is part of the daily life. We make paper with recovered paper or FSC fibers to facilitate recycling and natural decomposition after use in order to lower environmental impact. Due to the characteristic of recycling and circulation, paper have been widely used by all industries, and the customers and the clients of the packaging emphasized more on the environmental sustainability. And the paper products become the preferred selection of the packaging and transportation materials. As a leading paper company, we are committed to developing a sustainable business model for the circular economy and focus on developing eco-friendly, sustainable products and services at each stage, covering materials purchase; product design, production, and consumption; and disposal after use to reduce resource consumption. We also maintain continual process improvement and use intelligent equipment, increase recovered paper uses, improve product quality, and enhance carbon reduction efficiency. Due to the overall economy slowdown and the equipment failure of Houli auto warehouse, the production volume was decreased in 2022. We consumed a total of 1.572 million MT of recovered paper which decreasing by 0.222 million MT, with an annual reuse rate slightly decreasing by 0.2% to 92.5%, and the reuse rate of industrial recovered paper was still up to 97.6%, increasing by 0.2% over last year, which both reached the target.

Less is More! CLC Maximized Value at the Least Resources with Low-Carbon Products

In response to the global consumption trends of zero carbon and plastic reduction, the global demand for paper packages rose steadily in recent years, particularly in paper package sector driven by the thriving e-commerce in the post-pandemic period. According to the International Corrugated Case Association (ICCA), the global consumption of corrugated cases increased from 127.657 billion m² in 2000 to 274.106 billion m² in 2022, with an average annual growth rate (AAGR) of 5.3%. In terms of consumer products, people are willing to

pay more for eco-products, pushing the annual popularity growth of eco-friendly household tissue. In addition, in response to the increasing business opportunities for household cleaning products as a result of the pandemic that has urged people to pay greater attention to epidemic control and personal hygiene (sanitation).

3R Design: Last mile toward a zero-carbon supply chain

We develop low-carbon and plastic-free, based on the principle of 3Rs to help the market realize green consumption and reduce waste. In addition to reducing the carbon footprint of products without lowering their protection performance through technology development, we enhance the efficiency of logistics and carbon reduction to finish the last mile toward a low-carbon supply chain. In addition, according to the Department of Statistics, Ministry of Economic Affairs, the sales AAGR of Taiwan's online shopping during 2013–2022 was over 10%, in accordance to [EPA's online packaging law](#). We collaborates with e-commerce to enhance product structure and design, implementing lightweight, single-material, and improved utilization practices, as well as reducing the use of colors and adopting water-based ink printing. Additionally, the company introduces the Design-in 3D design platform and sales forecasting system, utilizing AI to understand market trends and customer demands.

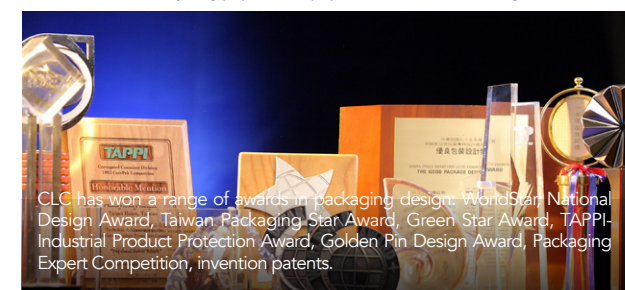
CLC's Sustainable Packaging Solution



R&D and Innovation, Develop Various Sustainable Products and Service

Out of the emphasis on innovation and R&D, CLC invests over 100 million NTD in the development of green and sustainable products and the optimization of production processes, and implement the smart digitalization every year to enhance production efficiency, conserve energy, and reduce carbon emissions, in order to actively keep up with the global trends and customer demands, furthermore, to enhance corporate competitiveness. In 2022, the total R&D expenditure (excluding capital expenditure and equipment fee) was NT\$119 million, and the major R&D outcomes are as follows:

- ✓ Promote expansion, process transformation, introduction of low-carbon energy-saving equipment and technology. Include adding a recovered bleach pulp line at Tayuan Mill (C Mill), biomass CFB boiler system project in Chupei Mill, Phase II/ III of initiated paper machine and production line in Vietnam projects.
- ✓ Introduced new raw materials to enhance the efficiency and process capability: Saved > NT\$13 million annual.
- ✓ Process optimization and quality improvement: Optimized the process and improvement, and saved costs > NT\$20 million every year.
- ✓ New product development:
 - Household tissues: Andante lotion facial tissue, Andante SILLACE premium thickened 3-ply toilet tissue, Lovers 3-ply ultra soft interfold toilet tissue.
 - Household products: Dandelion eco-friendly household cleaning products, Andante facial cleaning mousse.
 - Industrial packages: High-quality paper tube paper, fresh-keeping corrugated containers, carry bag paper, farm paper, and functional corrugated containers.



2.1 Sustainable Products and Development

2.2 Product Responsibility and Customer Service

2.3 Digital Transformation

Case 1

Folding eco-cultural and creative painting



→ We design and develop paper picture frames with 100% recovered paper, unlike ordinary wooden or plastic photo frames



→ Printing is replaced by papers of different colors



→ Glue by folding and mortise and tenon



→ Plastic strings by paper strings



→ In 2022 we won the national new design patents (number of D220859) and development (number of I780907) patents. And applied to other products, such as Andante Bath Soap Set



Case 2

Online shopping corrugated boxes

Leading the trend to promote the demand of the reducing the packaging boxes, and promote the innovative packaging



→ We develop "just fit-it" to reduce materials consumption without reducing packaging capacity



→ Launch the 1 sec. "self-adhesive online shopping box" to reduce plastic waste



→ Developed the value-added reusable packaging boxes to address the customer's demand for "corrugated box reuse" and extend the lifecycle of corrugated boxes



Shoes box / Shoes rack



Useful and interesting logistic box; Notebook rack

Case 3

Full-paper buffering structure for LCD panel box



→ Made with 100% biodegradable paper



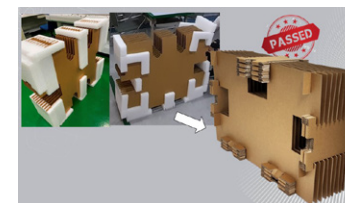
→ Glue-free bonding structure



→ Assembly design for shared box parts scalable to meet different panel sizes and so to reduce mold development costs



→ Replace only the damaged parts to effectively enhance recycling and reuse rate



Case 4

ECO Food Storage



→ Storage period up to 7 days (+200%)



→ Solution for fruit and vegetable perishing



→ 100% "recyclable and degradable" green packaging paper box



→ Won the national new development (number of I795242) patents



2.1 Sustainable Products and Development

2.2 Product Responsibility and Customer Service

2.3 Digital Transformation

Green and Innovative Products Helps Consumers Reduce Carbon Footprint

A clean and beautiful environment for future generations. With professional, esthetic structure design expertise, we introduced the "Paper Studio" brand in 2013 to develop edutaining, zero-pollution paper furniture and educational toys for children, pet toys, and cultural and creative products with recycled corrugated paper. In 2022, the Paper Studio also developed the paper light decoration, product design new products, and the "folding eco-cultural and creative paintings" won the national new design and development patents.



In view of the non-recyclability of most materials used in trade fairs and exhibitions, we develop green exhibition sites using corrugated boards with the structural features and recyclability. At the same time, we introduced digital technology to accurately calculate the consumption of paper materials, reduce the error rate of application, save a lot of paper and manual assembly time, and successfully develop recovered paper exhibition venues and exhibits such as: "CLC paper library", and the office space or corporate showroom, which can be decorated with festivals or important events. We demonstrated the best circular economy model with the least resources to create the greatest value.

CLC Household Product: Pamper your loved ones with love and tenderness

In 1993 CLC entered Taiwan's household paper market and launched the "Andante" brand in 1995. With soft quality, delicate texture, and the "pamper your loved ones with love and tenderness" image, Andante has won consumer preference. After acquiring Tien Loong Paper Mill in 2004, CLC continued to launch two quality brands, Lover, Dandelion, and Snow Soft, to complete the household product range with toilet paper, facial tissue, kitchen paper, and paper towel, making CLC the leader of household paper supplier in Taiwan.

Through constant process optimization, introduction of new technology and advanced equipment, including Taiwan's first automated household tissue warehouse, Asia's first millions MT wind turbine, and actively enhance the R&D center to develop high-value and low carbon products to meet increasing consumer demand. Focusing on the market demand of the high-price household paper, we launched the new soft-upgraded "Andante SILLACE Premium Thickened 3-Ply Toilet Tissue", "Lovers 3-ply ultra soft interfold toilet tissue" adding iris fragrance. In addition, "Andante Bath Series" also have extended its product line to Bath Soap and launched "Andante Herbal Bath Soap Set" to offer customers the soft and natural cleaning skin options. Dandelion, the No. 1 eco-friendly brand, has also successfully extended its product line to household detergents, helping consumers to easily reduce carbon in their daily lives and be environmentally friendly.

Andante SILLACE Premium Thickened 3-Ply Toilet Tissue

Superior fluffy for total
"paper feel enhancement" in the daily life



Andante Herbal Bath Soap Set Selected Natural Ingredients

Four mild skin cleaning formulas in
collaboration with Dachun Soap



Lovers 3-ply ultra soft interfold toilet tissue

Elegant iris fragrance makes each
piece refreshing



The Winning Leader of Low-carbon Products from EPA: Chupei Mill

- 2017 Low-carbon Product Award-Excellence
- 2018 Top Performance Assessment in Waste Resource Circular Economy
- 2019 The first National Enterprise Environmental Protection Awards-Silver, Low-carbon Product Award-Excellent
- 2020 Low-carbon Product Award-Premium, Carbon Footprint Coefficient Contribution Award
- 2021 Green Purchasing Excellent Unit from EPA and Hsinchu County Environmental Protection Bureau
- 2022 Resource Circulation Prospective Certification, Green Purchasing Excellent Unit

2.1 Sustainable Products and Development

2.2 Product Responsibility and Customer Service

2.3 Digital Transformation

Industry No. 1 in carbon disclosure transparency for household paper.

Up to 6 CFP-certified items, up by 100% annually

Starting from the product life cycle, we implement product carbon footprint (CFP) management ahead of competitors. Currently, among all 8 self-own labels, Andante and Dandelion have been CFP-certified, with 25% coverage. To continuously enhance the carbon disclosure transparency of products to help consumers identify responsible green products, we accelerated and expanded the scope of product CFP certification in 2022, with CFP-certified products increasing from 3 items to 6 items, up by 100%. The total annual sales were 107 million packs.



Carbon Footprint Class

The purpose of carbon footprint establishment is to understand the GHG generation from the different life cycle of products and effectiveness of carbon reduction

Use recovered paper for a virtuous cycle

Dandelion household tissue

Dump after use: Toilet tissue – a single-use product. To practice responsible production and promote green, responsible consumption, besides making household tissue with FSC™ pulp, we produce eco-toilet tissue with a process that is more complicated than products using virgin pulp, in order to maximize resource utilization and putting environmental interests first. In 2009, we launched the "Dandelion Household Tissue" series with quality similar to those made with virgin pulp and 100% recovered paper to encourage consumers to practice environmental protection and love Earth from daily life.

Made of 100% recovered paper and using clean energy – wind power, the Dandelion Household Tissue is thus Taiwan's first household paper brand to acquire triple certification: The Green Mark, Carbon Footprint Label, and FSC™ Recycled Label. Currently, the annual sales of Dandelion Household Paper exceed 4,000MT, +13% YoY. In addition, we have extended the eco-friendly product line to CLC's second eco-household tissue brand: "Pure Generation", making it Taiwan's No. 1 brand of eco-household paper. Leading in Taiwan, we also introduced the Dandelion multipurpose bag to combine the external package of Dandelion Household Tissue with the dedicated garbage bag to create carbon reduction efficiency ahead of competitors. In 2022, we further introduced the Dandelion Eco-Household Detergent using 100% recycled plastic bottle body to provide consumers with more options for green product brands to contribute to the Earth's sustainable development.



Dandelion Facebook



Dandelion Eco-Household Official Website

CLC x A-Chang Eco-friendly Public Welfare Tissue: A Brighter Future for the Disabled

Recognizing the employment difficulty of persons with disabilities, we began to partner with A-Chang Sheltered Workshop in 2020 with Miaoli government and offer the eco-friendly tissue. The workshop set the simple product line for the disabled to achieve self-reliance and gain self-esteem through packaging and selling toilet tissue in order to learn social integration and work for a better future, benefiting > 50 persons. The A-Chang Eco-friendly Public Welfare Tissue has been successfully sold to the presidential palace, CPC Corporation and Taiwan Sugar Corporation over 100 public and private organizations in Taiwan to help build a brighter future for the disabled.



Dandelion laundry detergents series: biodegradability of all series reach 97%, using 100% recycled plastic bottle body

Taking the brand concept "eco-friendly recycling, circular sustainability", in 2022 Dandelion has successfully extended its product line and launched the laundry detergents series which its biodegradability reach 97%. From the raw materials to packaging, Dandelion upheld the sustainable spirit to make the 100% recycled plastic bottle body to reduce producing new plastic. In addition, we took action to respond to "plastic-reduction" and "carbon-reduction" to let customers use peacefully.

Enhancing recycled toilet tissue popularization with brand distributors

In 2022, we kept launching Dandelion co-branded products with Watson's, Rakuten, and Snuggle and maintained double-digit sales growth at PX Mart, Taiwan's largest supermarket chain, for three consecutive years. In 2022, over 33 million packs of Dandelion products were sold, with an annual growth by 6% and a continuous popularity growth to provide consumers with a better choice for sustainability.

Reawakening public awareness of sustainability with branding diversity

By setting "Use recovered paper for a virtuous cycle" the brand philosophy, Dandelion actively promotes green consumption and sustainable development through online-to-offline (O2O) marketing. In 2022, to encourage the public to practice green action in the daily life, Dandelion launched the 7-day environmental protection post over its Facebook fan club on Earth's Day to raise the social awareness of sustainability to affect nearly 50,000 persons. We also collaborated with the Tasteme APP, our sustainability partner, to assemble consumers to identify with the circular economy for food and items in the daily life from the zero-distance section in the APP, as well as activated the collaboration projects with Bounty Hunter, Taiwan's largest competition portal.



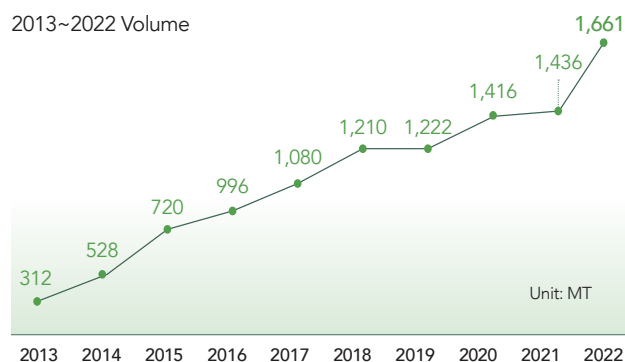
Innovative Circular Economy

“ Setting out for a virtuous cycle, with the corporate spirit to pursue sustainable prosperity and common good with local societies, CLC constantly demonstrates our industrial innovation capacity to promote the enterprise-centered green transformation through connection with the government, the paper industry, business partners, and consumers including the document destruction service and paper containers recycling. ”

Pulping for document destruction reduced carbon emission by 61,370 MT and saved 212,000 trees

In 2013, we began to provide free document destruction service by exerting our pulping expertise in paper recycling to repay society through the innovative use of our experience recycled paper papermaking. By doing so, we prove the possibility of reducing environmental impact while achieving economic efficiency. Over the last 10 years, we have helped 400 partners, including government entities, listed companies, banks and insurers, and national defense units, to destroy 10,581 MT of confidential documents through pulping for free to recycle paper for producing over 45 million packs of eco-toilet tissue to create win-win.

2013~2022 Volume



| 3 Features |



Maximization of resource use



Integrated confidentiality protection



Free service

| Environmental protection benefit |

Recycled **10,581** MT of paper



Reduced carbon emission by **61,370** MT



Saved **212,000** Trees



Retained the annual carbon absorption of **158** Daan Parks

* Using 1 ton of recovered paper may reduce 5.8 tons of carbon emission. The annual carbon absorption volume of the Daan Park is 389 MT.

First Paper Maker Completely Recycling Food Paper Containers

Food paper containers require professional processing plants to separate the plastic surface lamination in the interior from the paper pulp before recycling. However, people often throw waste food paper containers as general waste that is treated by incineration or mixed with general waste paper for use by papermakers, eventually increasing the waste treatment cost.

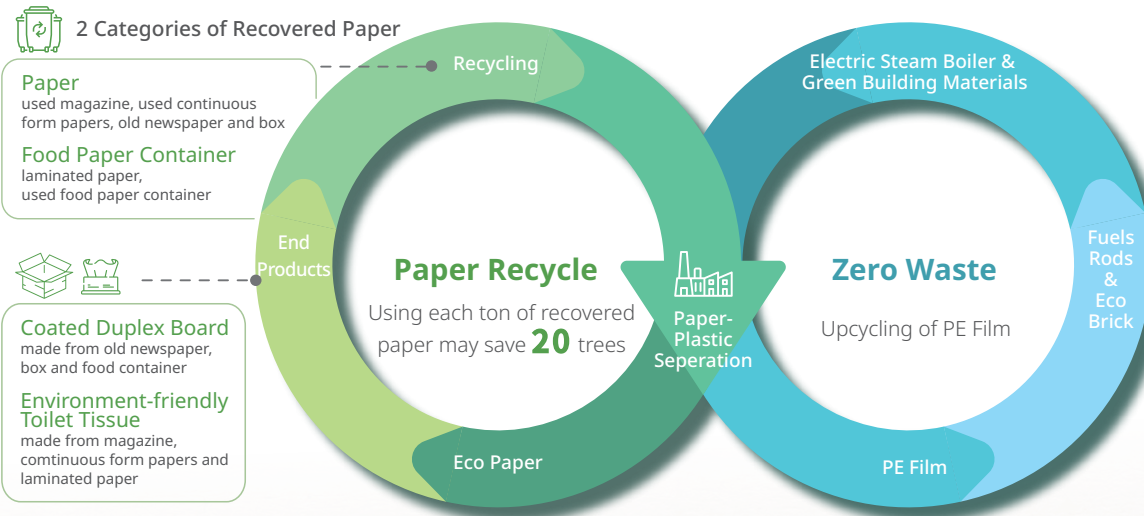
Implement the Total Circular Resource, Creating Waste Food Paper Containers to Respond to the Plastic-Reduction Policy

To tackle the problem of waste food paper container disposal, we also believe that it is responsible for papermakers' responsibility to engage in recycling waste



food paper containers. Therefore, we made advanced deployment by investing an "efficient film laminated paper treatment system" in 2018 to become the first company completely recycling food paper containers. In same year, started the "upgrading of recovered paper supply chain plan" and deepen the benefits of the circular economy. We supported over 167 recovered paper suppliers in Taiwan to upgrade. Reduced paper sludge by 50% and decreased the energy consumption by 10% by implementing source identification, and enhanced the profit and competitiveness of recovered paper supply chain. The plastic laminate is recycled into green fuel and eco-friendly building materials products. Pre-planned to help solve the growth of the take-out catering culture was driven by the epidemic and respond to the stop using plastic bottles policy in Taipei city in 2022 to realize benefits with a creative multi-win sustainability business model. With the goal of continuously deepening the recycling efficiency, the recycled bleached pulp line of Tayuan Mill, which will operate in 2023H1.

Create secondary forests and maximum environmental benefits

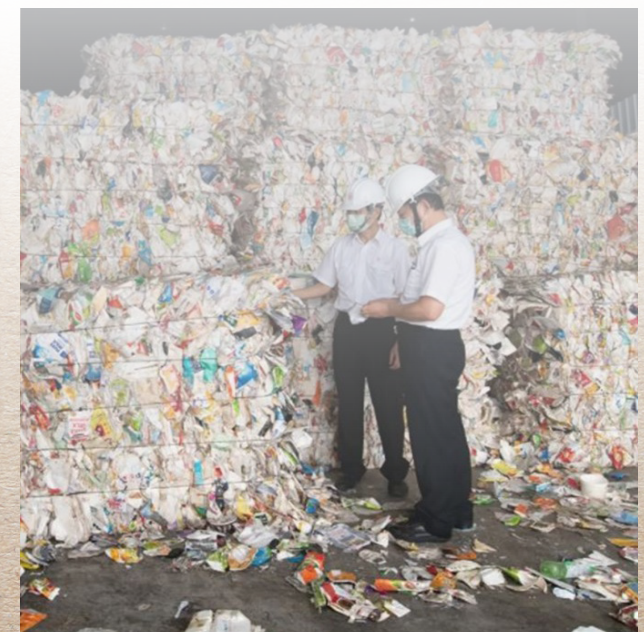


2022 Benefits



Note: 1 ton of food paper containers can produce 0.6 MT recovered paper, save 20 trees and reduce 5.8 tons of carbon emission.

Implement the total circular resource, creating waste food paper containers to respond to the plastic-reduction policy 《Taiwan Institute for Sustainable Energy (TAISE)》



Driving ESG Innovation and Value Addition

“ Research and development are the driving forces behind the continuous growth of CLC. Focusing on advanced technologies and enhancing R&D capabilities, the company also promotes proposal-based improvements and shares successful case studies to facilitate organizational benchmarking and learning. ”



Encouraging the employees to figure out the problems with the excellent cases management system, Brain-storming the ESG innovative cases

Driving operational efficiency with innovation, CLC began to implement activities including the improvement proposal system, QCC, and TPM in 1980 to focus on quality and service improvement. Further in 2008, we promoted the “Excellent Case Improvement Activity” to integrate the evaluation and reward mechanisms of the above management activities. In recent years, we have focused on ESG sustainability governance, and employees are encouraged to actively explore problems through the competition system to boost the healthy competition, enhance problem solving and innovation energy. Since 2021, we have also extended excellent case improvement management activities to overseas subsidiaries, encouraging group colleagues to continue to innovate and optimize.

Selected Process of ESG Excellent Case

Apr.	Aug.	Sep.-Oct.	Nov.	Dec.	-
Preparation	Preliminary Review	Application Review	Final Review	Results Presentation	Benchmark Learning
Topic selection: Innovation profit creation, quality, energy conservation, waste reduction, and equipment, processes improvement, monographical study	Each factory completes the preliminary review and submits excellent cases of A and B grades for application review	20~25% of premium and excellent cases for the final review	3-in-1 Evaluation <ul style="list-style-type: none"> Excellent case improvement Industrial waste reduction Second-class or higher awards proposals 	Presentation and commendation at the operation vision meeting and business review meeting	Top 3 excellent case improvement upload E-Learning platform
	≈ 1,000 PCS	≈ 200 PCS	52 PCS	10 PCS	

Goals

ESG Sustainability

Zero-Carbon Transformation

Technological Innovation

Process Improvement

Customer Satisfaction

Nearly 1,000 benchmark cases creating profit over NT\$370 million (NT\$700 million in 2021-2022)

There are nearly 1,000 cases in 2022. A total of 52 proposals entered the final, compared to 44 proposals in 2021 (+18% YoY), creating profit about NT\$334 million (+9.9% YoY). In recent 2 years creating profit over NT\$700 million to enhance the quality, energy conservation and carbon reduction, innovative service, and working efficiency.

Presenting the ESG excellent cases in public, Creating the organizational culture learning and sharing

We conduct excellent case sharing for the excellent cases through annual plant operation vision meeting every year. Through the CLC E-Learning platform and internal publications, we enhance the internal knowledge sharing and promotes benchmarking within the organization.

Feature Case	Talin Plant "Pallets and 5-Ply Plywood RFID Application Management System"
Problem	Promoted delivery in pallet to reduce workload and shorten the original loading and unloading time to enhance logistic efficiency.
Remedy	Integrated the plant access reading system and tag reading system into the management system Web with RFID to control pallet delivery flow and stock.
Results	<ul style="list-style-type: none"> Reduced pallet use significantly: 80 pcs → 20 pcs -300% Reduced 5-ply plywood consumption: 700 pcs → 200 pcs -250% Save labor and time and enhance shipping efficiency with delivery by pallet.
	 

2.2 Product Responsibility and Customer Service

Material Issues

Product Responsibility and Customer Service

Strategy

Based on the recyclability of paper products, implement green design and green production at different stages of product life-cycle to reduce environmental impact; maintain customer privacy; fulfill product and supplier responsibility.



Goals of 2030

- All products comply with international environmental protection regulation
- Introduce and develop new eco-materials to replace cardboard coating to reduce wax paper consumption, enhance paper surface cleanliness, and reduce pollution
- Promote risk control of hazardous substances to overseas companies
- Promote e-preventive measures of recurrence to overseas companies
- Customer Satisfaction: 88 marks
- Maintain sound partnership with customers for co-prosperity and mutual growth
- Adjusting the prepress and plate-making processes to reduce material waste
- Collaborating with the supply chain to promote waste reduction

Goals of 2023

- Product test results comply with regulatory requirements
- Optimize the production-marketing monitoring chain every year
- The overseas companies implement the e-Customer Complaint Recurrence Prevention Form
- Customer Satisfaction: 87 marks
- Adjusting the prepress and plate-making processes to reduce material waste
- Planning to promote the film inkjet printer
- Continue to keep simplify the positioning marks in the prepress and plate-making processes
- Promoting plastic container for waste reduction with the supply chain

Goals / Action Results of 2022

- Product test results comply with regulatory requirements
 - ➔ Acquired hazardous substance test reports and complied with the laws
 - ➔ Driving suppliers to implement hazardous substance testing reports, with 11 suppliers having already submitted
- Production-marketing monitoring chain every year
 - ➔ Completed ISO 9001 and FSC™ external audits
- The Containerboard Division and Household Products and Paperboard Division completed the impregnation of the e-Customer Complaint Recurrence Prevention Form
 - ➔ Completed and added the anomaly handling form additional function
- The overseas companies in Vietnam implement the e-Customer Complaint Recurrence Prevention Form
 - ➔ Binh Duong Mill has taken the lead and started in the end of 2022
- Promote the standardization project of Corrugated Container Plant
 - ➔ Promotion has been completed (domestically and internationally)
- Customer satisfaction survey: 87 marks
 - ➔ 86.6 marks, up by 0.1 marks. Not reaching the annual target was due to some toilet paper products not meeting customer quality requirements
- Fully electronic drafts for paperless operation
 - ➔ Reduce color printing 13,000-15,000 A4 sheets a year, YoY -1,000 sheets
- Simplification of positioning marks in the prepress and plate-making processes
 - ➔ Save 6% to 10% in labor hours and printing plate area
- Promoting plastic container for waste reduction with the supply chain
 - ➔ Reduced about 280-320 plastic drums, YoY -60 pieces

Quality is key to sustainable operations, and providing customers with the required products and services is our mission. We implemented the ISO 9001 quality management system (QMS) at all CLC plants and mills across the globe to maintain and make continual improvement to improve product quality and enhance customer satisfaction through total participation and the PDCA management cycle. In addition, we publicized the quality policy about the hazardous substances and raw material quality management in ESG Supplier Meeting.

Facing the challenges of the changing global economy and market, CLC accelerates the upgrading and transformation of product development and production management, integrates industry chain partners, and strives to recycle used products into the manufacturing process to form a complete product cycle. We have 4 paper mills, 7 box plants in Taiwan. Recovered paper and virgin pulp are the major materials for product at paper mills, while the corrugating base paper made by the paper mills is what box plants use to make corrugated box products.



Note: Taiwan Area, unit: 10,000 MT



Note: Taiwan Area, unit: 10,000 MT

In response to the sustainability trend, we have been using recycled paper as the main raw material for a long time to preserve forest resources and reduce carbon emissions. We also procure sustainably managed forest pulp, demonstrating our commitment to forest conservation. Although the supply was affected in 2022 due to extreme weather conditions and other factors due to the impact of the natural and man-made disaster, strike, conflagration, and Russia-Ukraine War, causing the reduction of the supply, the proportion of FSC™ pulp in the overall procurement of virgin wood pulp still reached 92.6%. Other achievements are as follows:

Recovered paper utilization rate

92.5%

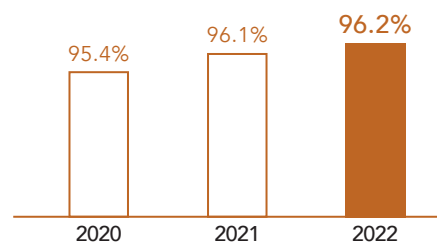
- We used about 1.572 million MT of recovered paper. Two-thirds of recovered paper was purchased locally from Taiwan to effectively promote paper recovery and recycling in Taiwan.

Recycled materials

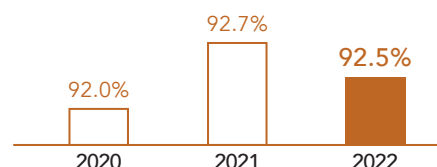
96.2%

- We used raw materials consumption totaled 1.699 million MT including domestic recovered paper of about 1.087 million MT, overseas recovered paper of about 0.485 million MT, virgin pulp of about 0.127 million MT, and other plant materials, such as starch and tapioca; and about 0.067 million MT of non-recycled materials, such as chemicals for papermaking.

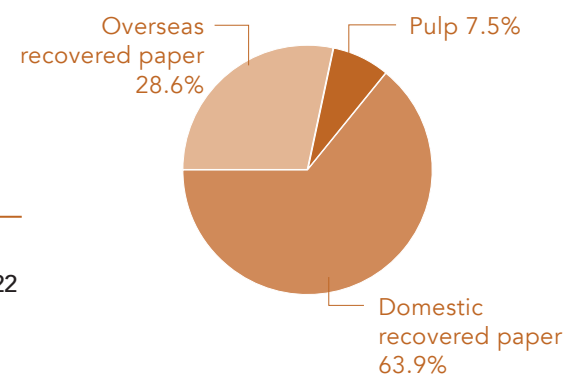
Proportion of recycled materials consumption in 2020-2022



Recycling rate of paper from 2020 to 2022



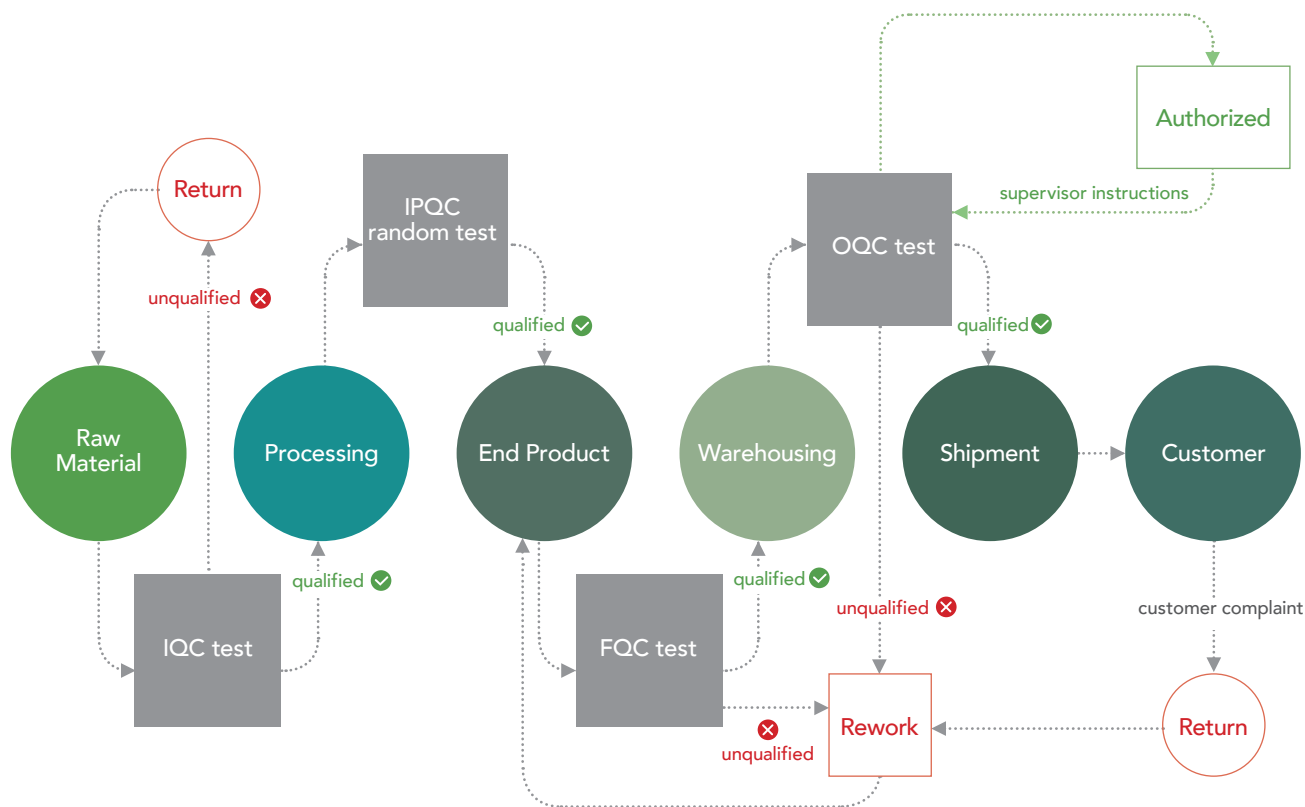
Proportion of materials consumption in 2022



Product Health and Safety

Industrial paper is CLC's major product, and we take product safety seriously. From raw materials procurement to production into finished product delivery, we have established well-planned management regulations. In raw materials managements, incoming quality control (IQC) personnels perform quantitative sampling inspection and adjust the sampling counts based on the conformity frequency. However, we still perform sampling inspection on inspection-exempted quality materials once a month. If nonconformities are found, the inspection frequency will be changed into inspection by lot. Self-quality management by production and shipping personnel is performed during production and shipping for real-time capture of the quality status at each stage. Full-time QC personnels inspect the quality of finished products shipping in and out of the warehouse according to the required frequency. Through the double control of on-site and QC personnel, we assure that qualified products in good quality are well delivered to customers.

Product Processing Quality Control Workflow



Inspection specifications of industrial paper

Every year we send products to the SGS laboratory to test for the content of hazardous substances according to the EU testing items and specifications, such as the EU's REACH, SVHC, and RoHS of the EU; Sony's Environment-related Substances to be Controlled (SS-00259); halogen content specifications; and the EU Standard EN 71-3 heavy metal safety requirements for toys. In 2022, CLC products passed all regulatory requirements. As the REACH (SVHC) testing items have increased from 16 to 224 items over the years (Added 5 items in 2022), in consideration of the inspection efficiency and customer demands, we adopted the Full Material Declaration (FMD) management-at-the-source model in 2021 to replace finished product inspection reports. The FMD better fits the internal control of hazardous substances. In 2022, the Quality Department established a Supplier Management Team to manage suppliers from the source of raw materials. They implemented guidelines for suppliers to regularly provide hazardous substance testing reports for raw materials, to ensure that the materials used in production prevented from harmful substances.

Annual Inspection of Hazardous Substances

TSCA	SONY (SS-00259)	Heavy Metal (EN71-3)
Halogen	RoHS	

*Note: For the testing reports, please refer to the [official website](#)

Inspection specifications of household paper

Chupeil Mill producing household papers implements the ISO 22000/HACCP management system to provide consumers with safe products. Products are also sent to impartial inspection agencies to test the total plate count, E. coli count, and migration of fluorescent whitening agents to ensure compliance with all legal requirements. Eco-friendly toilet tissue, paper towel from Chupeil Mill are tested for the content of the BPA to ensure consumer safety and worry-free, and the test result in 2022 is not detected.

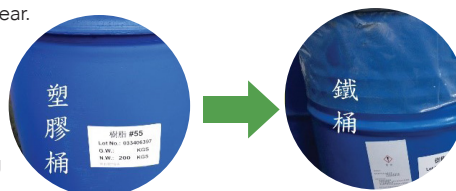
Package design and certification

The compressive strength and drop tests must be performed on package structure design to prevent products from damage during transportation. In addition, packaging is one of the items inspected by the Commodity Labeling Act, the graphic design drawings must be sent to the SGS for package label content review to meet the international product record standards, and the location and size of the FSC™ Mark on the package must also be validated by law.

Waste reduction and energy conservation from printing plate-making, enhancing efficiency by 6–10%

Environmental protection and waste reduction have been the focus of the printing service at box plants in recent years. After using electronic drafts for paperless operation for the drawings of the sales units and customers, the pre-printing team continuously reduced color printing up to 13,000–15,000 A4 sheets in 2022, reducing paper and ink consumption by 1,000 sheets over last year.

Additionally, film inkjet printers will be used in 2023 to continuously reduce the consumption of traditional chemical development film. Additionally, we are also committed to enhance operation efficiency, energy conservation, and carbon reduction. In 2022, 6–10% of labor, time, and printing area were reduced through the simplification of marking in the pre-printing and plate-making processes. In the future, we will continue to enhance operation efficiency.



Promoting plastic container reduction for zero waste with the supply chain

As major resin suppliers used to contain resin with plastic barrels, we needed to hire qualified contractors to dispose of such containers afterwards. Besides causing additional disposal expenses, those barrels are unable to be recycled or reused. After frequent communication and efforts, some suppliers began to replace plastic barrels with reusable metal barrels in 2021 to significantly reduce the disposal of plastic containers and the waste of resources. In 2022, a total of 280 to 320 plastic drums weighing 200 kg each were reduced, resulting in a decrease of approximately 60 plastic drums compared to the previous year. The company will continue to explore various waste reduction measures in collaboration with suppliers.

Product and Service Labeling

All household products produced and sold by our company have obtained the certification mark, and undergo annual inspections and approvals from the Bureau of Standards, Metrology and Inspection (BSMI). The quality and labeling of our products comply with the CNS standards. To enhance customer trust and confidence, some of our products provide QR codes for consumers to scan and view SGS testing reports. In 2022, there were no incidents of non-compliance with product specifications and labeling in our production and sales.



Safer with SGS Inspection

Industry-first

QR code for direct access to SGS inspection reports

Insisting on safety and quality, all children's board games and toys, such as the "Animal Adventure Memory Game," "Pinball Game," "Paper Studio DIY" by Paper Studio have been certified to pass the toy safety standards by the BSMI.

Protection of Customer Privacy

To ensure the security of customer data, we have established related mechanisms to protect and manage customer data, including strengthening and education on "customer data" and "information security" and request employee to uphold the non-disclosure agreement in business activities. There is no incident relating to information security has been reported, and no complaint about customer privacy infringement or customer data loss was reported in 2022.

“

Quality Policy: Total Participation, Quality Maintenance, Customer Satisfaction”



Customer Relationship

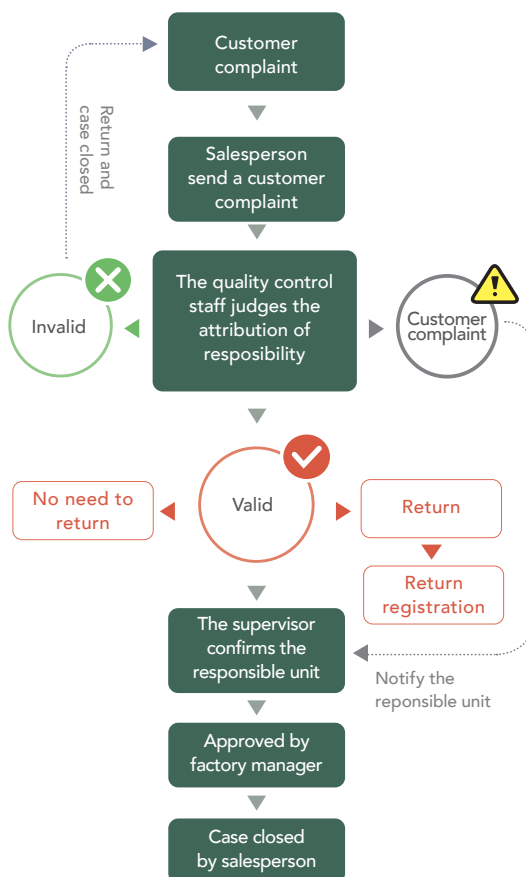
Valuing product quality and implementing environmental sustainability, the CLC factories at home and abroad regularly complete the ISO 9001 quality management system and FSC™ sustainable forestry verification, and also make improvements through the implementation of customer satisfaction surveys every year, and accelerate the introduction of digital management, committed to improving customer service. The Household Products Division has a nationwide customer service network where consumers can inquire about relevant questions through the official website, social media pages, and the AeSHOP online shopping platform. We also have a toll-free hotline (0800) dedicated to serving consumers, providing prompt responses to their needs.

To effectively settle customer complaints and handle product returns, we have established a well-planned management mechanism and customer complaint handling procedure for QC personnel and related staff to communicate with customers and determine and analyze the anomalies complained by customers. The production and related units will analyze and investigate the causes of anomalies, make feedback, and propose corrective and preventive action to prevent the recurrence of the same mistake. We have digitized the customer settlement process. Besides enhancing the handling efficiency of customer complaints, data and records are retained and managed electronically to enhance service quality.

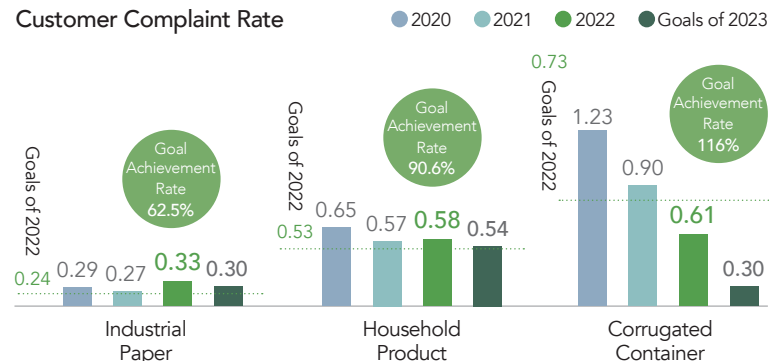
Taiwan's operating sites have fully implemented the electronic Quality Abnormality Report system. The Household Products Division has further established the Salesforce CRM customer relationship management platform in 2021, enabling real-time understanding of customer needs and relationship management to enhance customer satisfaction. The Vietnam paper mill was the first to launch the electronic implementation of paper quality abnormality reports by the end of 2022, and the rest sites in Vietnam will continue to implement it in 2023. To strengthen and stabilize the quality of paper products, the Paper Products Division, including Taiwan, China, and Vietnam, implemented a standardization project in 2022, focusing on machine standardization management to enhance the service and efficiency for customer. We conduct an annual customer satisfaction survey and has set a long-term goal of achieving a satisfaction score of 88 by 2030. In 2022, the customer satisfaction score was 86.6, increased by 0.1. The failure to reach the annual target was due to the non-compliance of some tissue paper products with customer quality requirements (already being improved).

Regarding customer complaint rates, there was a decrease in the complaint rate for paper products compared to the previous year. Compared to the 2022 targets, the achievement rates for complaint rates were 62.5% for industrial paper, 90.6% for household product, and 116% for corrugated container, with an average goal achievement rate of 98%.

Customer Complaints Handling Procedure



Customer Complaint Rate



*Note: Taiwan area; number of customer complaints / sales volume (10,000 MT or million m²)



*Note: Taiwan area

As CLC products have never been banned in any specific markets, no quality doubts or sale of controversial products have been reported. Promotional campaigns are implemented according to related domestic laws and regulations. Neither exaggeration nor falsification is allowed in publicity and marketing, and undue competition is prohibited to ensure safety for the public and balance of the market. In 2022, no violation of related laws and regulations and voluntary rules is found in product campaigns.

2.3 Digital Transformation

Material Issues

Digital transformation

Strategy

Fully promote digital transformation to enhance sales and production efficiency, improve customer service, and maximize energy efficiency.



Goals of

2030

- Enhance production efficiency through the best use of smart manufacturing.
- Realize green production with smart management.
- Support smart enterprise decision-making with digital tools.

Goals of

2023

- Continue to optimize the project outcomes in 2022
- Continue to construct phase III of Industry 4.0

Goals / Action Results of

2022

- Plan 5 smart paper projects and continue to promote intelligent production and sales
 - ➔ Complete 5 smart paper projects, includes Smart warehousing, Export and Self-Use Management System, Robotic Process Automation (RPA)

CLC: The first paper company in Taiwan to introduce intelligent production and sales and AI digital to win the competitiveness

To enhance operational competitiveness in the drastically changing global environment, besides constantly upgrading and reengineering hardware equipment and completing the ERP system as early as 2003 to enhance operational management efficiency. Starting from smart manufacturing, we independently completed the development of the e-cogeneration system in Houli Mill, the enterprise-wide e-procurement platform, and household product CRM management system during 2012-2017.

Subverting the tradition and moving towards intelligent innovation, CLC is the first paper company in Taiwan to introduce intelligent production and sales. By transforming the production management model, we have transformed from the reactive management in the past to the predictive management. Since 2019, we promoted "Smart Paper 4.0", and have invested more than billions of dollars in paper mills and box plants in Taiwan. Through S.M.A.R.T low-carbon smart paper, we developed high-efficient scale recycling technology to make CLC change into the eco-smart factory from traditional factory. By 2022, CLC has completed the promotion of 17 projects, including smart factories, smart steam and electricity, digital IPOC, Smart warehousing, Salesforce CRM customer management, etc., comprehensively improve quality and production and sales efficiency, and improve energy-saving and carbon-reduction benefits through digital transformation. Moreover, by promoting the Power BI interactive business intelligence visual analysis system, we can improve the decision-making efficiency and efficiency of executives, and grasp the business opportunities.



“

Build the intelligent system, with the IoT process, achieve fully automatic and intelligent integrated connection, improve production efficiency, product quality, quickly serve customers, and improve operational efficiency through an automated and visual integrated system.

”

Smart Papermaking 4.0

Strategy

Enhance Production Efficiency; Reduce Energy Consumption;
Realize Low-Carbon, Energy-Efficient, Green Production



Smart Manufacturing

The device adopts the IoT function: Through information integration, we can instantly control the machine status, ensure product quality, and use energy resources best.

➡ OSI smart management platform, digital IPQC, smart steam and electricity, data analysis of parking time of corrugator, and Robotic Process Automation (RPA)



Smart Services

Use real-time analysis technology to predict customer needs and provide customized services.

➡ Industrial Paper Sales Demand Prediction

➡ Salesforce CRM system

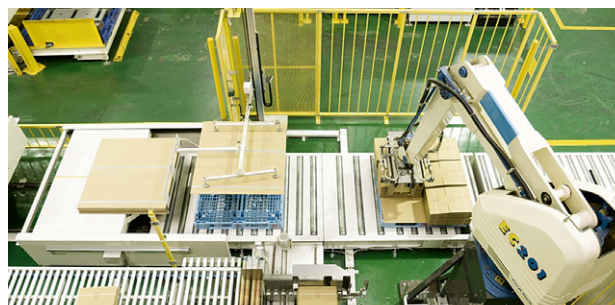
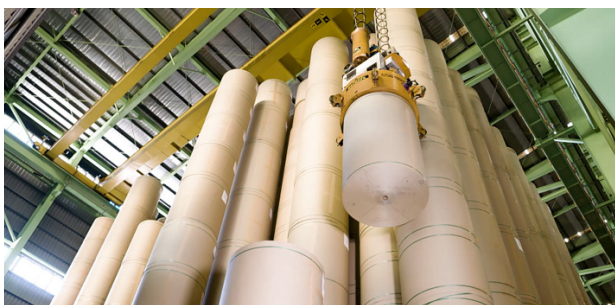
➡ Corrugated container sales APP, industrial paper demand forecast, and instant inventory check APP



Smart Logistics

Monitor and grasp the status of products from inventory warehousing, production to terminal shipment anytime and anywhere.

➡ Smart warehousing and logistics



CLC Digital Management Process

All digital technologies (AI, big data, cloud, IoT, 5G) are combined to assist with production (knowhow inheritance), implement monitoring and management (preventive warning), and engage in process optimization and performance enhancement.

- Improve the total energy efficiency of the power system, and connect CEMS for real-time monitoring and early warning
- Optimize paper machine operation and process optimization to improve the overall equipment effectiveness
- Equipment management, paper machine breakage prediction monitoring, equipment operation health monitoring, system active exception elimination
- Integrate marketing, production, logistics to smart production-marketing, enhance shipping efficiency and customer satisfaction

Highlights of 2022

Intelligent warehousing for Panchiao Plant

Project Workflow

1. Locate on-queue shipments through RFID.
2. Help drivers quickly locate shipments.
3. Enhance shipping efficiency and avoid warehouse congestion.

Purposes and benefits

1. Reduced shipment locating time by 80%.
2. Annual benefit up to NT\$2.236 million.

Future targets

Promote to other plants and mills and integrate with other applications to upgrade traditional box plant warehousing into intelligent warehousing.

Robotic Process Automation (RPA) (MOF e-Invoice Platform)

Project Workflow

1. RPA batch implementation of repeated action.
2. Write back results to the internal system.
3. User inquiry/real-time reminder.

Purposes and benefits

1. Save >90% of inquiry and verification time.
2. Reduce 70% of invoice problems.

Future targets

1. Analysis and forecast of the trend of open material prices.
2. Consumer behavior analysis.

Houli Mill BM10 Smart Manufacturing

Project Workflow

1. Integrate IoT with AI big data.
2. Trace and analyze machine and equipment for integration.
3. Optimal data for optimization.
4. Capture real-time protection status, energy consumption, and production.
5. Early detection and appropriate adjustment of abnormal changes.

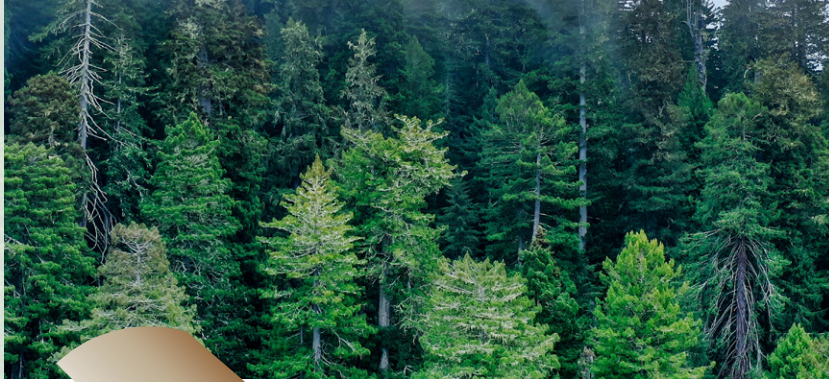
Purposes and benefits

1. Paper machine performance management and market demand prediction.
2. Abnormal energy consumption management.
3. Process operation optimization.
4. Equipment operation condition monitoring, equipment predictive maintenance control, equipment and instrument management control.
5. Paper machine feed disruption prediction and monitoring.
6. **Reduced unexpected stop loss by 6 hours and prevented mass production loss by up to 360MT in 2022 for using IoT-driven motor vibration detection.**

Future targets

1. Adjust refiner automatic control.
2. Optimize preventive maintenance through online vibration monitoring.
3. Cause analysis and preventive control of paper machine feed disruption and paper scar.





Sustainable Supply Chain

Implement green supply chain management, secure competitive material sources, constantly encourage and guide suppliers achieve sustainable development, transformation, and upgrading.

3.1 Supply Chain Management

3.2 Green Procurement

- Organized the 3rd CLC Supplier ESG Conference to create sustainable supply chain

-
- Recovered Paper Supply Chain Upgrading Program

Guided **10** recycling suppliers to complete transformation and upgrading. (Accumulated)

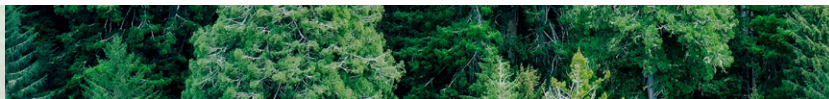
Cared **485** frontline individual waste collectors. (Accumulated)

-
- Completed **50%** of major suppliers on-site evaluation. (Accumulated: 156 suppliers)

-
- **424** major suppliers signed "Supplier Code of Conduct"

-
- Green procurement ratio at **47.1% +6%** YoY

10 factories won Excellence in Green Procurement by the EPA



3.1 Supply Chain Management

Material Issues

Supply Chain Management

Strategy

Enforce sustainable supply chain management and ensure competitive material sources and service quality.



Goals of 2030

- Disperse supply chain sources, and the proportion of single suppliers does not exceed 50%
- Local procurement ratio up to 75%
- Higher quantity of local procurement than that of competitors
- Commend outstanding green suppliers through the supplier conference and related platforms
- On-site supplier evaluation: 100%

Goals of 2023

- Implement ESG evaluation on major suppliers
- Perform supplier ESG risk assessment and management
- Local procurement ratio up to 68%
- Organize major supplier conferences and 2 supplier HSE education/training activities
- On-site supplier evaluation: 68%

Goals / Action Results of 2022

- Implement ESG evaluation on major suppliers
→ All completed
- Perform supplier ESG risk assessment and management
→ Advanced supplier evaluation data and enlarge ESG check point
- Local procurement ratio up to 65%
→ Ratio at 66.4%
- Organize major supplier conferences and 2 supplier HSE education/training activities, keep promoting and advocating the sustainable and OH&S concept
→ Organized online ESG Conference for 3 consecutive years, and commended 17 excellent suppliers in 2022
→ Organized 8 education and training activities for 125 suppliers
→ First established "Industrial Paper Carbon Neutrality Alliance" in the paper industry through collaborating with the up- and down-stream partners to aim to carbon reduction in the industrial chain
- On-site supplier evaluation: another 68
→ Completed supplier evaluation and accumulated to 156 suppliers (Achievement rate = 50%)

Building Sustainable Ecosystem, Pursuing Common Good of Industry

Suppliers are the important partners to CLC's growth and burgeoning. Through management approaches, the evaluation mechanism, and guidance, we guide the up- and down-stream industrial chain to make continual improvement. Through the CLC e-procurement platform, we establish a stable supply chain ecosystem and team up with Taiwanese and global suppliers to create job opportunities and promote economic growth. To ensure the supply chain's ESG capability, we also hold supplier conference to facilitate conversation. We organized ESG Conference for three consecutive years and shared the trend and development of ESG online. Focusing on climate adaption and sustainable strategies, we promise to build up the sustainable ecosystem through circulation economy, employee development, and social inclusion.

Procurement Policy and Risk Management

We uphold a rigid, fair, and open transaction principle; abide by the laws and social norms; actively cultivate excellent suppliers, contractors, and alternative sources; conduct investigations and evaluations according to the related evaluation regulations, and establish the supplier graded management system to ensure the quality, delivery time, price, and after-sales service of supply sources. However, investigation will be

conducted when suppliers have made significant changes. All CLC suppliers are requested to sign and constantly publicize the "Integrity and Non-Disclosure Agreement". To follow the global trend and industry development, CLC renamed the agreement to "Supplier Code of Conduct" in 2021, reinforcing the health & safety, recruitment conditions, environment and energy conservation, energy efficiency, banned substances to enhance supply risk management into the agreement and asked all the major suppliers to sign it. Major suppliers signed the agreement and all new suppliers in 2022 are also required to sign the agreement. In 2022, we maintained cooperation with 424 major suppliers (annual purchase amount over NT\$10 million), with purchases mainly including raw materials, manufacturing, energy, chemicals, equipment, construction projects, and so on.

Raw materials
248 Suppliers

Pulp: 10
Imported recovered paper: 35
Domestic recovered paper: 167
Chemicals: 36

Manufacturing
106 Suppliers

Energy and fuel: 14
Equipment and accessories: 19
Contractors: 73

Others
70 Suppliers

Materials: 25
Transportations: 8
Others: 37

Leading the Whole Industry to Hold the ESG Supplier Conference ahead of the Competitors Expanding Sustainability Competitiveness with Key Suppliers

Emphasizing Scale for Good! Driving common good with the industry's capacity. As a leading paper company, we actively guide supply chain partners to engage with ESG through the continual improvement of low-carbon products, application innovation, responsible production, employee development, and social inclusion. Additionally, through practical supply chain management, including establishing standard operating procedures (SOPs), evaluation mechanisms, and guidance, we aim at building a supply chain ecosystem for sustainable operations.

Taking a head start in the industry, we held the Supplier ESG Conference since 2020 to commend 32 suppliers with outstanding ESG performance (accumulated) and share industry trends, strategy of emission reduction and ESG regulations with them, and thereby build a sustainable ecosystem for co-existence and co-prosperity with over 300 key suppliers. We held the Supplier ESG Conference online to offline with the digital resource to let the industry sustainable transformation never stop due to the Covid-19. At the 3rd 2022 CLC Supplier ESG Conference, we focused on three sustainability issues: "climate change", "low-carbon products", and "information security". Apart from inviting suppliers to share their experience, we also planned the third-party "information security risk assessment service" to help suppliers quickly understand the information security risks, hoping to achieve information security joint defense in the supply chain.

Establishing Taiwan's First Carbon Neutrality Alliance in Industry, in Collaboration with Supply Chain Partners to Implement the Carbon Reduction

To support IDB's "getting seniors to help juniors" policy, CLC established Taiwan's first Carbon Neutrality Alliance in industry in 2022. We will lead the whole industry and exert the leading influence, in collaboration with upstream and downstream industry partners to implement the carbon reduction transformation together.



Director, CLC Procurement Department
Chun-Long Jian

"To become the leading corporation, we further set the green procurement amount at 50% and local purchasing amount at 75% as our ESG goals for 2030. It is our responsibility to optimize various ESG aspects: low-carbon papermaking and recycling circulation to expand the sustainability competitiveness."

Supply Chain Management Policy

Fulfillment of corporate social responsibility, Creation of a friendly workplace, Enhancement of ESH management

- ✓ Improve friendly workplaces with the CSR benchmark enterprise as the goal and make progress together with the sustainable supply chain.
- ✓ Uphold "Caring for Life, Utilizing Resources Wisely, and Contributing to Society" with the sustainable corporate development as the core philosophy of the Company.
- ✓ Encourage suppliers to fulfill their corporate social responsibility, promote CSR internally and externally, and compile CSR reports.
- ✓ Enhance the ESH requirements of the contractors and adhere to industrial safety and discipline properly.
- Create green recycled economy, Emphasize sorting and recycling, Grasp ecofriendly business opportunities
- ✓ Work with quality and chemical research departments to develop and procure environment-friendly raw material substitutes.
- ✓ Procure quality recovered paper that contains less waste to lower the operating and environmental costs at every link of the supply chain.
- ✓ Implement sorting and management of recovered paper and make good use of recycled resources.
- Optimize green procurement, Reduce impact on the environment, Fulfill the responsibility as a citizen of the Earth
- ✓ Assist recyclers in smoothing the application for recycled resources through guidance or provision of "economic incentives" to create a win-win situation.
- ✓ Work with associations, governments, public welfare organizations, and supply chains of recyclers to promote correct sorting and recycling approaches to lower social and corporate disposal costs.
- ✓ Procure the products with the Green Mark in priority to reduce the impact on the environment.
- Pay close attention to market development, Implement supply chain management, Take more flexible procurement strategies
- ✓ Pay heed to international trends and take actions to address the impact of the geographical relation, change of tariff duties, war, natural disaster, and epidemic as early as possible.
- ✓ Exchange information on a regular basis, adapt to the global deployment of the Group, and share and understand the market development of important material sources.
- ✓ Investigate all potential material sources transparently and openly and strive for stable sources of reasonably priced raw materials.
- ✓ Perform joint procurement of important domestic and overseas raw materials for the Group to upgrade its competitiveness.

Building the Supplier Evaluation Mechanism



New Supplier Cooperation



Existing Suppliers Evaluation



Sustainable Supply Chain Development

New Suppliers Development

CLC developed "Supplier evaluation regulations" to ensure the equipment, service and product quality, delivery time, flexibility and price could meet the procurement and price policy of company. 100% of new suppliers in 2022 completed the environment and social evaluation.

Suppliers Evaluation

Since 2022, as the society keeps thinking highly of climate change and ESG sustainable development, CLC enhanced the suppliers evaluation sheet and added the "Climate Action" item. The evaluation expanded to 9 dimensions. We encouraged to develop the ESG sustainable strategies and goals to boost the sustainable energy.

Annual Suppliers Evaluation in 9 dimensions (including Climate Action)

To realize the sustainable supply chain ecosystem with partners together, we evaluate suppliers periodically according to the ISO procurement SOPs. Each year the procurement, technology, and requisition units will form a task force to comprehensively evaluate all suppliers having business with CLC to rate suppliers in four grades: Excellent, A, B, and C in terms of materials quality, service and coordination, environmental safety performance, delivery time cooperation, price, green supply, and ESG information disclosure. We also draw up management strategies for each grade to ensure the basic quality and supply capacity of suppliers.

9 dimensions



Corporate Governance



Production Process



Supply Chain Management



Customer Service



Environment Protection



Quality System Requirement



Climate Action



Health and Safety



Corporate Social Responsibility

Grades	Score Standard	Management Ways
Excellent	TTL \geq 85	Priority procurement.
A	84~75	Encouragement and guidance to reach excellence.
B	74~65	Enhanced supervision of evaluation items.
C	64 \geq TTL	Disqualification, cessation of procurement.

The coverage rate of major supplier On-site Evaluation will reach 100% in 2030

In 2020, we began to perform "on-site evaluation" on suppliers of important materials highly connected to our products and processes ahead of the industry to optimize their risk management in the following four major aspects: R&D and process, environmental safety, procurement, and quality assurance, hoping to keep up with the industrial trends and meet our specifications. We also include 10% more suppliers for evaluation coverage ratio each year to achieve **evaluation on all important suppliers by 2030**.

In 2022, we completed on-site evaluation of 68 suppliers to a total of 156 suppliers (50%) over the past three years. Although physical evaluation was reduced on suppliers because of the pandemic, the 50% target by 2030 was achieved. The outcomes of the 2022 evaluation included 59 excellent suppliers, 9 grade A suppliers, and no grade B & C suppliers. To expand the sustainable capacity of the supply chain, we will continue to plan and implement on-site audit each year and keep optimizing the evaluation indicators with reference to the industry's status and actual supplier performance. We will also provide guidance for suppliers with lower grades to promote sustainable operations and management, and human rights and labor practical experience.

Target

311 major suppliers of important materials highly connected to our products and processes.

Goal

Achieve On-Site evaluation on all important suppliers by 2030

Annual Results of Suppliers On-Site Evaluation

	2021	2022	2025 Goal	2030 Goal
Number of evaluated suppliers	42 (Goal: 57)	68 (Goal: 68)	31	31
Accumulated evaluated suppliers	88	156	264	311
Evaluation coverage ratio of major suppliers	28%	50%	85%	100%

Suppliers On-site Evaluation-Annual Evaluation Results

	Excellent	A	B	C	Number of evaluated suppliers
2020	28	8	8	2	46
2021	30	11	1	0	42
2022	59	9	0	0	68

Start the Evaluation and Commendation of Outstanding Suppliers, Common Good with 32 Supply Chain Partners in Recent 2 Years

In 2021 we organized the 1st Outstanding Supplier Selection. After selecting suppliers with outstanding performance based on the annual evaluation, the list of outstanding suppliers of the year was determined through the preliminary, semi-final, and final evaluations. We selected the supply chain partners which performed well in "Responsible Production", "Energy Conservation and Carbon Reduction", "Green Procurement", "Employee Caring" indicators. 32 Winners were commended at the annual supplier ESG conference in recent 2 years (2021-2022). In the future, we will constantly adjust the evaluation mechanism through rolling reviews to encourage the supply chain partners to aim at a better future.



2022 Outstanding Suppliers

Raw Materials	傳金、彰成環保、江北紙業、利通開發、士先、台灣荒川、三鑫化工、久聯化學、台灣索理思、利洲實業
General Material	聯實塑膠、隆福行
Constructions	艾波比
Contractors	力得機械
Service	
Equipment and Accessories	裕力機械、裕恒機械、三太造機廠

Four Indicators of Evaluation



Responsible Production



Green Procurement



Energy Conservation and Carbon Reduction



Responsible Production

Suppliers Orientation

To promote green procurement and reach the HSE consensus in supply chain partners, we actively arrange related education and training for suppliers. In 2022, we organized 8 sessions with the participation of 125 suppliers.

CLC's Suppliers/Contractors ESH Management Guidance:

Safety First

To ensure the safety of contractors and employees, we request contractors to follow the instructions given in the Contractor Work Safety Meeting Minutes, Work HSE Management Commitment, and Safety Work Permit. In addition, we arrange education and training on ESH hazard communication and inform them of the entry notices before their entry to a CLC facility. We also requested contractors to buy accident insurance with a coverage of NT\$5 million.

Product Regulatory Compliance

To ensure products comply with the customer and international legal requirements, raw material suppliers are requested to submit the related inspection and test reports to ensure that their materials do not contain RoHS materials. We also conduct random audits and request them to make immediate corrections for defects.

Energy Efficiency First

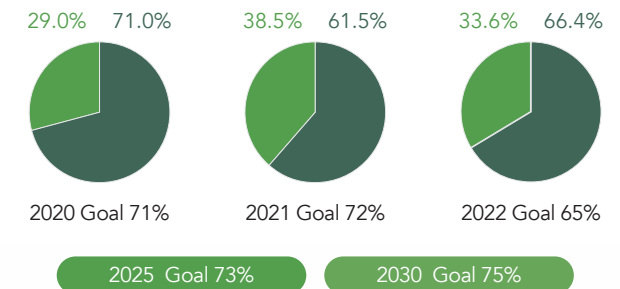
When purchasing energy services, products, and designs that may impact energy uses, we explicitly inform suppliers of our major energy-using equipment, and prioritize energy efficiency as one of our major considerations.

Support for Local Procurement (Local Supplier Ratio was 83.3%)

To pursue the stability and localization of the supply chain, we prioritize the use of Taiwan local suppliers and **set the ratio of local procurement at 75%** as mid- and long-term goal. Besides shortening the delivery time and reducing transportation risk, we can also benefit local enterprises and thrive domestic economic development. We take rolling adjustment for managing the local suppliers and the amount of procurement. The local supplier ratio was 83.3% and the amount of procurement decreased by 2.7% vs LY. , for upgrading the equipment, and suppliers of advanced overseas eco-friendly equipment joined. However, impacted by COVID-19 and shortage of sea shipping container, the price of raw materials rose dramatically, driving the amount of overseas procurement increased significantly recent 2 years. As a result, CLC take rolling adjustment for the goals, the local procurement ratio was 66.4% and increased by 4.9% vs LY to reach the ratio of local procurement at 75% in 2030.

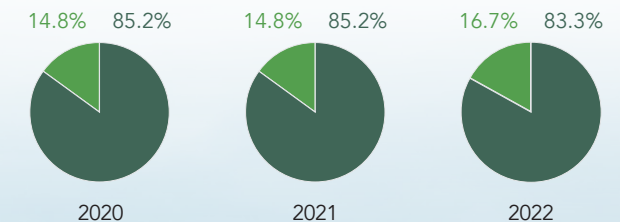
The Ratio of Local Procurement Amount

● Taiwan ● Overseas



The Ratio of Domestic and Overseas Suppliers

● Taiwan ● Overseas



Note: Overseas Suppliers Ratio Calculation: (Number of purchasers/ number of major suppliers)*100%

3.2 Green Procurement

Material Issues

Green Procurement

Strategy

Toward low-carbon and green procurement and build a green, sustainable supply chain.



Goals of 2030

- Implement procurement projects relating to green procurement and purchase products and equipment certified by the Energy Label and the Green Mark. Green procurement ratio at 50%
- All mills/plants pass the Excellence in Green Procurement of local governments
- Recovered paper utilization rate of industrial paper >97%
- Establish an industrial ecosystem chain to achieve "zero waste" through full-scale recovery at up- and down-stream
- Implement sustainable forest stewardship and practice ecological conservation. FSC™ pulp ratio at 100%
- Full use of FSC™ products
- Recovered paper supplier transformation, increasing multiple recycled material sources

Goals of 2023

- Green procurement ratio at 43%
- Recovered paper utilization rate of industrial paper >97%
- Strengthen recovered paper sorting and quality and reduce impurity rate
- FSC™ pulp ratio >98%
- Complete the guidance of 2 recovered paper suppliers to upgrade

Goals / Action Results of 2022

- Green procurement ratio at 42%
 - ➔ Ratio at 47.1%, +6% YoY
 - ➔ 10 factories won Excellence in Green Procurement by the EPA
- Recovered paper utilization rate of industrial paper > 97%
 - ➔ Recovered paper utilization up to 1.572 million MT, recovered paper utilization rate of industrial paper at 97.6% (+0.2%)
- Strengthen recovered paper sorting and quality.
 - ➔ Add 3 waste food paper container suppliers, with a total of 51 so far
- FSC™ pulp ratio > 98%
 - ➔ Ratio at 92.6%, due to the impact of the strike, conflagration, and Russia-Ukraine War, causing the reduction of the supply
- Complete the guidance of 2 recovered paper suppliers to upgrade.
 - ➔ Guided 2 suppliers in 2022 and accumulated to 10 suppliers so far. Recycling quality and volume both raised up.
 - ➔ Cared 485 front-line waste collectors (Accumulated)

3.1 Supply Chain Management

3.2 Green Procurement

Promoting Green Procurement, the Amount of Green Procurement and Reached NT\$9.17B

To support national policies, connect with international trends, and practice SDGs12: "Promote the green economy, ensure sustainable consumption and production patterns", we actively implement green procurement according to the CLC's green procurement related SOPs to actively prioritize the purchase of raw materials, plant facilities, and office supplies certified by the Green Mark, Energy Label, and FSC™ to reduce environmental impact.



In 2022, due to the bad economic condition and the breakdown of the Automated Storage and Retrieval System(ASRS), causing the production, we used 1.572 million MT of recovered paper, with the utilization rate up to 92.5% (in terms of industrial paper was up to 97.6%), which both reached the target. FSC™ annual procurement ratio reached 92.6% but didn't reach the 98% target, due to the impact of the strike, conflagration and Russia-Ukraine War, causing the reduction of the supply. To actively connect to SDGs 15 and show the ambition of pursuing biodiversity, we have set the target FSC™ pulp ratio at 100% in 2030.

To achieve the circulation and waste reduction, CLC set the target ratio of green procurement at 50% in 2030 and continuously to increase the amount of green procurement and reached NT\$9.17B in 2022 (47.1% of total procurement, +6% YoY). We maintained leading green procurement performance among local cooperation and 10 factories were awarded Excellence in Green Procurement by the EPA and outstanding green procurement certification by local governments(Hsinchu mill).

Responsible Sustainability Procurement Policy

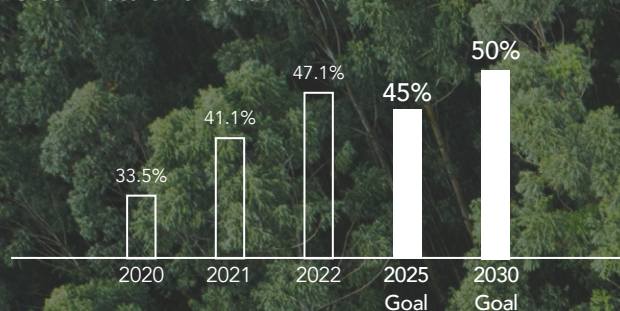
No Conflict Minerals

To avoid using conflict minerals acquired from illegal means is what the CLC does to realize the ESG in human rights protection and environment protection for a sustainable supply chain. We hereby guarantee that all CLC industrial paper and corrugated boxes do not use conflict minerals including tin, tantalum, tungsten, and gold from the Congo Republic and nearby countries and regions in the production process. Additionally, CLC let the suppliers understand the serious social and environmental issues such as human rights violations, armed conflicts, and international disputes caused by the mining and trade of metal minerals, and the duty they need to fulfill in the supply chain. We commit to non-conflict procurement, and continue to pay attention to the mineral management requirements of international organizations, and communicate with the supply chain in real time.

Substance restriction

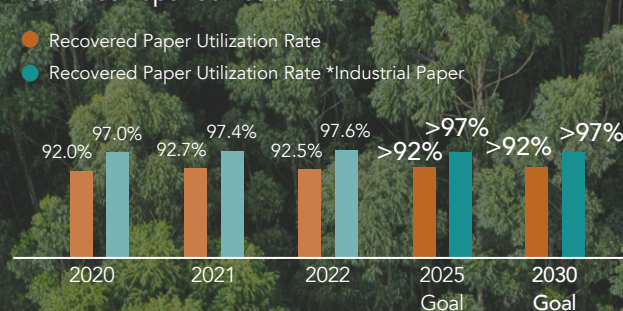
To ensure sustainable procurement of the supply chain and conformity to the international restrictions on hazardous substances of products, besides establishing the Hazardous Substances Inspection Instructions, we began to implement the full material disclosure (FMD) in 2021 to periodically request suppliers to provide the inspection reports and declarations of hazardous substances and strictly request business units to comply with the substance restrictions for materials, finished products, and new materials.

Green Procurement Ratio

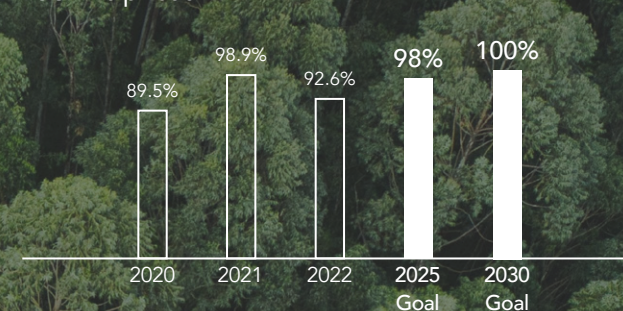


*Note: After 2020: CLC's total amount of green procurement declared to the EPA / total amount of procurement *100%

Recovered Paper Utilization Rate



FSC™ Pulp Ratio



"Fostering the upgrading and transformation of recovered paper supply chain, checking the source of recycled materials from the source, and optimizing the recycling effect in one continuous line."



Prospecting the Social Source Classification Problem, Implementing Corporate Recycling Capacity to Expand the Positive Influence

CLC recycled domestic recovered paper with the largest scale in Taiwan, we put the circular economy as an important corporate development target. However, recovered paper in Taiwan usually mixes with 10-13% of household waste (e.g. plastics, hemp ropes, and waste food paper containers) to deal with people not implementing the correct recycling classification. It influenced the recycling effects and increased the energy consumption problem. Since 2018, CLC has guided 144 recycling companies, we enhance the local recovered paper quality in line with the international standard and the competitiveness of supply chain from the sound source recycling system. In addition, the amount of waste food paper container suppliers which increase to a total of 51 form the local purchase and recovery supply chain ecosystem.

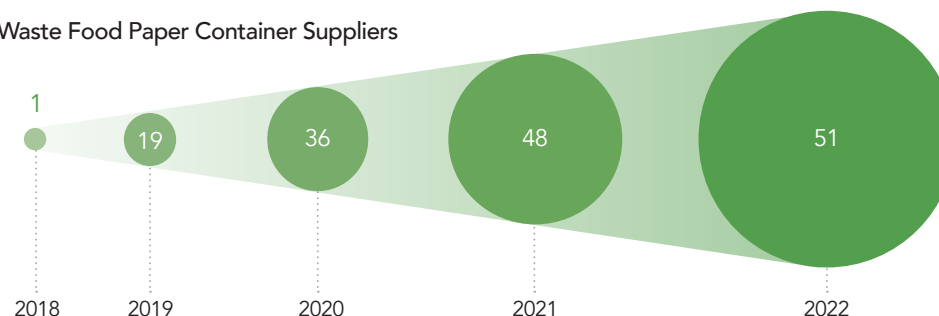


Upgrading and Transformation of Recovered Paper Supply Chain Plan: Reducing Paper Sludge by 50%, Decreasing the Energy Consumption by 10%

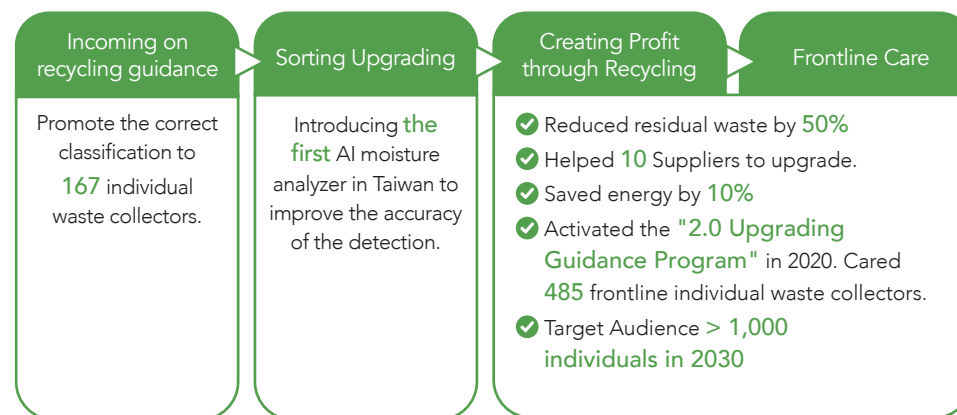
Since 2018, CLC has targeted to support over 2 supplies to upgrade to reduce impurities and waste from the source, and made the revision of procurement guidance for recovered paper, introduced the first "Recycled Paper Moisture Analyzer" in Taiwan and e-platform assistant. We planned three stages of "counseling period", "observation period" and "replacement period" for 167 recovered paper suppliers in Taiwan to implement source identification.

In 2022, we successfully guided 10 focused recovered paper suppliers to implement transformation to reduce paper sludge by 50% with innovative process technology. Meanwhile, it improved the recycling efficiency, and the energy saving during the process reached 10%. More importantly, it enhanced the profit and competitiveness of recovered paper suppliers.

Waste Food Paper Container Suppliers



Activating Paper Supply Chain Upgrading Program in 2018, Building Sustainable Ecosystem by Industry Capacity





Environment

Total participation, valuing resource, and environmental protection, toward a cleaner, sustainable circular business model, maximizing energy and resource efficiency, and mitigating environmental impact.

4.1 Action for Climate Change

4.2 Energy Management

4.3 Water Management

4.4 Air Quality Management

4.5 Waste to Resource

4.6 Biodiversity

■ Recycled **157.2** million MT of recovered paper,
92.5% recovered paper utilization rate

■ **436** energy conservation projects to save electricity by **92.01**
GWh (2013-2022)

■ **95.6%** Waste-to-resource ratio
10.32% Alternative fuel ratio, replacing **57,500** MT coal

■ NOx, SOx continue to reduced
Improve air quality

■ Became the first papermaker in Taiwan, first replied to CDP climate change questionnaire and acquired "A-" Leadership Level

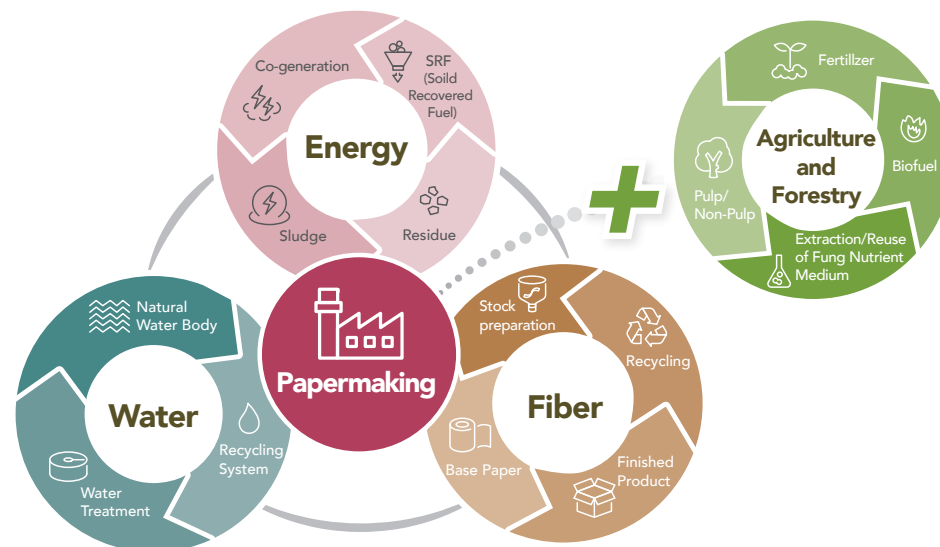
■ Leading the industry in Vietnam, CLC Binh Duong Mill obtained the ISO 14064-1 certificate

CLC Resource for Total Circulation

Enhance the High Value Biofuel and the Application of Carbon Sink

Implementing sustainable business operations and abiding by laws and regulations related environmental protection, the Company continues to increase environmental protection investment and expenditures. Through process improvement and promotion of the integrated application of energy and resources, the productivity and efficiency of resources are improved, while reducing the impact of the production process on the environment.

CLC actively promote low-carbon smart paper. Since the establishment, CLC improved the overall efficiency of the three major resources of products, energy and water with large-scale recycling technology and set short-, medium- and long-term goals to continue to improve. In 2022, we recycled 40% of recovered paper from Taiwan at an annual recovered paper utilization rate (industrial paper) of up to 97.6%, with an overall waste-to-resource ratio of up to 95.6% and water recycling rate of up to 96.3% to reduce carbon for Taiwan of over 9.1 million MT each year with the largest scale of waste recycling in Taiwan. Through the recycling of resources, we provide green products and low carbon package which could help reduce carbon footprint.



Product recycling

Goals of 2030

Recovered paper utilization rate **97%**
(industrial paper)

The paper industry is the most environmentally friendly industrial chain. First, the industrial paper mill utilizes recovered paper to produce industrial paper which is manufactured into a carton by a container box plant. After that, the carton is used for packaging and shipping purposes. It is then recycled via the recycling system and used by the paper mill again. This is the process forming the cradle-to-cradle cycle.

Energy recycling

Goals of 2030

Alternative fuel ratio **20%**
Waste-to-resource ratio **96%**

Committed to energy integration and application in order to improve energy efficiency, continue to invest in cogeneration of steam-electricity, develop wind, solar power, biogas and biomass power generation, promote the recycling of process residual materials and increase the ratio of alternative fuels. Through cross-industry cooperation, the fly/bottom ash will be reused as the admixture of CLSM and cement material.

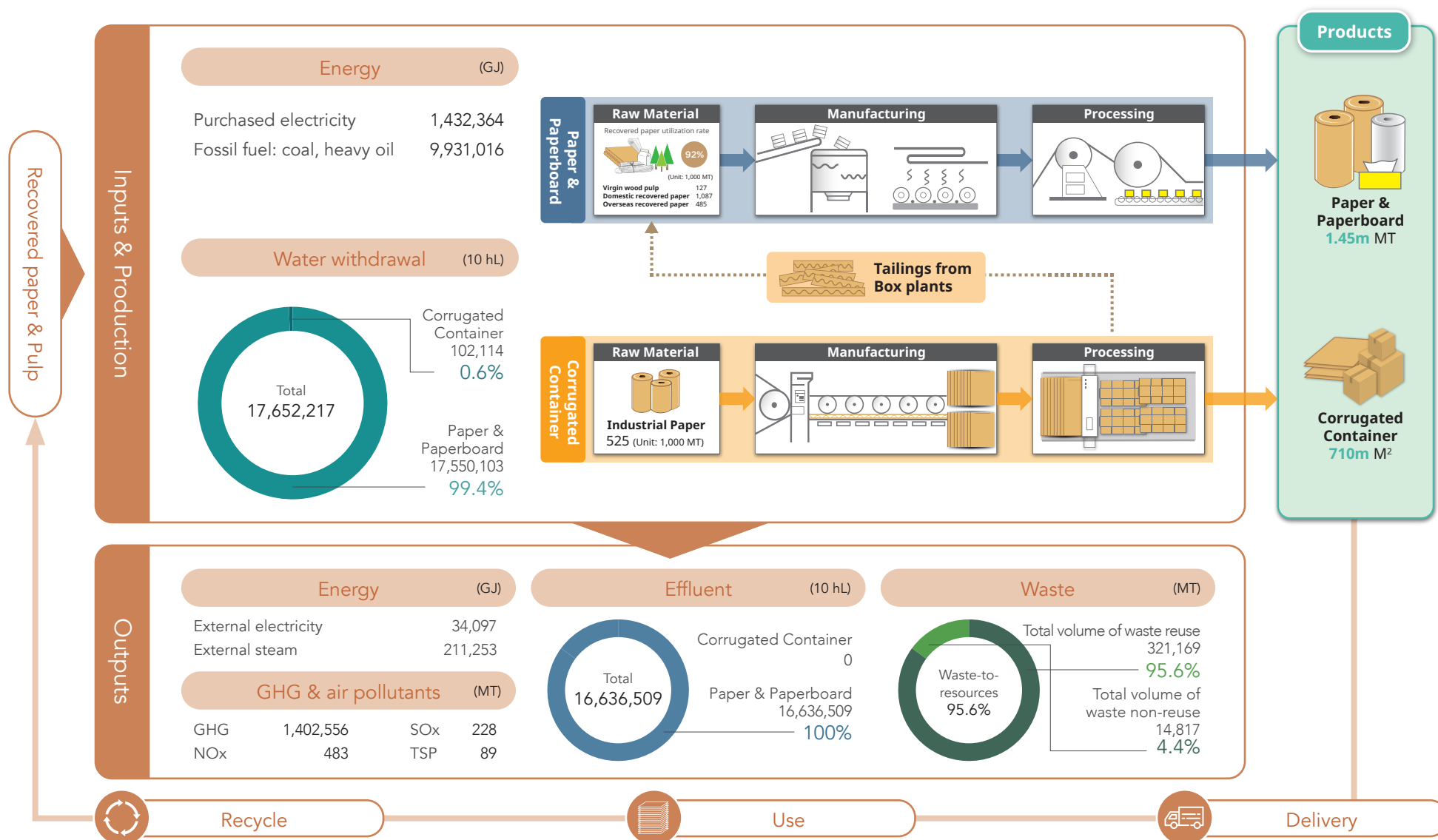
Water recycling

Goals of 2030

Unit product water consumption **-1% yearly**
(Containerboard Division)

With PDCA management, cross-factory communication, implementation of process water saving and water use classification management, we improve production water reuse efficiency. The safe and compliant effluent provides stable water sources such as streams and wetlands, nurtures biodiversity, and sequesters carbon to delay the greenhouse impact.

2022 Raw Material Flow Chart



Note: Taiwan Area

4.1 Action for Climate Change

Material Issues

Action for Climate Change

Strategy

Plan four scientific carbon reduction pathways: enhancement of energy efficiency, development of renewable energy, intensification of circular, low-carbon fuels, and innovation and application of negative carbon emission technologies



Goals of 2030

- GHG -30% (base year: 2018)
- Establish short-, medium-, and long-term carbon reduction pathways towards a carbon neutrality in 2050

Goals of 2023

- GHG -3% (base year: 2018)
- Overseas companies expanded to establish ISO 14064-1 GHG inventory management system
- Continue to advance the CDP climate change questionnaire

Goals / Action Results of 2022

- GHG -2% (base year: 2018)
→ GHG decreased by 2.53%
- Overseas companies established ISO 14064-1 GHG inventory management system
→ CLC Binh Duong Mill completed the verification in Q4, leading the industry in Vietnam
- Application for GHG offset to EPA passed
→ Tayuan Mill completed the monitoring report and conducted the third-party verification then apply for the offset
- Reply to CDP climate change questionnaire
→ Completed and acquired "A-" Leadership Level
- Established the "Climate Change and Circular Economy Office" and the Agricultural and Forest Materials to Resource Team to deepen the blueprint for a total circular economy

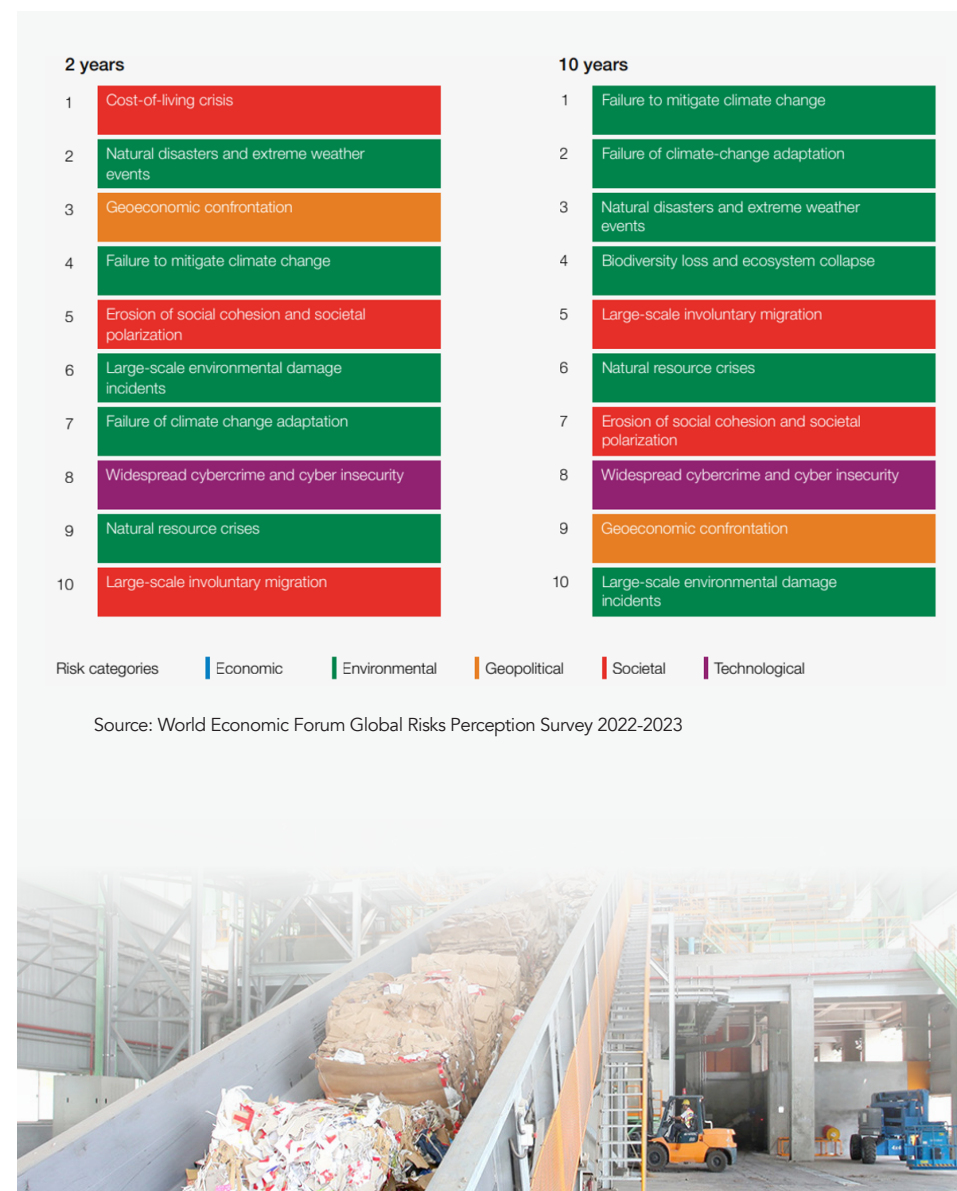
The United Nations Climate Change Conference (COP27) calls for increased action in response to the intensification of extreme climate events. In addition, World Meteorological Organization (WMO) urges all sectors to move from "climate commitments" to "real action." According to the Global Risks Report published by the World Economic Forum (WEF) in 2023, half of the risks are most likely to occur are climate-related environmental risks in future 2 years : six of the risks are most likely to occur in future 10 years.

We are committed to making the core value of "circular economy" and keep track on climate change adaptation strategies over time to mitigate the impact from climate change, based on the sustainable development strategy: Together for a Greener Future. To realize business sustainability and take a leading position in addressing climate and energy sustainability in the industry, first replied to international CDP Climate Change questionnaire assessment. Leading the industry, we acquired "A-" Leadership Level.

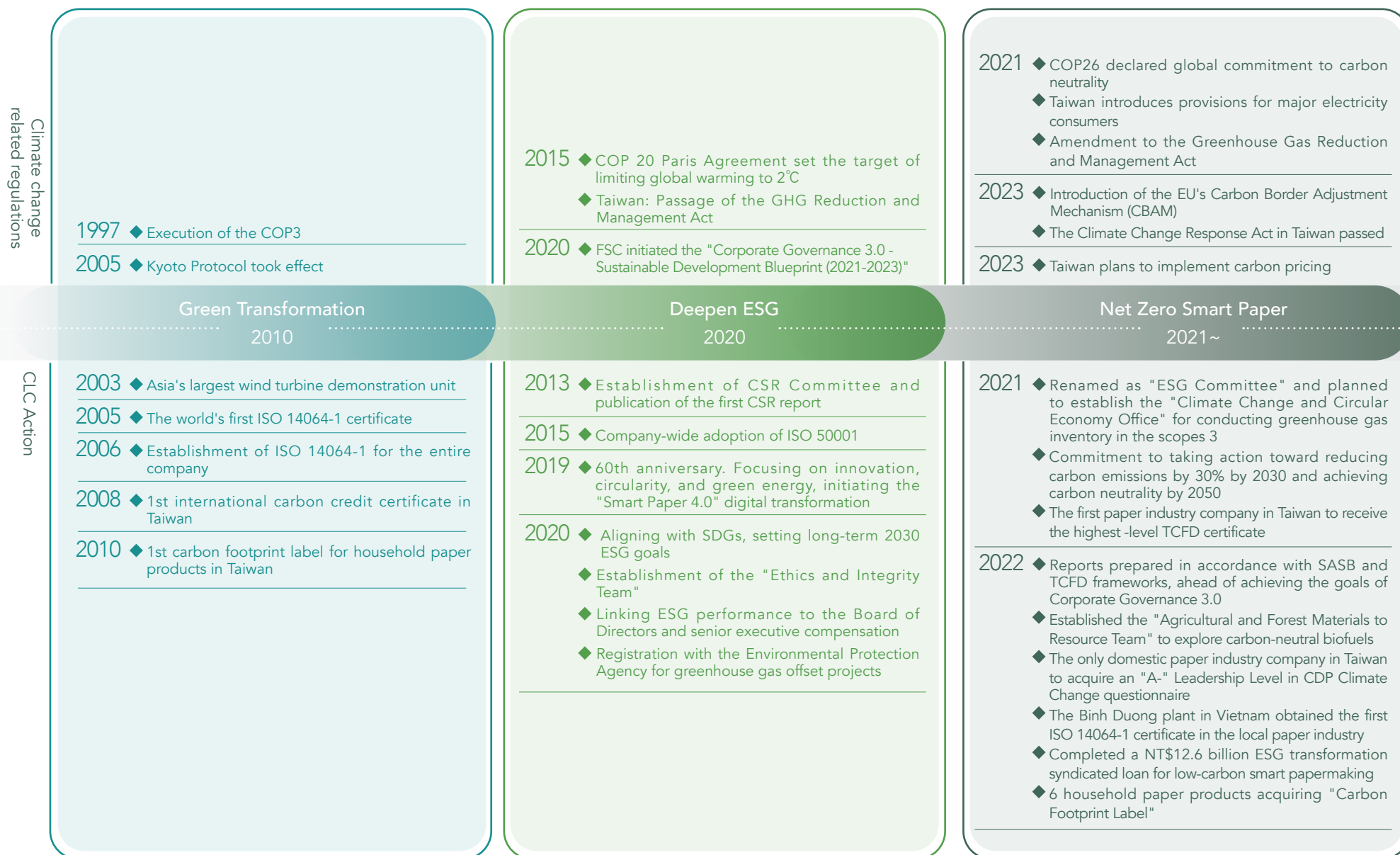
Recognizing that the circular economy will become the practical way to achieve sustainability for industries around the world, we activate the low-carbon smart paper transformation, take risks related to the global climate change also as opportunities, deploy overseas circular economy locations, and develop eco-friendly products with recycling know-how to provide the market with more multifaceted options for green consumption. Since obtaining the world's first ISO 14064-1 greenhouse gas inventory certificate in 2005, we have initiated emission management in its production lines, taking the lead in low-carbon transformation. In 2008, we became the first company in Taiwan to acquire a carbon credit trading certificate. Since 2013, we have been preparing sustainability reports, enhancing ESG disclosure and communication. In 2021, we conducted an inventory of 6 major transition risks, 1 physical risk, and 6 key climate change opportunities, becoming the first paper industry company to receive the highest-level TCFD certificate.

In 2022, following the Sustainable Development Blueprint set by the Financial Supervisory Commission (FSC), we promoted greenhouse gas inventories in its domestic and international subsidiary companies (including Taiwan's Gemtech Optoelectronics Corp. and operation bases in China and Vietnam). In the same year, we first replied to international CDP Climate Change questionnaire assessment and acquired "A-" Leadership Level, significantly leading the industry. Inheriting Taiwan's sustainability strength, our overseas Binh Duong Paper Mill in Vietnam also became the first paper industry company in the local market to obtain the ISO 14064-1 greenhouse gas inventory certificate, showcasing the group's active commitment to carbon reduction transformation. In the future, we will continue implementing the four major scientific emission reduction practices to facilitate the country's achievement of carbon neutrality by 2050.

World Economic Forum (WEF) - Global Risks Report 2023: Top 10 crises for the next 10 years



CLC Important milestones on climate governance



CLC: First Taiwan Papermaker Rated Top at TCFD Verification

To support the call for climate-related financial disclosures by the Task Force on Climate-related Financial Disclosures (TCFD) created by the Financial Stability Board, besides signing up to the TCFD and applying to the British Standards Institution (BSI) for third-party verification of our compliance with the disclosures, we have engaged in active management of climate change issues and taken countermeasures, enabling us to become Taiwan's first papermaker to be rated top at the TCFD verification. Through voluntary disclosure to stakeholders of our adaptability to climate risks, we made advanced achievement in the Corporate Governance 3.0 advocated by the Taiwan's Financial Supervisory Commission (FSC) in order to contribute to strengthening Taiwan's international competitiveness in sustainable development.

The physical risks brought by climate change are deteriorating and increasingly frequent, and investment and insurance institutions also enhance the climate-related credit ratings and sustainable investment strategies accordingly. In addition, based on net zero vision, advanced European countries and the USA also actively plan climate-related laws and carbon tariff systems, causing the ripple effect on the industrial chain of different countries in the world. By implementing the TCFD management framework, CLC has accelerated the response to and deployment of low-carbon development and adaptation strategies. In the future, we will constantly update and assess TCFD in response to the global climate change trends and changes in policies and regulations in order to enhance the sustainable development of operations.

I. Climate change management

Based on the core elements of TCFDs, CLC introduces the management framework and review the orientation and progress to climate change quarterly.

Core Element	Management Strategies and Actions
 Governance	<ul style="list-style-type: none"> Set up the ESG Committee to integrate climate action resources and progress across departments. Furthermore, the Office of Climate Change and Circular Economy was established under the Committee, with the President as its convener, to actively manage and take action on climate change issues. The chairman reports to the BoD quarterly. The BoD and the management team are responsible for approving climate-related strategies, goals and specific actions.
 Strategy	<ul style="list-style-type: none"> Continue to implement climate change mitigation and adaptation projects. Promote smart production and sales and a green energy circulation, and transform the company into a low-carbon and green energy paper company.
 Risk Management	<ul style="list-style-type: none"> Engage in inter-departmental collaboration to identify climate-related risks and opportunities. Quantify financial impacts, devise countermeasures. Incorporate into corporate risk management and ISO management processes.
 Metrics and Targets	<ul style="list-style-type: none"> The ESG Committee sets climate-related performance indicators and quantitative targets, regularly tracks the achievement rates, and discloses the information to the public. Establish the medium- and long-term targets of taking action toward reducing carbon emissions by 30% by 2030 and achieving carbon neutrality by 2050, respectively.

II. Climate change strategy

Engaging in green production over time, every year we review the overall effectiveness of our carbon reduction efforts through the third-party verification of our GHG inventory results in order to become a new low-carbon and green-energy paper company. In addition, we also connect with international initiatives to mitigate and adapt to climate change.

While direct (Scope 1) GHG emissions and energy indirect (Scope 2) GHG emissions are CLC's major sources of GHG emissions, we make continual improvement in process energy conservation and carbon reduction and have implemented smart management. During 2013-2022, a total of NT\$494.85 million was invested in 436 energy conservation projects to substantially reduced carbon by 68,994 tCO₂e. We are the only company in the industry to have obtained a renewable energy certificate for wind power.

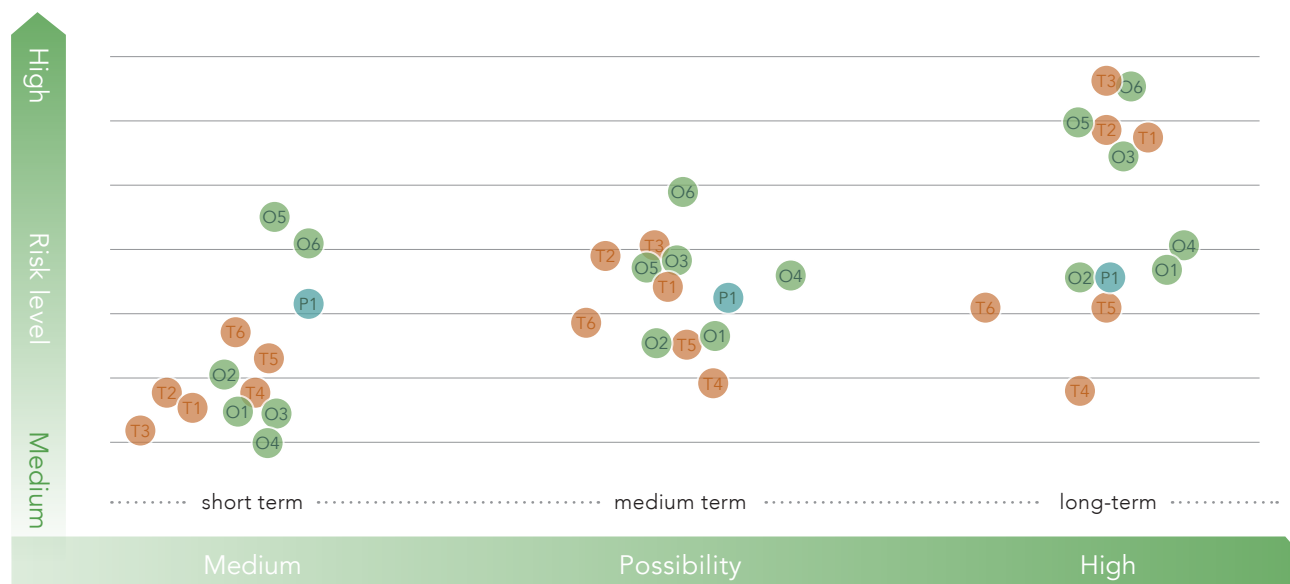
Furthermore, we are actively pursuing four scientific pathways to reduce carbon emissions: improving energy efficiency, developing renewable energy, deepening the use of circular low-carbon fuels, and innovating the application of carbon-negative technologies. Additionally, we have cooperated with NCHU and 11 corporations to establish the first "Circular Economy Research Institute" in Asia. We are actively involved in the recycling and reuse of agricultural and forestry residual materials, and we are committed to creating a 3R PLUS total resource circulation blueprint to implement carbon reduction.

III. Management of climate risks and opportunities

We have established the TCFD Working Team under the ESG Committee and identified key risks and opportunities related to climate change based on the business locations in Taiwan. We have also identified the financial impacts brought by the following two scenarios: Well-below 2°C (W2DS: According to the Paris Agreement, global temperature rise should be controlled well below 2°C by the end of this century) and Nationally Determined Contributions (NDCs) and established measurement and management targets based on the identification results. With respect to the levels of potential and financial impacts, we have assessed the risk value of short-, medium-, and long-term exposures and identified **6 material transition risks**, **1 physical risk**, and **6 climate-related opportunities** and calculate the level of short-term (1–3 years) financial impact on the company and established plans to enhance the management of climate change risks.



Material Climate-Related Risks and Opportunities Matrix



Note: short term (1-3 years), medium term (3-5 years), and long-term (5-10 years)

Transition risks	Physical risk	Opportunities
<p>T1 GHG control and carbon tax, carbon price</p> <p>T2 Renewable energy development</p> <p>T3 Energy efficiency and energy transformation</p> <p>T4 Tightened and total quantity control of air pollution and quality</p> <p>T5 Resource recovery based on the circular economy and tightened recovered paper supervision</p> <p>T6 Low-carbon technology transformation</p>	<p>P1 Rainfall</p>	<p>O1 Investment in low-carbon technology and equipment, promote green, low-carbon production</p> <p>O2 Participation in international renewable energy initiatives and green electricity trading</p> <p>O3 Deployment of the circular economy and green operations</p> <p>O4 Enhancement of wastewater treatment efficiency</p> <p>O5 Passing green label certification for products to increase green business opportunities</p> <p>O6 Entry to the emerging markets</p>

4.1 Action for Climate Change

4.2 Energy Management

4.3 Water Management

4.4 Air Quality Management

4.5 Waste to Resource

4.6 Biodiversity

Material Climate Risks

Financial Impact and Corresponding Metrics and Targets

Operating Costs

Increased 2.2–3.4%/year

Revenue or Output Value

Reduced < 0.3%/year

Capital Expenditure

Increased NT\$7.98 billion

Transition/ Physical Risk	Key Strategy	Correspondent Metrics and Targets	Results in 2022	2025	2030
GHG control and carbon tax, carbon price	<ul style="list-style-type: none"> Activate product carbon footprint inventory. Engage in low-carbon technology and energy mix transformation. 	GHG Reduction (Base year: 2018)	-2.53%	-5%	30%
Renewable energy development	<ul style="list-style-type: none"> Inventory mill-specific geographic features and building structure and assess the construction of renewable energy equipment. 	Unit Product Energy Consumption (Base year: 2019)	2.26% (cumulative)	-5% (cumulative)	-10% (cumulative)
Energy efficiency and energy transformation	<ul style="list-style-type: none"> Build biogas boilers based on the characteristics of the paper industry and develop low-carbon fuels based on the circular economy. Actively deploy biofuel sources. 	Alternative Fuel Ratio	10.32%	15%	20%
Tightened and total quantity control of air pollution and quality	<ul style="list-style-type: none"> Increase air pollution control facilities. Actively assess transformation to clean fuels. 	Air Quality Management (Base year: 2019) SOx NOx TSP	-43% -36% -47%	-30% -33% -57%	-42% -45% -65%
Resource recovery based on the circular economy and tightened recovered paper supervision	<ul style="list-style-type: none"> Promote guidance for recovered paper supply chain upgrading to improve the quality of recovered paper and increased material sources. Introduce technology for testing and inspection to increase the quality of recovered paper. 	Reduction of Waste in Recovered Paper	< 6%	Continuous reduction	Continuous reduction
Low-carbon technology transformation	<ul style="list-style-type: none"> Continue to invest in R&D resources, introduce low-carbon and energy-efficient equipment, and modify paper machines. 	Unit Product Energy Consumption (Base year: 2019)	2.26% (cumulative)	-5% (cumulative)	-10% (cumulative)
Frequent rainfall in rain season lowers the quality of recovered paper	<ul style="list-style-type: none"> Increase the procurement and stock of domestic wastepaper before rain season and make smart use of and electronic purchase scales to accurately capture the procurement strategy of foreign wastepaper. Search for alternative sources and guide supply chain partners to improve the quality of recovered paper. 	Waste to Resource Recovered Paper Utilization Rate Recovered Industrial Paper Utilization Rate	95.6% 92.5% 97.6%	95% > 92% > 97%	96% > 92% > 97%

Material Climate Opportunities

Financial Impact and Corresponding Metrics and Targets

Operating Costs

Reduced 0.8%/year

Operating Income

Increased 3.6–7.2%/year

Transition/ Physical Risk	Key Strategy	Correspondent Metrics and Targets	Results in 2022	2025	2030
Investment in low-carbon technology and equipment, promote green, low-carbon production, early response to carbon price/carbon tax.	<ul style="list-style-type: none"> Implement the ISO 50001 energy management system for constant energy conservation. Promote smart papermaking. Introduce internal carbon pricing and engage in low-carbon investment to lower costs and cultivate low-carbon business opportunities. 	GHG Reduction (Base year: 2018) Unit Product Energy Consumption (Base year: 2019)	-2.53% 2.26% (cumulative)	5% -5% (cumulative)	-30% -10% (cumulative)
Participation in international renewable energy initiatives and green electricity trading	<ul style="list-style-type: none"> Build high-efficiency co-generation systems to improve performance. Build renewable energy equipment. Sell excessive green electricity. 	Unit Product Energy Consumption (Base year: 2019) Legal Compliance of Renewable Energy Facilities	2.26% (cumulative) -	-5% (cumulative) -	10% (cumulative) -
Deployment of the circular economy and green operations	<ul style="list-style-type: none"> Further development of circular-economy-based business locations at home and abroad and expand the recycling capacity of recovered paper. Develop sustainable low-carbon products and services to capture green business opportunities. 	Unit Product Energy Consumption (Base year: 2019)	2.26% (cumulative)	-5% (cumulative)	-10% (cumulative)
Enhancement of wastewater treatment efficiency	<ul style="list-style-type: none"> Build wastewater anaerobic treatment with biogas generation equipment to enhance wastewater treatment efficiency. 	Subject to Regulatory Requirement	-	-	-
Passing green label certification for products to increase green business opportunities	<ul style="list-style-type: none"> Expand the product lineups of recycled household tissue. Provide low-carbon packaging products and services. 	Recovered Paper Utilization Rate Recovered Industrial Paper Utilization Rate	92.5% 97.6%	> 92% > 97%	> 92% > 97%
Entry to the emerging markets	<ul style="list-style-type: none"> Expand the capacity paper container processing to capture low-carbon and plastic-reduction business opportunities in double circulation. 	Recovered Paper Utilization Rate Recovered Industrial Paper Utilization Rate	92.5% 97.6%	> 92% > 97%	> 92% > 97%

Greenhouse Gas Management

Goals of 2050 → Carbon neutral Goals of 2030 → GHG emission -30% (base year 2018)

Increasing investments in renewables towards net zero with science

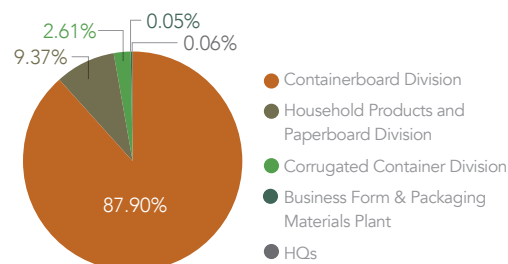
In the face of the challenge of global climate change and in order to support the national long-term goals of reducing greenhouse gas emissions, CLC Tayuan Mill took the lead to participate in the preliminary project of the Industrial Development Bureau in 2004 and implement the ISO 14064-1 GHG management system in 2005 and successfully obtained the world's first ISO 14064-1 GHG inventory certificate. Since 2006, CLC has built the GHG inventory system for entire company based on the successful experience at the Tayuan Mill, by setting GHG emission management policies and targets for each mill/plant, CLC effectively suppress GHG emissions. In 2008 we further signed up to the "Voluntary Carbon Reduction Standard" program of the Industrial Development Bureau (IDB) and became the first in Taiwan to pass carbon credit validation to accumulate capacity for the domestic carbon trade market.

CLC's GHG Emissions (Scope 1)

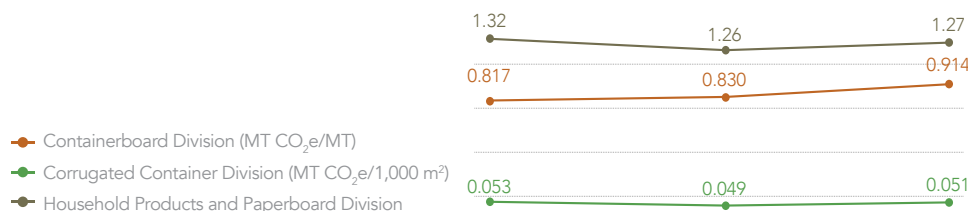
Unit: MT CO ₂ e	2020	2021	2022
CO ₂	1,103,137	1,150,174	1,092,741
CH ₄	32,071	18,866	15,074
N ₂ O	5,063	5,308	4,924
HFCs	252	234	297
PFCs	00		0
SF ₆	00		0
NF ₃	00		0
Total	1,140,522	1,174,581	1,113,036

Note : Taiwan Area.

Distribution of Divisional GHG Emissions



Intensity of Divisional GHG Emissions



Our company is actively engaged in carbon reduction actions and successfully registered to Environmental Protection Administration (EPA)'s GHG offset program in 2020 (79,000 MT CO₂e). We make advance deployment of the Sustainable Development Roadmap for listed companies announced by the Financial Supervisory Commission (FSC) and capture the organizational carbon management. In 2022 we activated GHG inventory in locations at home and abroad. In 2021 Cheng Loong Binh Duong Paper Co., Ltd. in Vietnam passed the third-party verification for its GHG emission, and its Scopes 1 and 2 emissions were 260,113.3693 tCO₂e and 18,398.5317 tCO₂e respectively, or 278,511.9009 tCO₂e in total. We also completed the preliminary Scopes 1 and 2 inventory for 2022, and the third-party assurance will be obtained in 2023.

CLC's GHG emissions statistics

Unit: MT CO₂e

	2020	2021	2022
Scope 1	1,140,522.3739 (80.7%)	1,187,286.0727 (79.9%)	1,113,036.8622
Scope 2-TYC	138,680.2890 (9.8%)	169,208.6310 (11.4%)	157,691.9833
Scope 2-TPC	133,741.7267 (9.5%)	128,648.7522 (8.7%)	131,826.8121
Total (Scope 1+2)	1,412,944.3896	1,485,143.4559	1,402,555.6576
Scope 3	265,918.3757	281,128.0845	251,165.6197
Total (Scope 1~3)	1,678,862.7653	1,766,271.5404	1,653,721.2773
ISO 14064-1 third-party assurance	Passed (Scope 1~Scope 3)	Passed (Scope 1~Scope 3)	Expected to complete by August 2023 (Scope 1~Scope 3)
Biomass GHG	42,168.7640	38,575.4826	49,850.7173

*Note: In 2022, we have identified Type 3-6 indirect GHG emissions in 2021 (including upstream logistics, purchased products, solid and liquid waste treatment, and leased assets) according to the new version of ISO 14064-1:2018 GHG inventory standard. The estimated total GHG Scope3 emissions in 2021 was 281,128.0845 tCO₂e and got the third-party verification. The Scope 3 GHG emissions in 2022 are estimated at 251,166 tCO₂e.

GHG Emissions Statistics for Binh Duong Paper Mill

Unit: MT CO₂e

	2021	2022
Scope 1	260,113.3693	260,522.2985
Scope 2-VPC	18,398.5317	28,079.5741
Total (Scope 1+2)	278,511.9009	288,601.8725
Scope 3	-	-
ISO 14064-1 third-party assurance	Passed (Scope 1~Scope 2)	Expected to complete by August 2023 (Scope 1~Scope 2)
Biomass GHG	2,999.9748	18,397.1620

Leading the industry! CLC first established "Industrial Paper Carbon Neutrality Alliance" to expanded the corporate influence.

Responded to "leading partners" policy from Industrial Development Bureau of MOEA and first established "Industrial Paper Carbon Neutrality Alliance" in the paper industry. Through collaborating with the partners to aim to carbon reduction in the industrial chain, we transformed the paper industry into low-carbon & green supply chain.



CLC Binh Duong Mill already obtained the ISO 14064-1 certificate

From first in Taiwan to first in Vietnam, CLC Binh Duong Mill transplanting GHG control experience to set example in Vietnam's paper industry ahead of the government and show the industry sustainability competitiveness, became the first local benchmark enterprise.

Tayuan Mill won 《Industry GHG Reduction Excellent Performance Enterprises》 and succeeded in implementing low-carbon smart paper-making

Tayuan Mill was awarded 《Industry GHG Reduction Excellent Performance Enterprises》 by Industrial Development Bureau, Ministry of Economic Affairs for the 2nd time, for its circular economy and carbon-reduction results.



Value product carbon management, 6 household paper products obtained the Carbon Footprint Label, unique in the industry

Over 90% of CLC products using the recycled raw materials, including the recovered paper / paper containers and scrap, and for the rest 10% using the pulp. In addition, a couple of products were awarded Low-carbon Products by EPA. Leading the paper industry, 6 household paper products acquiring "Carbon Footprint label", with 100% of growth and sales reaching 107 million packages.



The Winning Leader of Low-carbon Products by EPA

- 2017 Dandelion Hand Towel — Excellence Award
- 2019 Dandelion Toilet Tissue — Excellence Award
- 2020 Andante Toilet Tissue — Highest Honor Award

Assessment Year	Item	Dandelion Hand Towel	Dandelion Toilet Tissue 100-sheet	Andante Toilet Tissue 110-sheet (200 x 195mm)	Andante Toilet Tissue 130-sheet (200 x 195mm)	Andante Toilet Tissue 100-sheet (200 x 180mm)	Andante Toilet Tissue 110-sheet (200 x 180mm)
2012		750	260	340	-	-	-
2015		750	320	380	-	-	-
	(Carbon label)						
2018		750	280	400	-	-	-
	(Carbon label)		(Carbon label)	(Carbon label)			
2022		750	300	400	500	360	380
	(Carbon label)	(Carbon label)	(Carbon label)	(Carbon label)	(Carbon label)	(Carbon label)	(Carbon label)

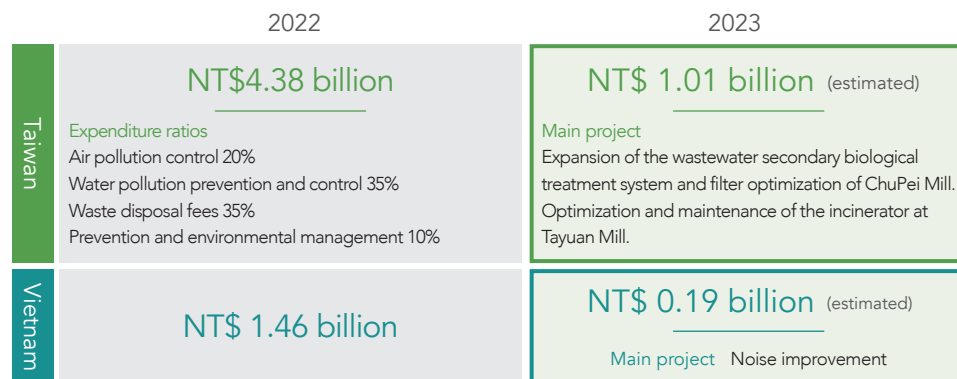
Carbon footprint unit: g CO₂e / package
Carbon Reduction Label emissions: the inventory coefficient of the previous year

Note 1: We have implemented regular carbon footprint assessments, and the latest one was conducted in 2022.
Note 2: For more information, please refer to [CLC official website](#).

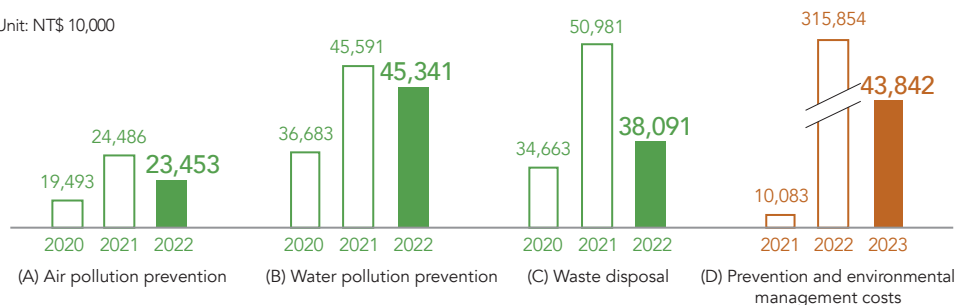
Environmental Management and Environmental Protection Expenditure

Follow the trend of regulations at home and abroad, we explicitly concluded the expenditure and investment in environmental protection and implemented the environmental accounting system in 2001 to optimize the management of environmental cost efficiency.

Environmental Investment and Expenditure



Unit: NT\$ 10,000



Note 1: Taiwan Area. Note 2: The amount of environmental investment and expenditure is "previous year (A+B+C) + current year D"

Environmental Management Verification

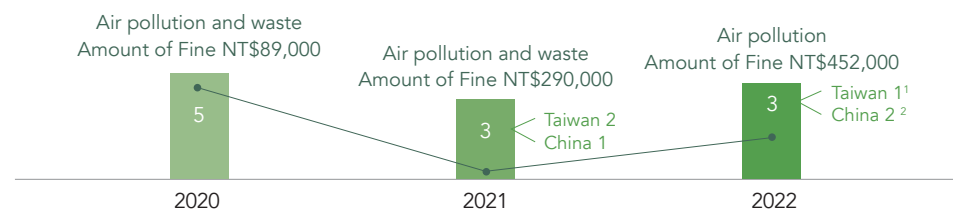
We have implemented and applied for certification of international management systems at all mills/plants, including the ISO 14001 environmental management system, ISO 14064-1 GHG inventory, and ISO 50001 energy management system. Overseas factories in China and Vietnam have also introduced the ISO 14001 environmental management system. In order to be in line with the "Sustainable Development Roadmap for Listed Companies" to be released by the Financial Regulatory Commission in advance, and to manage the carbon emissions of overseas companies, the CLC's mill in Vietnam received the ISO 50001 & ISO 14064-1 certification.

Verification Standard	Certified Factory		
	Taiwan	China	Vietnam
ISO 14001 environmental management system		All factories (8 box plants)	All factories (1 paper mills and 3 box plants)
ISO 50001 energy management system		Executed in 2023	1 paper mills Executed in 2023
ISO 14064-1 GHG inventory	All factories (4 paper mills and 6 box plants)	Executed in 2023	1 paper mills Executed in 2023
ISO 9001 Quality management certification		All factories (8 box plants)	All factories (1 paper mills and 3 box plants)
ISO 45001 Occupational health and safety management systems		5 box plants	All factories (1 paper mills and 3 box plants)
FSC™		All factories (8 box plants)	All factories (1 paper mills and 3 box plants)

※ For the complete international management system, please refer to [CLC's official website-Major Regulations](#)

Environmental Fines

In 2022, there were no significant records of fines, but there were a total of three cases of missing environmental regulations both domestically and internationally. This includes 3 cases of air pollution (including 2 cases in mainland China). Measures have been taken to address these deficiencies and prevent recurrence. In the future, our company will continue to actively promote education, SOP implementation, and investment to carefully ensure the management and enhance corporate governance.



Actions to reduce noncompliance with environmental protection in 2022

- ✓ Request the CEMS vendor to promptly verify the accuracy of the software database settings and make adjustments accordingly.
- ✓ Implement new reminder and alert mechanisms. When abnormalities or non-compliance with regulatory requirements occur in the system, the system will proactively notify relevant personnel and provide regular training to mitigate the risk of recurrence.

4.2 Energy Management

Material Issues

Energy Management

Strategy

Total participation, energy conservation, carbon reduction, green production, energy efficiency enhancement, support for renewable energy development with real actions, enhancement of alternative fuel use, and reduction of fossil fuel dependency.



Goals of 2030

- Reduce accumulated unit product energy consumption by 10% (base year: 2019)
- Alternative fuel ratio at 20%
- Build renewal energy equipment in appropriate sites, and develop green energy

Goals of 2023

- Reduce unit product energy consumption by 4% (base year: 2019)
- Alternative fuel ratio at 11%
- Chupei Mill-High-Performance Biomass CFB Boiler System in Taiwan start up
- The biogas generation at Houli Mill is expected to be officially start up in 2026
- Overseas companies established ISO 50001 energy management system
-

Goals / Action Results of 2022

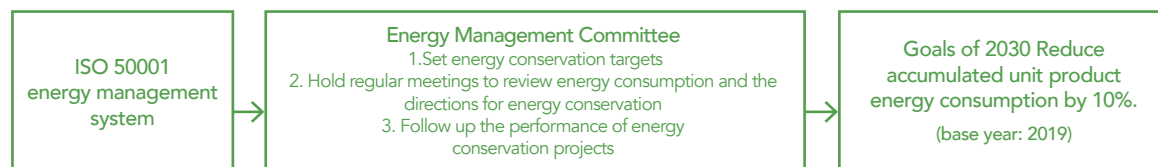
- Reduce unit product energy consumption by 3% (base year: 2019)
→ 2.26%, Failure to achieve the annual target was mainly due to the malfunction of the automated warehousing equipment, leading to the reduction of the production, at Houli Mill
- Implement 49 energy conservation and carbon reduction projects, saved electricity by 10.32 GWh
- Alternative fuel ratio at 10%
→ 10.32% (Completed)
- The renewal energy equipment in operational sites in Taiwan qualified the capacity of renewable energy equipment to 10% of the contract capacity
- Chupei Mill-High-Performance Biomass CFB Boiler System in Taiwan start up
→ The epidemic affected the installation progress of overseas technicians to Taiwan, and it is expected to be start up in 2023H1, with highest annual power generation 126 million kWh
- Start-up of the biogas generation at Tayuan Mill
→ Officially operated in 2022 Q4, and the annual power generation reached 19 million kWh
- Complete the solar panels at Houli Mill
→ Start-up in Q4 and the highest capacity of equipment is 1289.6 kW
- Accumulated 11,917 RECs (2017–2022)
- Overseas companies established ISO 50001 Energy management system
→ Binh Duong Paper Mill has obtained certification

Green Production: Energy Conservation and Emissions Reduction

Upholding the energy policy: total participation, energy conservation, carbon reduction, and green production, by implementing the ISO 50001 energy management system, we achieve energy management and verify energy efficiency and the achievement of energy conservation targets of all sites. To achieve the 1% annual energy conservation target, we propose energy conservation programs every year, use high-performance cogeneration, build renewal energy equipment, optimize existing equipment, and combine smart systems to make constant innovation to optimize the performance in energy conservation and carbon reduction. We also set emerging environmental protection benchmarks to actively transform into a "new low-carbon & green energy paper company".

Energy Management

We applied the ISO 50001 energy management system to the Paper Division in 2013 and then introduce it to all the Operational Sites in Taiwan in 2015. The headquarters established a cross-department Energy Management Committee to ensure energy management to be developed towards the goals of continual improvement. We awarded in public and got the related awards from the government to encourage the employees to figure out the opportunities to energy-saving improvements and increase the benefits of the energy. To systematically manage the performance of the energy, our overseas companies established ISO 50001 energy management system and Binh Duong Paper Mill has obtained third-party certification. In addition, in 2023 we will continue to expand to other operation sites.



Save Energy and Reduce Carbon Emission

Goals of 2030 ▶ Reduce accumulated unit product energy consumption by 10% (base year 2019)

In 2022, the energy emission intensity of the Containerboard Division and the Corrugated Container Division was 8.52 (GJ/ton of paper) and 11.80 (GJ/ ton of paper) respectively, a slight increase over the previous year. The energy emission intensity of the Household Products and Paperboard Division was 0.61 (GJ/ton of paper), an annual decrease of 1.4%. Although due to the malfunction of the automated warehousing equipment, leading to the reduction of the production, at Houli Mill, the unit product energy consumption increased by 2.26% compared to the base year 2019. In 2022, we invested NT\$27.67 million in implementing 49 energy conservation projects in three main categories: process improvement, equipment improvement, and energy management. Power conservation totaled 10,319,775 kWh (or 37,151 GJ). GHG reduction totaled 6,639 tCO₂e. Energy cost saved about NT\$33.88 million.

* After calculating the energy improvement rate of each plant (= annual reduction rate), we convert it into the proportion of each plant according to the calorific value of the energy used by each plant, then add up the improvement rate of each plant*the proportion of each plant = the improvement rate of the whole company (The value is also the unit product energy consumption of whole company).

Performance of 2022 Energy Consumption Projects



Categories	Energy savings (kWh/yr)	Carbon reduction (MT CO ₂ e)	Cost savings (NT\$ 10,000)	Investment amount (NT\$ 10,000)
Process improvement	3,623,978	2,206	947	73
Equipment improvement	4,143,376	3,134	1,348	2,614
Energy management	2,552,421	1,299	1,092	80
Total	10,319,775	6,639	3,388	2,767

A total of **436** energy conservation projects were implemented to save power up to **92.01** GWh and reduce GHG emission up to **68,994** tCO₂e.
(2013–2022)

Performance table of energy saving and carbon reduction project

Note: Taiwan Area	2020	2021	2022	Total
Cases	35	42	49	126
Energy savings (kWh/yr)	24,966,379	14,186,891	10,319,775	49,473,044
Carbon reduction (MT CO ₂ e)	12,708	10,674	6,639	30,021
Cost savings (NT\$ 10,000)	5,413	4,067	3,388	12,867
Investment amount (NT\$ 10,000)	12,988	17,107	2,767	32,862



To encourage energy conservation and promote innovative energy-saving measures, an annual year-end conference is held where the Chairman presents awards such as the "Excellent Plant of Energy Conservation" and the "Special Award for Energy Alternative Efficiency"

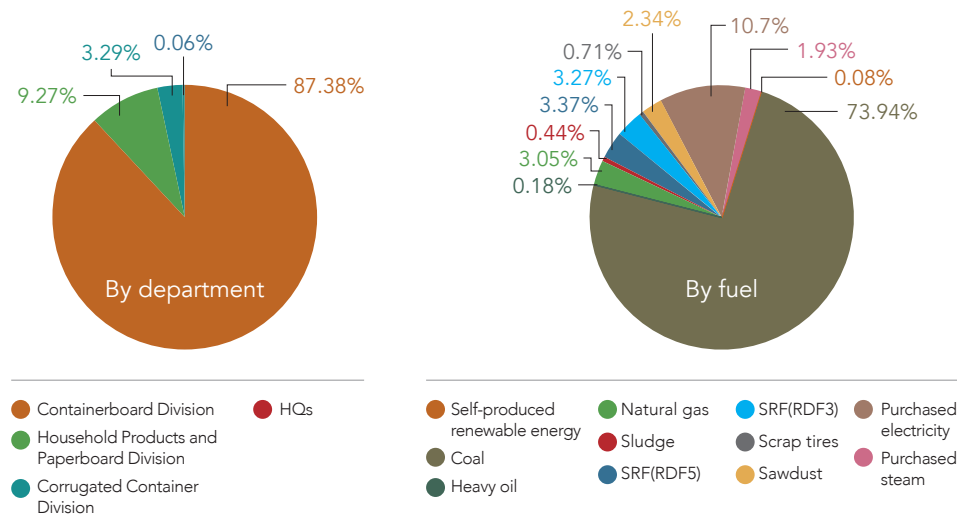
2022 CLC Energy Consumption

Unit: GJ	Containerboard Division			Container Box Division			Household Products and Paperboard Division			Binh Duong Paper Mill	
	2020	2021	2022	2020	2021	2022	2020	2021	2022	2021	2022
Self-produced renewable energy	1,677	1,004	1,106	0	0	0	5,775	0	9,513	0	0
Coal	10,252,234	10,860,138	9,264,564	0	0	0	665,637	630,307	641,943	2,317,200	2,212,211
Heavy oil	23,852	37,814	24,509	891	0	0	0	0	0	3,142	2,436
Natural gas	0	0	0	318,491	344,341	312,382	97,384	95,675	95,894	0	26,297
Sludge	38,546	57,596	32,548	0	0	0	19,522	36,268	26,958	5,857	11,648
SRF (RDF5)	446,594	322,144	451,185	0	0	0	0	0	0	0	10,334
SRF (RDF3)	443,183	463,222	438,698	0	0	0	0	0	0	118	144,308
Scrap tires	40,400	42,563	95,574	0	0	0	0	0	0	0	0
Sawdust	0	8,157	313,126	0	0	0	0	0	0	0	198,767
Purchased electricity	825,667	844,133	866,107	114,055	123,685	120,453	468,404	455,159	445,804	82,331	125,652
Purchased steam	183,677	219,115	258,656	0	0	0	0	0	0	0	0
External electricity	94,698	63,185	34,097	0	0	0	0	0	0	0	0
External steam	192,240	198,583	211,253	0	0	0	0	0	0	0	0
Total energy consumption	11,968,890	12,594,117	11,500,724	433,438	468,027	432,835	1,256,724	1,217,409	1,220,112	2,408,649	2,731,652

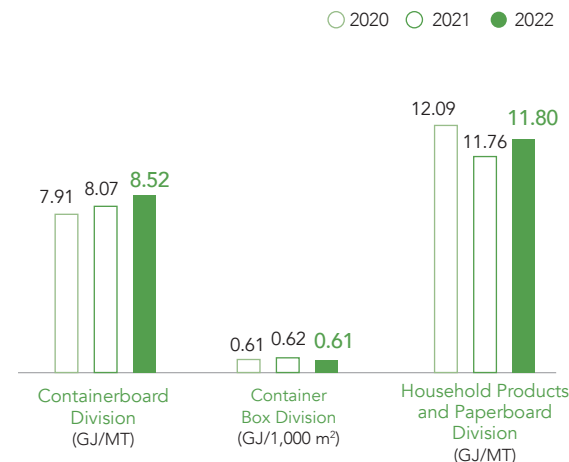
Note 1: The power heating value is subject to 860 kcal/kWh announced by the Bureau of Energy. The power heating value is calculated at the average of each production base.

Note 2: SRF is the abbreviation of solid recovered fuel. RDF is the abbreviation of refuse derived fuel. RDF3 is solid refuse with non-flammable contents (metal, glass, and other organic substances) removed by breaking. RDF5 is flammable refuse compressed in cylindrical form (spherical or ingot).

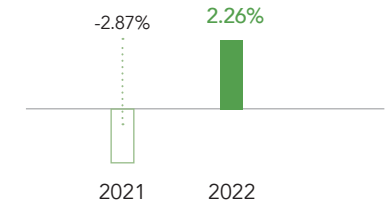
Note 3: Taiwan, Vietnam area.



Energy Emission Intensity



Unit product energy consumption-whole company (base year: 2019)



Note 1: Taiwan area

Note 2: Due to the breakdown of the smart warehousing equipment and the depression in Houli Mill, leading to the reduction of the production, which affects the Unit Product Energy Consumption (water) increased.

Note 3: The ratio of unit product energy consumption was positive, which indicated decline. And the ratio were negative, which indicated progress.

Houli Mill has been awarded the Excellence Award in the "Circular Economy for Pollution Reduction and Coal Reduction Evaluation" by the Environmental Protection Bureau(EPB) of Taichung City Government.



Renewable Energy

Goals of 2030

Increase the capacity of renewable energy equipment at the operational sites in Taiwan to 10% of the contract capacity.

Making good use of the geographical characteristics of each plant and the production characteristics of the paper industry, our company installed the largest wind turbine in Asia at the Chupei Mill in 2003. Starting from 2011, we also installed solar power generation equipment at the Houli Mill in Taichung. In 2017, the wind power generation equipment at the Chupei Mill obtained certification from the National Renewable Energy Certificate Center, making it the first paper company in the country to receive wind power renewable energy certificates. From 2017 to 2022, we obtained a total of 11,917 renewable energy certificates, equivalent to the electricity consumption of approximately 3,310 households per year (calculated based on Taiwan Power Company's average monthly electricity consumption of 300 kWh per household over the past 10 years).

Actively developing green energy, our company will continue the renewable energy and install renewable energy generation equipment at suitable locations. This includes the installation of solar photovoltaic systems at the Houli Mill in 2022 and the development of biogas power generation at the Tayuan Paper Mill. The Houli Mill also plans to start using biogas green energy in 2024. In 2022, our company's Taiwan operating locations' renewable energy equipment met the requirement of having a renewable energy installation capacity of 10% of the contract capacity, as stipulated by the regulations for major electricity consumers.



Wind power

Operation date: 2003

Rated power generation: 1,750 kW(1set)



Solar system

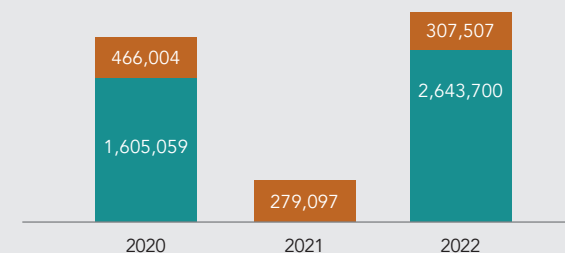
Operation date: 2011, 2019, 2021 and 2022

Rated power generation:

- ① 493.5 kW (1set)
- ② 1822.8 kW (1set)
- ③ 4,300 kW (1set Yanchao Container Box Plant)
- ④ 1,290 kW (1set Houli Mill)

Capacity of Renewable Energy Generation

● Wind Power (kWh) ● Solar Power (kWh)



Note 1: Taiwan area

Note 2: In 2020 Q4, the wind turbine was damaged. Affected by the epidemic, foreign technicians could not come to Taiwan, affecting repairs progress. It re-started in 2022.

Cogeneration system accelerating intelligent services

Compared to traditional power generation or boiler systems, the cogeneration system has higher energy efficiency and can provide stable energy supply while considering greenhouse gas reduction. Currently, our company has four cogeneration systems at the Houli and Tayuan mills. In 2019, we got ahead in the industry and applied the intelligent management to the G3 biofuel cogeneration boiler at Houli mill. Through the optimal monitoring for boilers, CLC is able to extend the boiler maintenance period, achieve zero temporary failure, raise the operating rate of cogeneration boilers, and improve the generation efficiency. In the future, the intelligent management will be gradually promoted throughout the entire company.



Houli Mill was awarded "Sunshine A" Contest: Green Energy Contribution Award" by Economic Development Department, Taichung City

Embarking on a Clean and Green Journey, CLC organized electric vehicle test drive events



New direction for net zero with biogas!

Tayuan Mill optimizes wastewater treatment for biogas generation development

Each year Tayuan Mill, founded in 1987, recycles over 50MT of recovered paper into industrial paper and provides low-emission fuels for the mill and nearby industrial parks through waste to resource to develop industry symbiosis. Waste to resource of the entire Tayuan Mill is up to 99%. In 1994, Tayuan Mill built the industry-first UASB wastewater aeration treatment system to enhance wastewater treatment efficiency and reduce energy consumption and sludge production. And it has been 30 years now. Apart from saving energy, aeration treatment produces less sludge and even generate biogas, high heating value green energy, while consuming organic substances at the same time. In response to low-carbon transformation, Tayuan Mill built two IC high-performance aeration reactors in 2010 and 2020 respectively. Apart from stabilizing the wastewater treatment system, they can also produce high-quality aeration bacteria continuously.

Supply power to **5,300** households

Reduce emissions by **15,500** tCO₂e



Waste-to-Energy: CLC's Biogas Green Energy System generates an annual electricity output of 19 million kWh, which is power approximately 5,300 households. The system converts waste into energy and reduce 15,500 tons of carbon emissions annually.



Colleagues at the Tayuan Mill wastewater treatment plant are working together to pursue a new direction achieving zero emissions through biogas.

After purification, biogas generated from aeration treatment contains high-purity propane (about 80%), which is the major ingredient of natural gas and 100% pure green energy. In consideration of the higher stability than the intermittent wind and solar power and the circulation advantage of biogas, Tayuan Mill initiated the Biogas Power Generation Construction Project in April 2021 to build two biogas generators, each was 1,200 kW. Meters were connected and the commercial operations started on May 9, 2022 to generate electricity of up to 19 million kWh out of the maximum of 2,400 kWh to supply power to about 5,300 households and reduce GHG emissions of 15,500 tCO₂e each year.

Additionally, Tayuan Mill has also built the heat recovery steam generator (HRSG) to recover and turn into steam the waste heat from the generation set's flue-gas stacks for in-house papermaking to maximize the use of the precious green energy. By turning the endless wastewater into green byproducts, such as green power, steam, and aeration bacteria, we extend the carbon reduction influence of waste to resource. In the future, we will reproduce the success experience of Tayuan Mill to paper mills at home and abroad. Currently, we have initiated the biogas power generation planning for Houli Mill, our flagship mill, to start a new direction for net zero with biogas

Alternative Fuel

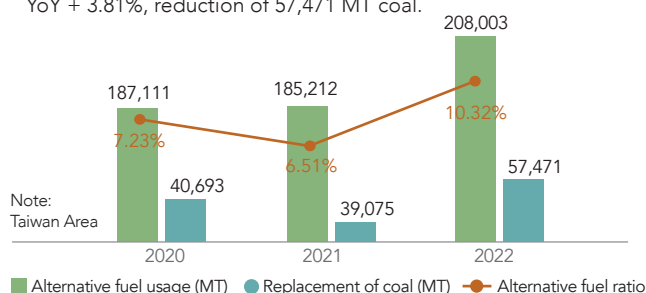
Goals of 2030 ▶ Alternative fuel ratio at 20%.

In Taiwan, 98% of energy relies on import. To enhance energy efficiency and reduce the dependency on fossil fuel, we actively develop various types of alternative fuels, such as using process residual materials to increase the quantity and improve the quality of alternative fuels with technology, in order to enhance the utilization rate of alternative fuels.

The establishment of the Agricultural Resource Utilization Team aims to deepen the use of alternative fuels.

With an alternative energy rate of 20% by 2030, we already established the "Agricultural and Forest Materials to Resources Team" under the Climate Change & Circular Economy Office in 2022. The team mainly takes charge of the R&D of multifaceted fuel reuse technology and circular economy to resource, and captures the supply of domestic and overseas agricultural and forest surplus materials so as to develop more multifaceted possibilities for turning agricultural and forest surplus materials into biomass fuels and actively assist Taiwan in developing the biomass supply ecosystem to ensure materials sustainability and stability to create a win-win situation for all parties. The achievements in 2022 are as follows:

- Increase carbon-neutral biomass fuels by 16.5 times.
- Extend the processing of domestic biomass fuels (including roadside trees and waste wood).
- The overall fuel substitution rate for the company was 10.32%, YoY + 3.81%, reduction of 57,471 MT coal.



To enhance the advantage of GHG reduction, the Chupei Mill has the largest biomass heat and power system in Taiwan, with a peak annual electricity generation of 126 million kWh. After commercial operation begins in 2023 H1, it can help consume more process residual materials from all CLC mills across Taiwan to enhance the utilization rate of alternative fuels and reduce coal consumption for carbon reduction. The company has also initiated the construction of a 120-ton biomass boiler at the Houli Mill, which is expected to be operational in 2026, gradually moving towards the goal of achieving a 20% utilization rate of alternative fuels by 2030.



Chupei Mill High-Performance Biomass CFB Boiler System

4 Features

1



Taiwan's unique quad-fuel (SRF, pulp sludge, biomass fuel) feeder to enhance energy efficiency

2



Effective inhibition of dioxin generation: Furnace flu gas temperature > 850°C, flu gas stay > 2 seconds

3



Support burning with 0-100% SRF

4



Power generation efficiency up to 29% (better than regulatory requirements by 25%)

4.3 Water Management

Material Issues

Water Management

Strategy

Enhance water treatment and process water conservation efficiency



Goals of 2030

- Containerboard Division reduces accumulated unit product water consumption by 10%
*Base year: 2019
- Enhance water conservation potential and increase reclaimed water quantity

Goals of 2023

- Containerboard Division reduces accumulated unit product water consumption by 4%
- Improve wastewater treatment efficiency
- Save process water consumption and increase reclaimed water usage

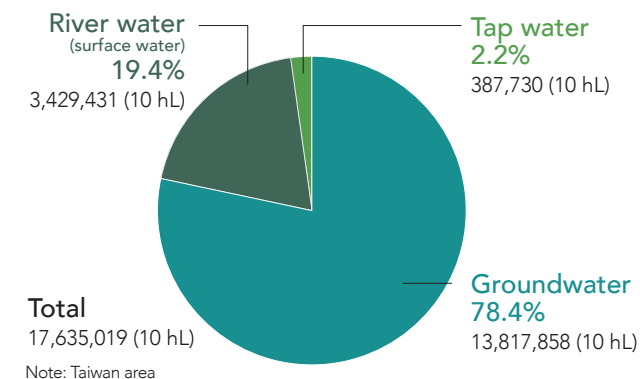
Goals / Action Results of 2022

- Reduce the process saving accumulated water rate by 3%
→ Decreased accumulated unit product water consumption (Containerboard Division) by 0.88%, mainly for the reduction in production at the Houli Mill due to the malfunction of the automated warehousing equipment, as well as an increase in the frequency of equipment flushing to meet customer order demands
- Improve wastewater treatment efficiency
→ Houli Mill set the anaerobic treatment equipment system project started
- Save process water consumption and increase reclaimed water usage
→ The 3 level filtration and water recycling system at the Chupei Mill has been activated
→ The recovery rate of process water is 92-96%

Cherish Water Resources

Water is an important resource for the paper industry. CLC carefully planned the use of water resources when evaluating and selecting production sites. In addition to considering policies, regulations and corporate development, we also took into account the water resources needs of surrounding residents. Valuing water resources, CLC improves water use efficiency through recycling and reuse with perfect water resources management, expansion of diversified water resources, and prevention management, and continues to introduce innovative water-saving solutions to maximize the benefit of every drop of water. In 2022, CLC's process water recovery rate was up to 96.3%, and the total daily process water recovery exceeded 949 million liters. All CLC factories are equipped with the wastewater treatment system to continuously monitor the quality of the effluent and ensure that the quality of the effluent meets the legal standards. The Company also continues to promote the optimized operation of wastewater plants. In recent three years (2020-2022), a total of NT\$810 million has been invested in improving wastewater improvement measures, including the installation of anaerobic treatment equipment (including biogas power generation system), the optimization of tertiary treatment systems, etc. Also, we comprehensive control the conditions of process water to improve water treatment efficiency and ensure the compliance of effluent, in order to maintain nature and ecosystems, nourish biodiversity, and fix carbon to mitigate the greenhouse effect.

Water source

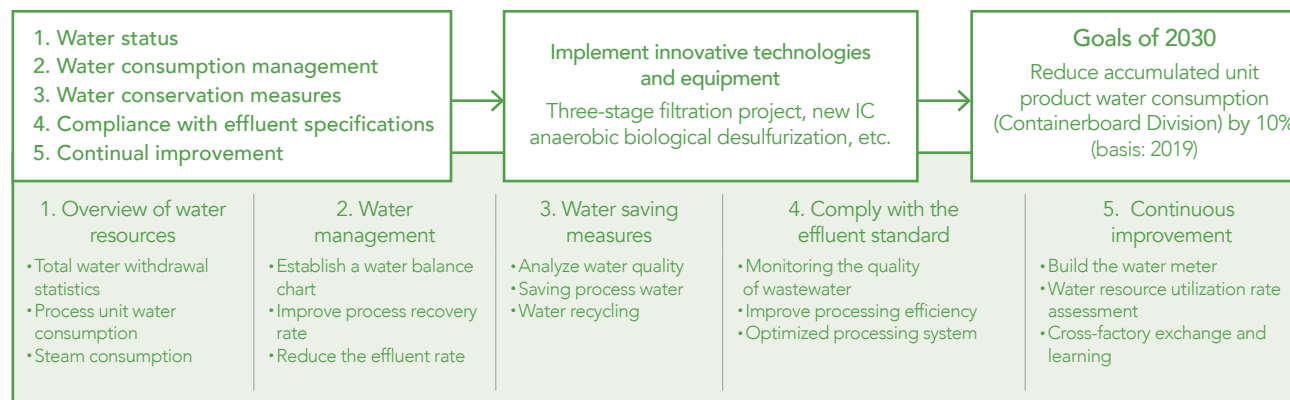


CLC's main water sources are groundwater, river water (surface water), and tap water, which are primarily used for production processes. In addition to implementing rainwater harvesting as a source, the paper mills utilize various recycling technologies to manage process water through classification, recycling, and reuse, enhancing water resource utilization efficiency. Some paper mills can reuse a drop of water up to 22 times, achieving a process water recycling rate of 92% to 96%. To effectively manage water resources within the plant, the company annually completes water balance data based on water usage plans, and some paper mills have also installed smart water meters, allowing real-time access to water-related information through computer connections.

In terms of total water intake, surface water and groundwater accounted for approximately 97.8% in 2022, while tap water accounted for approximately 2.2%. The total water intake was about 17,635 million liters, an increase of 207 million liters compared to 2021. The total water consumption, calculated by subtracting total wastewater discharge from total water intake, was 1,015 million liters. Although in 2022 the water consumption per unit product in the Containerboard Division increased by 19.31%, the Paper Products Division and Household Products and Paperboard Division continued to implement water-saving measures and decreased accumulated by 0.88% in recent 4 years (2019-2022), resulting in stable or even reduced water consumption per unit product in 2022.

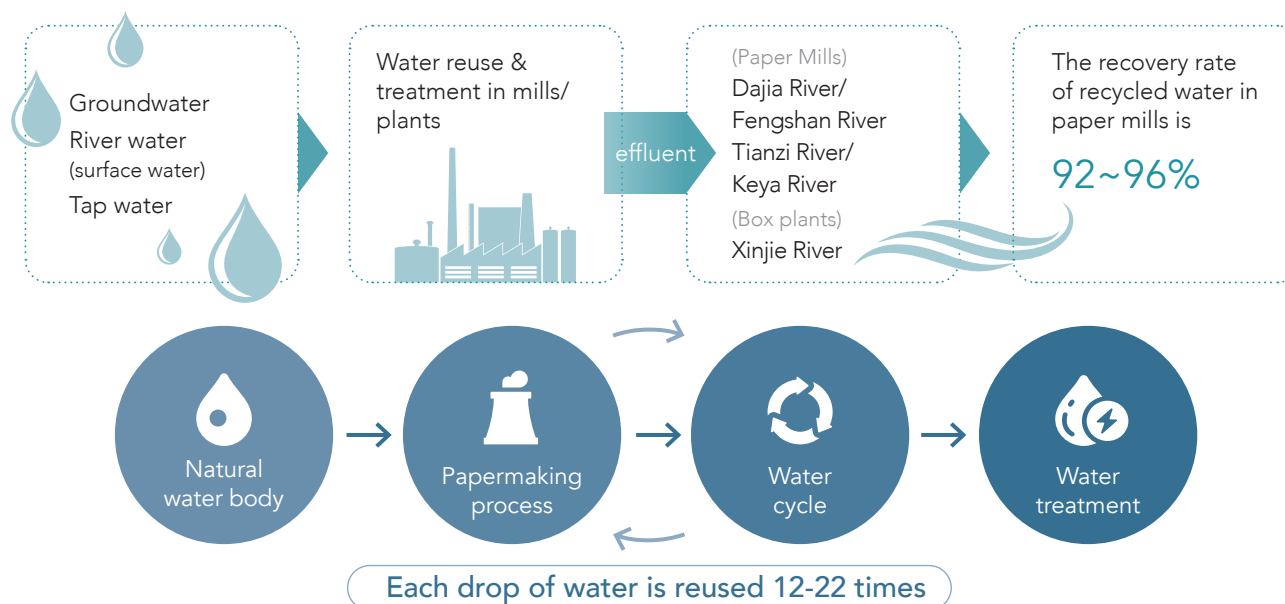
For the proper management of water withdrawal sources, we reduce water consumption according to the government regulations during reduced supply or regional water rationing. When there is reduced supply or regional rationing of tap water, we adopt measures including: (1) Flexible adjustment of tap water consumption or reclamation of effluents for reuse in the process. (2) Replace part of fresh water with effluents. (3) Process adjustment and management (process water conservation and management models).

Water Management Strategy



2022 Water Management Project → Reduced unit product water consumption

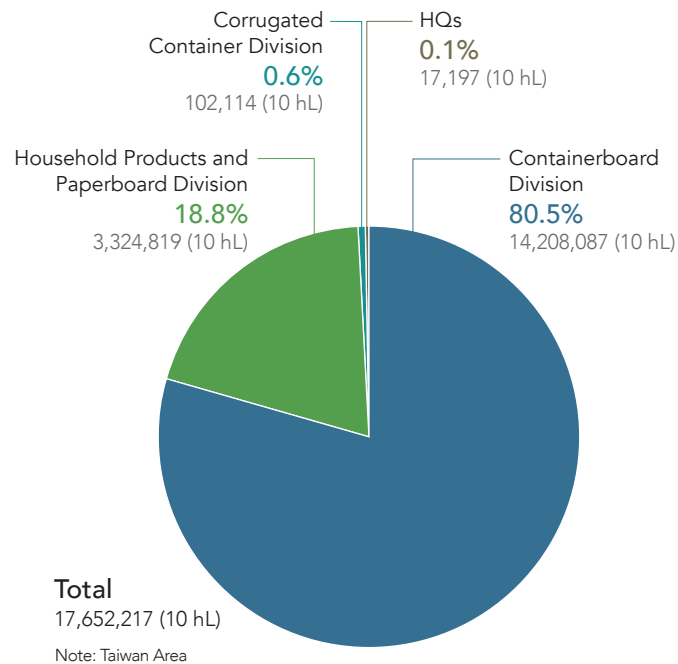
- ◆ Containerboard Division: secondary IC anaerobic treatment equipment (including biogas power generation system)
- ◆ Corrugated Container Division: Centralized the production of same-color ink and reduced machine washing frequency.



	Containerboard Division			Household Products and Paperboard Division			Corrugated Container Division			Others (Business Form & Packaging Materials Division and HQ)			Total		
Unit: 10hL	2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022
River water (surface water)	4,485,032	3,094,472	3,429,431	0	0	0	0	0	0	0	0	0	4,485,032	3,094,472	3,429,431
Groundwater	10,514,088	10,499,981	10,498,625	3,503,350	3,383,218	3,306,386	16,599	19,049	12,848	0	0	0	14,034,037	13,902,248	13,817,859
Tap water	320,752	281,128	280,031	28,066	40,819	18,433	97,671	93,968	89,266	20,229	15,412	17,197	466,718	431,327	404,927
Total water withdrawal	15,319,872	13,875,581	14,208,087	3,531,416	3,424,037	3,324,819	114,270	113,017	102,114	20,229	15,412	17,197	18,985,787	17,428,047	17,652,217
Total effluent	14,917,669	13,764,291	13,540,547	3,397,064	3,253,224	3,095,962	13	0	0	1,079	0	0	18,315,825	17,017,515	16,636,509
Total water consumption	402,203	111,290	667,540	134,352	170,813	228,857	114,257	113,017	102,114	19,150	15,412	17,197	669,962	410,532	1,015,708

Note 1: Taiwan area; Note 2: The statistical range of water consumption from Business Form & Packaging Materials Plant is from January to the end of August 2021, and it was officially decompiled on September 1.

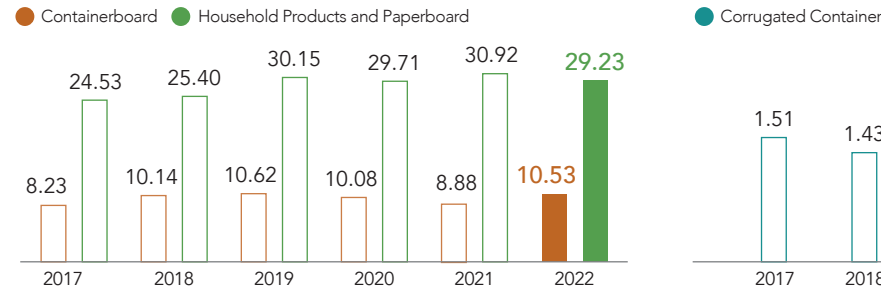
Water Intake of Divisions



Unit Product Water Consumption

(unit: 10hL/ton)

(unit: 10hL/10,000 m²)

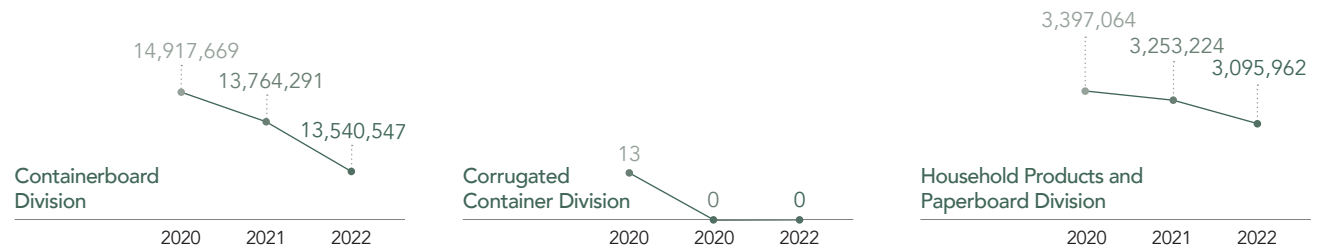


Note 1: Taiwan area

Note 2: From 2021, the calculation was adjusted: Total water consumption/production

Effluent statistics

(unit: 10hL)



Note: In 2021, all water used in the Corrugated Container Division was reused in the process.

Effluent

We equip each plant and mill with an independent wastewater treatment system. The Containerboard Division and Household Products and Paperboard Division properly treat wastewater with biological treatment to ensure the effluent quality meets the relevant standards. Also, we keep implementing QC-recorder at the wastewater treatment plant to control the process water situation, in order to make optimal treatment. The box plants treat wastewater with physicochemical treatment and recover treated wastewater for use in rinsing and glue making to extensively reduce water consumption.



Quality of effluent in 2022

	Suspended solids (SS) mg / L	Biochemical oxygen demand (BOD) mg / L	Chemical oxygen demand (COD) mg / L	True color chromaticity
Standard value	30.0	30.0	160.0/180.0	550.0
Houli Mill	6.6	2.3	79.7	174.0
Tayuan Mill	2.7	26.5	82.6	134.0
Hsinchu Mill	4.1	1.0	38.2	38.0
Chupei Mill	9.6	12.1	44.0	25.0

Note: According to the effluent standard, when using wastepaper as raw materials over 60%, the COD limit is 180mg/L; when using wastepaper as raw materials below 60%, the COD limit is 160 mg/L (applicable to Chupei Mill).

Implementation of water resource conservation

Supporting the United Nations SDG6 "Clean Water and Sanitation", CLC provides environment-friendly toilet tissue at public places, and gives assistance with cleaning toilets and sanitary facilities. The Company has adopted 90 sanitaries around Taiwan up to now, which reduced carbon footprint and water pollution, contributing 1,600 kg of carbon reduction benefits per year.

To promote environmental sanitation and implement water resource conservation, we form river patrol team, and the Houli Mill supports the "World Toilet Day - Learn from Cleaning Public Toilets" event organized by the Environmental Protection Bureau of Taichung City Government for many years. The Chupei Mill also called on nearly 100 employees and their families to carry out the beach clean-up activity. We have responded to the action of "Dashui River Convention" by CommonWealth magazine, implemented green procurement, adopted parks to maintain biodiversity, promoted the cherishing of water, and practiced to protect the water environment.



Note: The period of river adoption was from November 2015 to present.

Terms and definitions



In accordance with the Reclaimed Water Resources Development Act, it refers to systemic reclaimed water and non-systemic reclaimed water. Systemic reclaimed water refers to water that can be reused through treatment of wastewater (sewage) or effluent water collected from the sewer systems. Non-systemic reclaimed water refers to water that can be reused through treatment of wastewater (sewage) or effluent water not collected from the sewer systems.



In accordance with the Water Pollution Control Measures and Test Reporting Management Regulations, recycled water refers to the industrial wastewater not discharged but reused in the manufacturing process after treatment, and physical contact with recycled wastewater should be avoided so as not to affect human health.

4.4 Air Quality Management

Material Issues

Air Quality Management

Strategy

Reduce the environmental impact of air pollutant emissions to improve the air quality



Goals of 2030

- SOx: -42%
- NOx: -45%
- TSP: -65%
*Base year: 2019

Goals of 2023

- SOx: -36%
- NOx: -36%
- TSP: -50%
*Base year: 2019
- Zero odor effusion from the process
- Keep purchasing high-quality coals
- No fine for odors from air pollution

Goals / Action Results of 2022

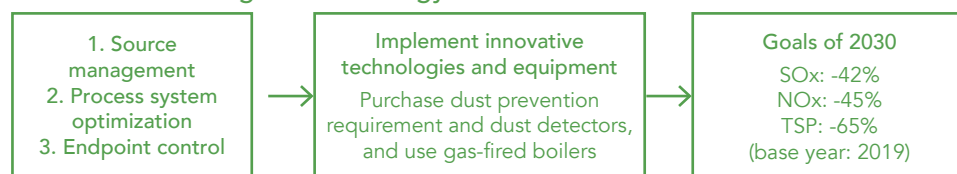
- SOx: -36 %
→ -43%
- NOx : -39%
→ -36 %, failure to reach the goal due to the impact of the pandemic, the development of the pollution prevention and control equipment (SCR) postponed till Q4 (Chupei Mill)
- TSP: -50%
→ -47%, failure to reach the goal for the introduction of external incinerator steam at the Houli Mill was unable to proceed smoothly
* Base year: 2019
- Zero odor effusion from the process
→ Tayuan Mill installed the biogas desulfurization equipment in wastewater treatment plant
→ Hsinchu Mill and Chupei Mill started SCR
- Keep purchasing high-quality coals
→ Sulfur content of coal dropped consecutively
- No fine for odors from air pollution
→ Zero penalty

To promote air pollution reduction, in addition to the regular testing of the boiler equipment and exhaust pipe, the Houli Mill and Tayuan Mill set up automated and continuous air quality monitoring facilities and connected them to the equipment of the competent authority to ensure compliance of the emissions with laws and regulations. Improvement measures are taken for the pollutants on an ongoing basis and the following three phases are designed for the improvement: source management, process system optimization, and end control. The source management includes reducing the consumption of coal, heavy oil, and other fossil fuels by integrating energy resources. We have also set long-term reduction targets to reduce air continuously.

After building an indoor coal yard in Houli Mill in 2019 to reduce dust effusion, we continue to add a dust prevention equipment over the top access of the coal bunker, water spray and foal dust removal equipment, and bag-type dust collector fly ash air conveyor system in 2020. We also built the SCR* control equipment at Tayuan Mill, and installed other SCR control equipments at Hsinchu Mill and Chupei Mill in 2021. The Tayuan Mill also added desulfurization equipment to the wastewater treatment plant, while the Houli Mill increased the purchase of electricity generated from cogeneration. Each plant is actively working to improve air quality. In addition, the company actively procures high-quality coal, and the sulfur content of the coal purchased in 2022 has been reduced to 0.4%, compared to 0.8% in 2019, resulting in a 50% reduction and a significant decrease in SOx emissions. The sulfur content in the past three years was 0.44% in 2020, 0.45% in 2021, and 0.4% in 2022. The Paper Products Division has also been replacing the fuel boilers in all paper product plants since 2013, with the project completed in 2020. This not only saves fuel costs but also reduces air pollution, achieving a win-win outcome for environmental sustainability and business growth.

* SCR (Selective Non-Catalytic Reduction) is the technology to remove NOx from flue gas

Air Pollution Management Strategy



CLC Houli Mill: Taiwan's first mill with an indoor coal yard

Houli Mill initiated the construction of the new indoor coal yard in 2017 and was completed in March 2019. The coal yard covers up to about 20.6% of the coal of the mill. The coal bunker consists of three sections and care store three different types of coals for use by boilers from different burning characteristics to enhance bunker control efficiency and prevent spontaneous combustion of coal through turning prevention. We also constantly assess the construction of coal bunker in other mills to enhance coal efficiency.

Taiwan's first papermaker using gas boilers in all container box plants

In 2013, we began to fade out the fuel-oil boiler of all container box plants and had completed the modification project of in five container box plants: Panchiao, Tayuan, Miaoli, Taichung, and Yenchao. In 2019, supporting the "Industry Low-Carbon Application Project" of the Chiayi County Government, the Talin plant has activated the gas-fired boiler modification project in January 2020. After using gas-fired boilers in all container box plants, the combustion efficiency increased by over 5%, GHG emissions reduced by 27%, NOx emissions reduced by 63%, and TSP emissions reduced by 93%*.

* Calculated according to the "Regulations Governing the Emission Coefficients, Control Efficiency, and Other Quantification Rules for the Declaration of the Air Pollution Control Fees for Particulates, Lead, Cadmium, Mercury, Arsenic, Hexavalent Chromium, and Dioxin at Public and Private Stationary Pollution Sources".

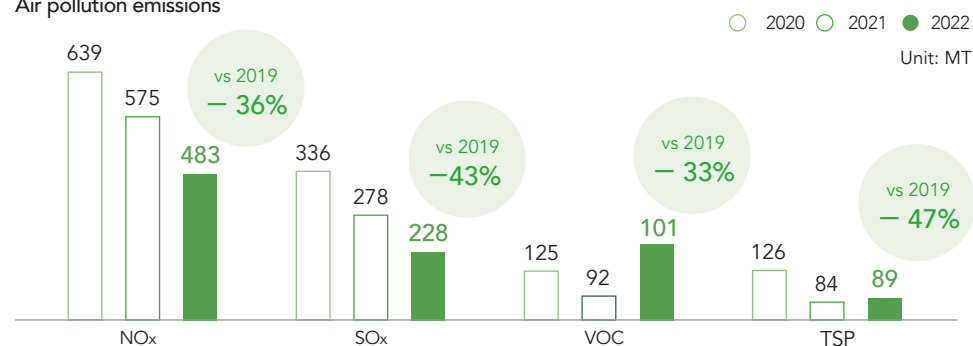


To resolve the odor problems in paper mills, our efforts in process improvement and system optimization have borne fruit. All units also inventory the odor sources and make the odor maps to focus on the improvement countermeasures. In endpoint control, we build high-efficiency air pollution control equipment to effectively control air pollution emissions. In 2022, the Company receive no fine for odors from air pollution.

Mills Odor Management Practices

- ➡ Reduce fermentation in wastepaper storage and enhance pulp chemical retention rate to reduce organic substances from entering the process and wastewater treatment plant.
- ➡ Modify flue-gas desulfurization (FGD) equipment.
- ➡ Add covers to the wastewater treatment plants and perform confined negative pressure suction in biomass energy processing.
- ➡ Establish perimeter monitoring and odor management, real-time reporting, and self-check.

Air pollution emissions



Note: Taiwan Area

4.5 Waste to Resource

[Material Issues](#)
[Waste to Resource](#)
[Strategy](#)

Increase waste-to-resource channels and increase waste-to-resource ratio annually toward zero waste.



Goals of 2030

- Waste-to-resource ratio up to 96%
- Implement the circular economy in waste management

Goals of 2023

- Waste-to-resource ratio up to 93%
- Implement waste-to-resource revitalization and regeneration

Goals / Action Results of 2022

- Waste-to-resource ratio up to 92%
 - ➔ Amount of waste-to-resource reached 321,169 MT at 95.6%, up by 3.2% YoY
- Implement waste-to-resource revitalization and regeneration
 - ➔ Expanded the waste paper mixture reuse channels to reduce incineration and landfill
 - ➔ Increased the co-firing coal ash reuse channels (using SRF: D-1199)
 - ➔ Introducing the reuse of pulp and paper residues
 - ➔ Waste food paper container certified processing capacity up to 2,000MT/month, up by 42%, at Chupei Mill in 2022
 - ➔ Promoted right uses for proper materials to reduce residual waste from 10–13% to below 6%

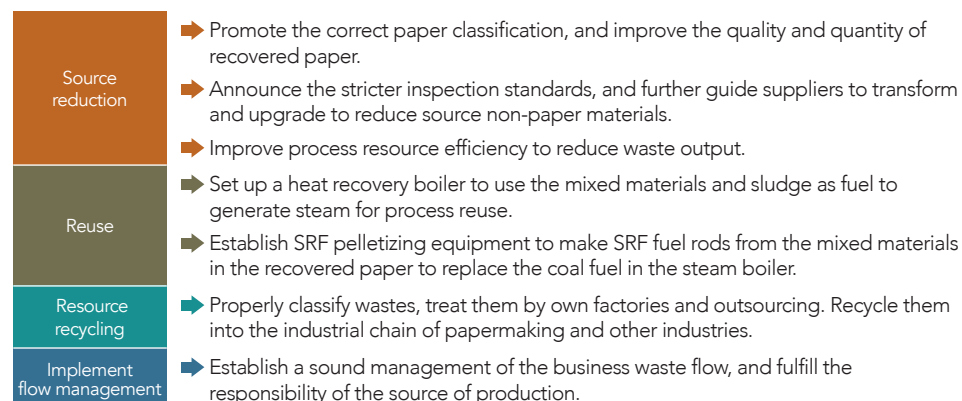
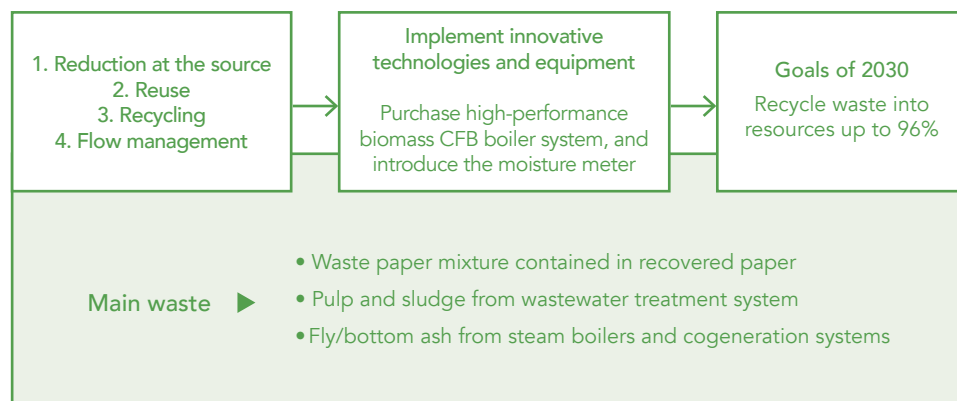
Believing that there is no waste by misplaced resources, to achieve sustainable resource use, we adopt waste management in terms of following four approaches: reduction at the source, reuse, recycling, and flow management. The waste that the Company produces is general industrial waste without any hazard.

In 2022, the rate of waste resource utilization of 95.6%, significantly surpassing the annual target.

Every year, we recycle a large quantity of recovered paper and implement waste-to-resource on the impurities contained in wastepaper based on the circular economy model and achieve the zero waste vision. In 2022, we recycled 313,169 MT of waste to achieve waste-to-resource up ratio to 95.6%, with an annual growth by 3.2%. Significantly surpassing the annual target of 92%. We will start the operation of the high-performance biomass CFB boiler system at Chupei Mill in 2023H1 to reuse process residual of all CLC mills in Taiwan to significantly increase waste recycling.

To accurately capture the flow of waste and ensure all waste is legally and properly disposed of or recycled, besides carefully selecting waste disposal and recycling contractors and periodically retrieving and comparing the actual quantity shipping to the mill/plant and the recycling quality at the plant, we also enhance contractor audits, including requesting contractors to equip the GPS on all trucks to trace and management the flow of waste.

Resource Recycling and Management Strategy



Waste Disposal Innovation Project

Waste-to-Energy! We produced solid recovered fuel (SRF) with residual process material from papermaking to prevent the environmental load from landfill and reduce burning coal, electricity dependency, and GHG emissions. In 2023 H1, we introduced Taiwan's largest high-performance biomass CFB boiler system to Chupei Mill, with a monthly processing capacity of 14,000 MT toward the 96% waste-to-fuel target in 2030 to enhance the waste-to-energy for development renewable energy.

1. Introduce the first "moisture meter" in Taiwan to strictly inspect with residue moisture content, and use intelligent identification of recovered paper quality and to improve energy saving and carbon reduction & cost effectiveness.
2. Guide recycling contractors to engage in transformation and upgrading, promote correct waste sorting and the right use for proper materials to reduce residual waste from 10–13% to below 6%.
3. Using innovative technology to completely implement recycling food paper containers: To support of the government's waste food paper container recycling policy, we build the first paper maker completely recycling food paper containers in Chupei Mill. From January 2022, the approved processing capacity of waste food paper containers reach 2,000 MT per month, with an increase of 42%.

Waste Disposal Methods

Unit: MT

Type	2020	2021	2022	Reuse method/ Types of non-recyclable waste
Recyclable waste (A)				
Waste paper mixture	109,201	132,185	124,414	Reused to SRF
Sludge	105,282	98,101	98,543	Steam boiler fuel
fly ash/bottom ash	28,071	32,038	85,743	Cement plant/concrete plant reuse
Other waste	38,162	51,769	12,469	Reutilization of waste wood and lubricating oil/ publish and reuse
Non-recyclable waste (B)				
Total waste (A+B)	329,642	339,915	335,986	
Waste-to-resource ratio (A/(A+B))	85.2%	92.4%	95.6%	

Note: Taiwan Area

The Taoyuan Government led a team to inspect Tayuan Mill and praised its strong promotion of SRF (Solid Recovered Fuel) for waste-to-energy conversion

Since 2000, the Tayuan Mill has been equipped with a heat recovery boiler, reducing the need for outsourced waste disposal. The mill converts waste into Solid Recovered Fuel (SRF) as a substitute for coal, providing low-carbon fuel for the mill itself and nearby industrial areas, promoting shared prosperity in the industry. Starting in 2021, the mill has collaborated with the city government by allocating surplus capacity to assist in the disposal of waste from other companies in Taoyuan City, mitigating waste disposal issues arising from maintenance shutdowns of incinerators.



4.6 Biodiversity

Sustainable forests are closely related to the paper industry, and CLC is committed to using recycled paper as its main raw material, making it a typical circular economy industry. We are committed to realizing the vision of sustainable forests, and purchasing FSC™ pulp. In addition, we have set the FSC™ pulp consumption ratio at 100% in 2030 target, and all domestic and international CLC mills/plants have passed FSC™ certification. In 2022 the FSC™ pulp consumption ratio reached 92.6%, due to the impact of the natural and man-made disaster, causing the reduction of the supply by 6.3%. This encourages landowners to maintain the original look of forests to protect and promote environmental sustainability.

In addition, with a perfect water management strategy and through a series of sustainable development actions, such as building wildlife ponds and greeneries, growing trees, and adopting parks, and ecological monitoring in 2021, we actively nurture biodiversity, fix carbon to mitigate the greenhouse effect, and correspond to "halt biodiversity loss" in SDG15 "Life on Land".

Rivers and Wetlands

By implementing water PDCA management and cross-plant exchange, enforcing process water conservation and graded water management, enhancing the efficiency off process water reuse, we supply safe and compliant effluents as a steady water source of rivers and wetlands near our mills/plants. By actively practicing river adoption, Tayuan Mill and Hsinchu Mill are recognized as "Outstanding River Adoption Enterprise" by the government.

Environmental and ecological monitoring from "construction" to "operation" to ensure co-prosperity of construction sites and local communities

Apart from in-house water and energy management, we also emphasize ecological conservation in nearby communities to turn the carbon reduction outcomes from carbon neutralization into the perceived environmental common good, more than simply data. Tayuan Mill has adopted the nearby section of the Chaxi River for 8 years. In addition to protecting its native ecology through periodic river cleanup, water quality monitoring, and outsourced ecological monitoring to ensure the mill's sustainability compliance, it also shares the monitoring data with the local environmental protection authorities to maintain data disclosure transparency. To enrich local biodiversity, Tayuan Mill implements discharge management during plant operations and forms an environmental watch with employees and community residents to patrol the environmental condition of the river each month. It also mobilizes plant workers to participate in the expanded river cleanup every six months.



Starting in 2021, we have collaborated with the Life Sciences Department of NCU to initiate the "Sustainable Action for Ecological Monitoring and Survey"

To enrich local biodiversity, in 2021 Tayuan Mill activated the "Ecological Monitoring and Survey" in collaboration with the Department of Life Science, National Central University (NCU) to explore the habits of local species and local environmental needs to seek active methods to co-exist with nature. The investigation found no significant differences between the plant's nearby ecology/environment and that of Pond 731 in Taoyuan Gaorong Wildlife Refuge. Apart from being the winter habitat of waterbirds, including the teal and common moorhen, the waters near Tayuan Mill have become a new spot where the mudflat crab was recorded. The richness of local biodiversity is comparable to that of a national grade wildlife refuge. Through long-term ecological monitoring and continuous local environmental protection, biodiversity has been enriched, and Tayuan Mill also became a model manufacturer in true environmental sustainability.



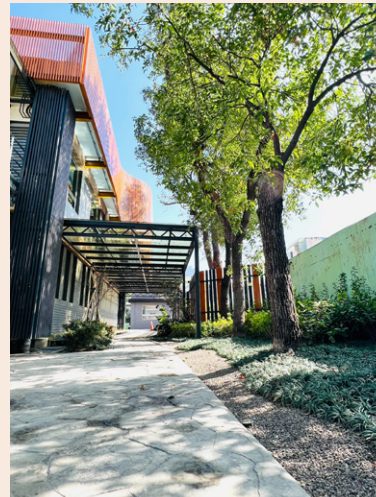
Greening and beautification of CLC Binh Duong Mill: A modern mill in harmony with nature

To value ecological conservation and factory greening, besides actively implementing phase II and III expansion projects of Binh Duong Paper Mill in Vietnam, we also spare no efforts in greening and beautifying the plant environment. Besides reducing carbon and regulating temperature, greening and beautifying the site with flowers and trees have turned the front of the mill, the employee dormitory area, and the water treatment zone into small verdant parks and transformed the mill into a harmonious green space for employees to enjoy and take a walk after work.



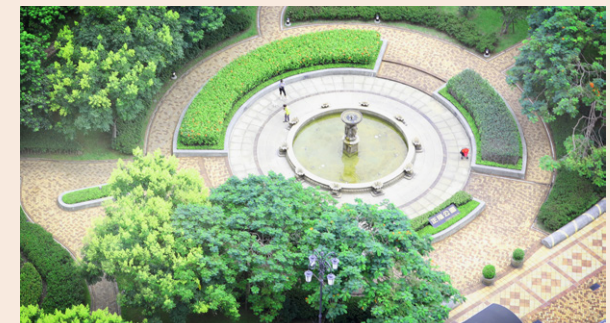
Plantation for Forest Protection

Since CLC was established, we began to grow trees actively across Taiwan. For example, Chupei Mill began to plant over 2,000 seedlings a year from 1973. Today, it has grown nearly 100,000 trees to achieve a high oxygen plant site with a landscaping greenery. It also collaborates with the Forestry Bureau and private professional forestation teams to select species suitable for the environment. We also respond to local government tree planting plans irregularly to enrich biodiversity.



Adopting CLC Park and growing endemic plants to keep the green for a virtuous cycle

To provide citizens working and living near CLC HQ in Panchiao with a safe and comfortable corner for leisure and recreation and a greenery that can block traffic, noise, and unpleasant landscapes, from 2009, we began to adopt an open space with an area of 2,000 ping (approx. 6,610 m²) right in front of CLC HQ to build the CLC Park. Inside the CLC Park, we have grown early twenty endemic species of trees to realize biodiversity with trees and grasses. We also periodically maintain the plants, clean up the environment, ensure lighting safety, and keep the public toilets clean inside the park. Moreover, we change the flowers and plants according to the seasonal changes to provide local residents with a green corner to enjoy the common good.





Employees

We value our commitment to employees, by building a happy and healthy workplace, and creating a challenging work environment suitable for sustainable learning, to grow together with our people.

5.1 Diversity and Equal Opportunity

5.2 Talent Cultivation and Development

5.3 Healthy Workplace

- Cooperated with National Chung Hsing University and **11** corporations to found the "Circular Economy Research Institute"
- Joined "TALENT, in Taiwan" to foster the sustainable talents with 100 corporations
- Selected as a constituent of the "TWSE RA Taiwan Employment Creation 99 Index" for **12** consecutive years
- Expenses on employee benefits up by **+2.04%** YoY
- ESOT (Employee Stock Ownership Trust) up to **51.7%**, **+3.9%** YoY
- Salary raises for **16** consecutive years, **+2.19%** YoY
- **8** mills/plants certificated the MOHW "Healthy Workplace" OH&S promotion activities with **5,614** participants



5.1 Diversity and Equal Opportunity

Material Issues

Diversity and Equal Opportunity

Strategy

Provide competitive salaries and sound benefits to attract outstanding and diversified talents, and realize workplace equality.



Goals of 2030

- Diversify employee benefits
- Raise the average employee salary by 10% vs 2020.
- Cultivate young management

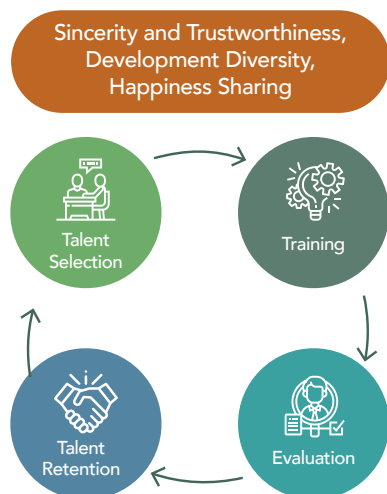
Goals of 2023

- Diversify employee benefits
- Strengthen the employee assistance program (EAP)
- Provide competitive salaries.
- Implement cultivation programs for a younger management, and optimizing the management organization

Goals / Action Results of 2022

- Diversify employee benefits
 - ➔ Emphasized equal workplaces ,and continued to improve in "encouragements from supervisors" in 2021 Employee Opinion Survey
 - ➔ Expenses on each employee were NT\$ 50,000 , +2.04% YoY
 - ➔ Maternity leave/ Paternity leave are increased to 8 days, which is better than the regulations (7 days)
- Strengthen the employee assistance program (EAP)
 - ➔ Strengthen the employee assistance program (EAP) from 3 aspects" work, life, health"
- Provide competitive salaries
 - ➔ Raised salaries by 2.19%
 - ➔ Selected as a constituent of the "TWSE RA Taiwan Employment Creation 99 Index" for 12 consecutive years
- Implement cultivation programs for a younger management
 - ➔ Promoted 46 employees with < 5 years seniority to the management in 2018-2022 (female: reached 13%)
 - ➔ Started elite rotation plan
 - ➔ Promoted the Talents Recommendation and Training Planning System
 - ➔ Held 23 Paper Product Overseas Staff OTJ Courses

Human Resources Strategy



Talents are the most important asset to CLC. In response to domestic and overseas expansion and the need for sustainable development, we attract excellent talents to join the CLC with a competitive remuneration system. With "sincerity and trustworthiness" as the highest guidance, we cultivate partners who recognize with our corporate culture, vision, and core value to work for CLC's mission.

Management Approach

- ✓ Optimize talent and workforce management, engage in domestic and overseas development, become a local benchmark enterprise.
- ✓ Cultivate excellent international talents, strengthen the management system, and innovate workforces.

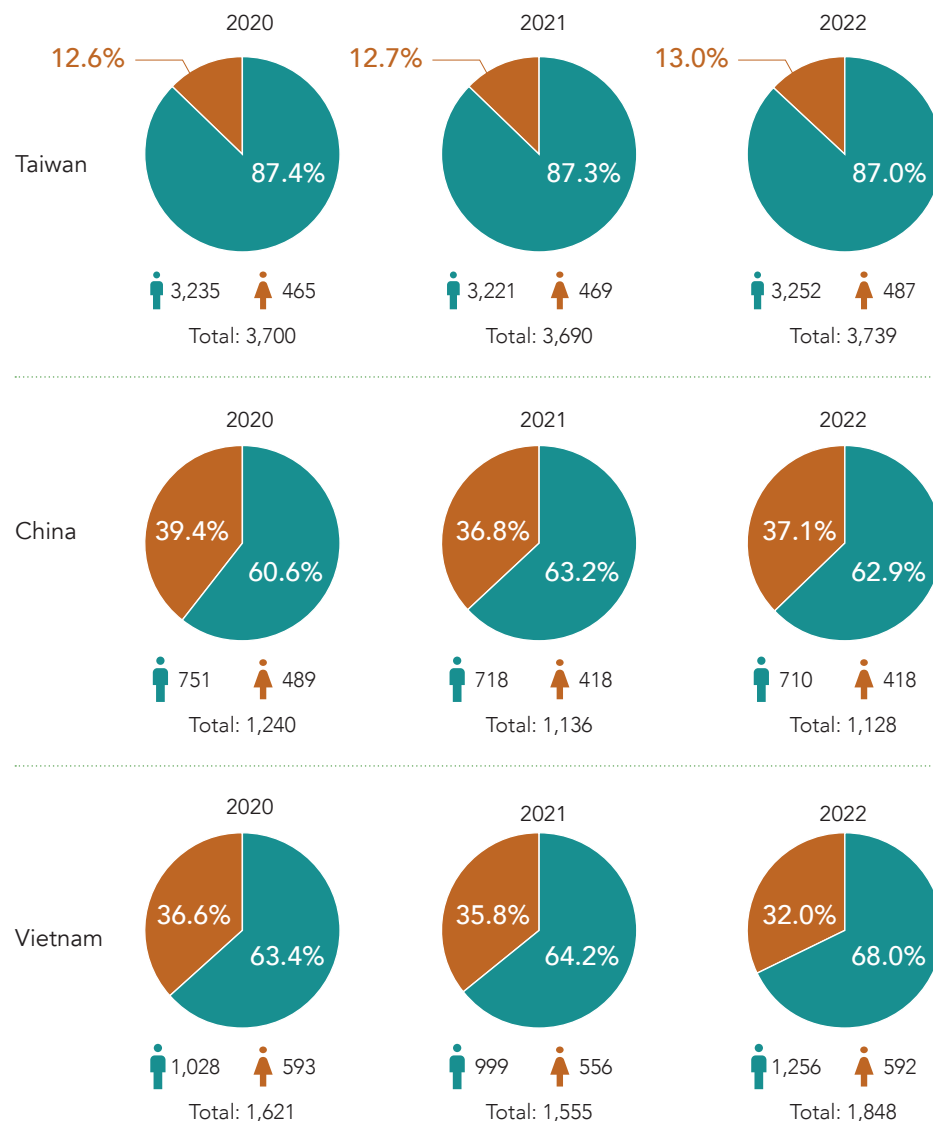
Employees are key to the success of corporate sustainability and one of important stakeholders. To align with SDG 8: "Decent Work and Economic Growth", from the viewpoint of long-term talent development, we discern the positioning of the salary and workforce markets and combine with the medium- and long-term strategies for business development and operational performance to make constant adjustment of wages and benefits, listen to the needs of employees, and optimize the welfare system, hoping to effectively retain talents through sharing.

Enhance female power, the proportion of female employees increased to 13% in Taiwan and 22.3% for Whole group

By the end of 2022, the number of employees across major operation base (Taiwan, China and Vietnam) were 6,715 persons, increasing 334 persons. For Taiwan district, there are 3,739 employees, including 2,905 labor staff, 688 management staff, and 146 senior officers* hired 100% from Taiwan. The overall number of employees increased 49 persons. Due to the characteristics of the paper industry, male employees are traditionally higher than female employees, however, more female staff are hired in the production, technology, R&D, and marketing departments in recent years. In 2022, the proportion of female employees increased by 0.3% to 13.0% in Taiwan, and 22.3% for Whole group. Despite the significant gap between male and female employees, we always put competence first in talent recruitment, employment, and development and maintain equality and fair treatment of employees regardless of nationality, gender, race, religion, color, age, sexual orientation, marriage, and political affiliation. Therefore, no discrimination was reported in 2022.

*Senior officers are "first-level of supervisor"

CLC Gender Structure of Employees



*Note: About CLC's structure of employees, position, age, seniority, education and employment contract, for more information, please refer to the employee information tables in Appendix.

5.1 Diversity and Equal Opportunity

5.2 Talent Cultivation and Development

5.3 Healthy Workplace

Value Human Rights and Development Diversity

“ Through fair and open recruitment channels, all employees are entitled to equal rights and benefits regardless of gender, race, and nationality, in order to protect basic human rights. ”



Human Rights

The Company's business bases in various places strictly abide by local labor regulations, are committed to protecting the basic human rights of all employees, and support and declare to the basic spirit of international conventions while formulating CLC's human rights policy in accordance with their guiding principles, so that all relevant people can be treated fairly and with dignity, including "tolerance of diversity and anti-discrimination, ban on child labor and prohibition of forced labor etc." For employees to understand more about human rights, we enable employees to learn more about their rights and interests through internal EIP website, publications and the E-Learning system. The courses and reports included "Stalking Harassment Prevention Act", "Power and Rights". Value workplace equality, we held several courses and promoted project of friendly workplace, including to revise "Sexual Harassment Prevention Act". In addition, we held courses in 23 categories, 30 sessions to strengthen Taiwanese executive-level management competency and communication skills. CLC also set up the grievance mechanism for Sexual Harassment Prevention and Corruption. There are employee opinion email and communication channels. Besides, we provide channels for reporting unlawful or unethical behavior "Sincerity and Trustworthiness".



CLC Bimonthly (2022.01)

Management Guidelines on Human Rights Policy



- Tolerance of diversity and anti-discrimination
- Ban on child labor and prohibition of forced labor
- Anti-corruption and ethical management
- Health and safety workplace and work balance
- Freedom of association and smooth communication channels

※For the complete human rights policy, please refer to [CLC's official website-Human Rights Policy](#)

Equal Employment

We followed the "People with Disabilities Rights Protection Act", and "Indigenous Peoples Employment Rights Protection Act", and hired 41 persons with disabilities and 23 indigenous people. In order to promote multiple employment, we have set up the "Bonus for Indigenous Long-term Employment". In 2022, a total of 23 eligible colleagues have applied. Not only do we encourage the indigenous peoples to work in CLC, but also hope that employees can serve for a long time. In terms of workforce composition, most CLC employees are Taiwanese, and we prioritize employment for local residents at individual production bases. Besides creating local job opportunities and stimulating domestic economic development, this policy also helps stabilize workforce. To ensure the well function of production line, we only hire a small number of foreign workers for the vacancies (job openings) that cannot be filled by local citizens.

Equal Employment Table

Note: Taiwan Area

	2020	2021	2022
Disabilities	40	39	41
Indigenous	27	26	23

A Younger Workplace, 13 % of female employees with seniority below 5 years have been promoted

As the paper industry is one of the traditional manufacturing industries dominating by male employees in the past, most members of the junior management are male, resulting in a ratio of about 10.9:1 in terms of male and female. There are 404 team or group leaders in Taiwan in 2022. For employees with seniority below 15 years, it takes about 7 years. Due to the transformation, younger people have been promoted to the junior management in recent years. In addition, following the rise of equal opportunity in employment, male is no more the only option of important positions, the female gentle and firm personality is suitable for the requirement of exquisite and mellow for the Manufacturing Services. Since 2018, there are 46 employees with seniority below five years have been promoted to the junior management, and 13% of them are female, showing a significant change from the past (2014-2017).

The gender ratio of promoting supervisors in recent years

Note 1: Taiwan Area

Note 2: Young executives are defined as less than 5 years of seniority

Note 3: Proportion calculation method=number of male (female) young executives / total number of young executives

	2014-2017	2018	2019	2020	2021	2022	2018-2022
Ratio	0%	0	3	1	1	0	1
Ratio	100%	48	10	3	7	8	12
Ratio	100%	0%	100%	100%	100%	100%	100%

Implement cultivation programs for a younger management to optimize the management organization

Elite Staff Job Rotation and Training Plan

Each year we select elite personnel with outstanding performance in the employee performance evaluation and arrange job rotation at different departments for employees to develop multifaceted competencies. Staff with outstanding performance in job rotation will be promoted to deputy supervisors to engage in supervisor duties such as decision-making and personnel management so as to further develop their management competency.

Talents Recommendation and Training Planning System

We are committed to building a well-established talents cultivation system and planning learning and development courses and training plans by level based on the organizational development and competency diversity. In recent years, we have been implementing key talents training programs. In 2023, we establish the Elite Recommendation and Development System for supervisors to develop potential talents.

Paper Product Overseas Staff OTJ Courses

Trainees included employees who voluntarily applied for the courses or who were recommended by their unit supervisors. These courses focused on field practice through job rotation and was supported with classroom instruction. 23 categories supervisor classroom courses (30 sessions) were offered in 2022 for staff to choose.

Suitability and Retention

We respect personal traits and expertise in employment and salary is according to their academic attainment, past experience, professional knowledge and skills, and professional seniority and experience. To retain excellent talents, through transparent policies including promotion, transfer, external training courses and resources, and the excellent talent pool, we encourage employees to take challenges and training to become management assistants. Medium- and higher-level supervisors at different management levels can also enjoy additional benefits including supervisor health checkup allowance and vehicle purchase allowance, and so on. In 2022, there were 388 new employees, with an employment rate of 10.4%. The male-to-female ratio of new employees in all employees was 10.1%:11.9%.

*Note: About CLC's new employees information by age and by region, for more information, please refer to the [employee information tables in Appendix](#).

People oriented, Right People in the Right Place

Maintaining a 10% reasonable turnover rate

Suitable personnel turnover is necessary for enterprises to pursue sustainable development. In recent years, apart from maintaining a 10% reasonable turnover rate, we constantly recruit new employees to bring in vitality and diversify. In 2022, a total of 345 employees or 9.2% resigned, in terms of gender among all employees, 9.3% were male and 8.6% were female.

To effectively retain employees, we actively interview those filing their resignation and provide them with information about the internal job openings in order to facilitate the adaptive development of employees, reduce the impact of adaptation to job transfer, and to lower the overall turnover rate.

Online Anonymous Survey

In 2019, we began to conduct the online anonymous survey of the resignation procedure to discover, and review related problems and propose countermeasures, in order to provide a reference for the future amendment and adjustment of related management regulations or the welfare system. We received 178 responses till now.

Re-employment of Senior Employees

In response to macro-environmental changes, such as population aging and talents discontinuation, we are committed to building a workplace culture allowing the accumulation of professional knowledge and experience and respect for employees for excellent employees to continue their contribution after the retirement age. In 2022, a total of 22 employees reached the retirement age. During 2018–2022, we hired 3 retirees as short-term consultants.

Turnover rate in the past three years

	2020	2021	2022
Total turnover	366	315	345
Number of workers	3,700	3,690	3,739
Turnover rate	9.9%	8.5%	9.2%

*Note 1: Taiwan Area

*Note 2: About CLC's resigned employees information by age and by region, for more information, please refer to the [employee information tables in Appendix](#).

Listening to Employee Opinions

To build a quality workplace environment and realize the corporate commitment and policy, we value the opinions of employees and provide various channels for employees to express their claims, including the quarterly labor-management meeting, annual employee opinion survey, new and resigned employees opinion collection, labor union, and the anonymous communication channels on EIP internal website.



Employee Assistance



Employee Opinion Survey



Chairperson's Box, and Audit Hotline

Labor-Management Meeting and Labor Union

We hold the quarterly labor-management coordination meeting at each mill/plant to promote labor-management communication and strengthen a reciprocal relationship. We also have 2 internal labor unions (Chupei Mill and Hsinchu Mill). Besides the annual member meeting, the labor unions also hold the quarterly director and supervisor meeting to properly handle and follow up all suggestions made by the labor representatives at the meeting to respect and properly deal with the challenges and difficulties that employees face at work. All mills/ plants held Labor-Management Meetings in 2022.



Employee Opinion Survey

We surveyed the opinions of employees to increase the identity and commitment for the organization with 104 Job Bank and the satisfaction of employees raised up for 3 consecutive years. We collected the employees' opinions and checked the suitability of the regulations. About 1,300 employees participated in each year with the valid response rate reached over 40%. For the advice and improvements from the survey results, we'll conduct the survey irregularly and continue to listen to the employees' opinions in the future.

➡ Surveyed the opinions of employees with 104 Job Bank for 3 consecutive years

2019 | First time to systematically gather employee opinions as the reference of decision making.

2020 | Enlarged to collect the employees' opinion of workplace, career development, and motivation from management, etc.

2021 | Added dimension of colleagues, enterprise culture, etc. Provided reward mechanism to increase response rate.

2022 | Responded to the 2021 survey results, we made the improvement from the "workplace environment", "career development", and "supervisor's encouragement" aspects.

➡ The satisfaction of employees raised up for **3** consecutive years, valid response rate reached **41.25%**

CLC started the cross-functional team about the result of the survey and fulfilled the employees' expectations. We set the improvement goals and action plans, and integrated into the human resource strategies and plans. The followings is the performance:

Compensation | Salary raises for 16 consecutive years, +2.19% YoY. And expenses on employee benefits up by +2.04% YoY.

Training and Development | Promote the elite staff job rotation, and increased the work experience and development to cultivate the young management trainees.

Communications | Promote the middle- and high- level supervisors communication and management training to improve the organizational harmony and efficiency.

Work Environment | Built new dormitories in Chupei Mills, Tayuan Box Plants and Tayuan Mills, and the equipment renewal to provide the comfortable workplace.

The main building of the new dormitory in Chupei Mill will be completed by the end of 2023

It has been nearly 50 years, since the employee dormitory in Chupei Mill was established in 1975. In order to improve the current situation of old buildings and narrow layout, the groundbreaking ceremony for the new dormitory project was held on July 27, 2022. The main building is planned to be completed by the end of 2023. After several discussions with the employees, the first floor of the new dormitory is planned as a public space, including a hall, a social hall, a gym, a sports and entertainment area, and a staff canteen and kitchen. The second to sixth floors are the accommodation area, and the first basement floor is the parking area. The dormitory uses hard, wear-resistant and non-slip quartz tile floor, and the sound-proof steel plate and wood-grained door. The room design is elegant and simple, and the furniture, home appliances and bathroom equipment are all available, providing colleagues with a safe, comfortable and clean environment.



5.1 Diversity and Equal Opportunity

5.2 Talent Cultivation and Development

5.3 Healthy Workplace

Well-Developed Retirement System

To protect the later life of employees, we have established the "Employee Retirement Implementation Regulations" according to the Labor Standards Act and Labor Pension Act. Besides stating the requirements for retirement, we contribute to the pension reserve by law to protect the employee's rights and interests to claim their pensions. To thank for employee's contributions to the CLC, the supervisor in hiring unit will also present retirees a "Merits for CLC" retirement gold medal to express the CLC's appreciation for their contributions.



Leading the Industry, Employee Profit. Sharing and Encouragement for Investment with Participate Rate >50%

To stimulate employee morale and appreciate the efforts and contributions made by employees, we review the overall operational performance every year to appropriate a certain amount of profit as employee profit sharing. Since 1998, we established a trust fund to encourage employees to participate in the employee share ownership trust (ESOT) to share the company's long-term operation results. CLC would provide 40% added allowance base on the amount employee allocate in the trust fund. In 2022, participate rate which employees signed up to the ESOT reached > 50% (+3.9% YOY, with > 40% over the years), total allowance reached NT\$38.93M.

Year	2020	2021	2022
Number of employees in ESOT (persons)	1,613	1,648	1,795
Employee participation rate*	47.4%	47.8%	51.7%
Amount of trust funds (NT\$10,000)	3,553	3,538	3,893

* Note 1: Taiwan area

* Note 2: Employee participation rate: Total number of employees deducting the number of foreign workers/ total number of employees

Salary and Treatment

Providing Competitive Salaries, Salary raises for 16 consecutive years, becoming a constituent the "TWSE RA Taiwan Employment Creation 99 Index" for 12 consecutive years

Besides employee salaries are higher than the local minimum wage by 30% for bachelor's degree and 50% for master's degree, we promote gender equality and equal pay for equal work. As male employees are generally more senior than female employees in some grades and have longer overtime work, the pay is different between male and female employees. Every year we review company's business performance and make the salary adjustment based on the commodity price. resulting in the raise of the employee's salary for 16 years at 1.5-3% each year, and up to 2.19% in 2022. In addition, wage of the non-management full-time employees is around NT\$918 thousand, and the mean wage of full-time is around NT\$85 thousand.

Average and Mean Wage of Full-time Employees

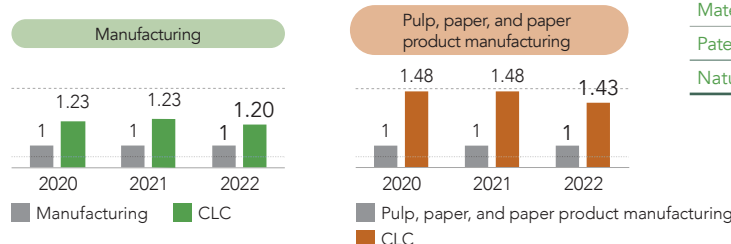
Note: Taiwan Area	2020	2021	2022	Growth rate
Number of non-management full-time employees (persons)	3,568	3,566	3,554	-0.3%
Average wage of full-time employees (NT\$)	955,014	1,002,595	918,285	-8.4%
Mean wage of full-time employees (NT\$)	904,111	940,805	849,955	-9.7%

Note: Due to the impact of the overall economic and trade environment downturn, the performance and profits in 2022 fell short of expectations, resulting in a reduction in the bonus payout amount.

Comparison of Regular Earnings of Employees

in Different Industries by the DGBAS

Note: Taiwan Area



Note: About CLC's salary ratio by gender, starting salary for new employees compared to the local minimum wage, for more information, please refer to the employee information tables in Appendix.

Employee Benefits

Better than the regulations: Expenses on employee benefits up to NT\$50,000 by +2.04% YoY

We are committed to establishing employee policies in conformity with the related laws and regulations and welfare better than the regulations including health examination and various leaves for each CLC employee to receive full and proper care and concern. We also take care of the life of employees with various benefits. The employee welfare committee hold committee meetings and review the welfare system regularly and constantly develop comprehensive and complete employee care solutions. In 2022, we spent about NT\$50,000 on the benefits of each employee, up by 2.04% from 2021. In addition, we awarded 《Happy Enterprise Award》 -Gold for the 3rd time which held by 1111 Job Bank.

(unit: NT\$10,000)	2020	2021	2022
Employee Benefit Expenses	15,249.7	18,038.9	18,701.6
Average benefit expense per employee	4.1	4.9	5.0

Note: Taiwan Area

Benefits Superior to Regulations

Note: Taiwan Area

Item	Content	Regulations
General health examination	Provide free health examination for all employees regardless of the age	Different frequency by various age range
Intermediate management health examination allowance	NT\$17,000~23,000/yr	None
Engagement paid leave	1 Day paid leave	None
Maternity leave	8 Days	7 Days
Paternity leave	8 Days	7 Days
Natural Disaster Leave	Paid Leave	None

Benefits

Employee health checkup

- ◆ Every year, we arrange free health checkup for employees.
- ◆ We sign up health checkup special offer programs for employees/dependents with 10 health checkup organizations.
- ◆ Provide additional health checkup allowance for intermediate management and increase to NT\$17,000~NT\$23,000/person (total allowance reached NT\$5.677M in 2022).



Club allowance

- ◆ We provide NT\$4,000 club allowance for each employee and hire exercise instructors to assist employees. In 2022, there are 25 clubs in CLC, including sports, foreign language, board games, etc. The number of participants are 851 persons, accounting for 22.7% of all employees.

	2020	2021	2022	2020-2022
Number of clubs	22	23	25	-
Total number of club members	726	827	851	-
Club allowance (unit: NT\$10,000)	180.2	185.3	264.4	629.9



Parental Care

- ◆ We offered a range of incentives to encourage birth. In 2022, 74 CLC babies were born, with a crude birth rate of 1.98%, higher than Taiwan's crude birth rate at 0.60% in the same period.
- ◆ Provide NT\$10,000 birth allowance for each newborn. If both parents are CLC employees, they can apply for the allowance individually. In 2022, we issued a total of NT\$750,000 of birth allowance.
- ◆ Tuition fees discount by contracted kindergartens. Added 1 kindergarten in 2022 and there are a total of 11 contracted kindergartens in Taiwan.

	2020	2021	2022		2020	2021	2022	2020 - 2022
Crude birth rate at CLC	2.08%	2.55%	1.98%	(unit: NT\$10,000)				
Crude birth rate in Taiwan	0.70%	0.65%	0.60%	Birth allowance	79.0	96.0	75.0	250.0

- ◆ Build up parent-friendly workplace: Parents could apply **Paternity Leave individually (superior to regulations)**, Parental Leave, Family Care Leave. We provide breastfeeding (lactation) rooms, and pregnancy parking spaces for female employees. The following is employees' usage of parental leave:

Item		
Total number of employees entitled to parental leave in 2022	297	31
Total number of employees that took parental leave in 2022	1	4
Total number of employees that returned to work in the after parental leave ended in 2022 (A)	1	2
Total number of employees that expected to return to work after parental leave ended in 2022 (B)	1	2
Return to work rate after parental leave in 2022 (B/A)	100%	100%
Total number of employees that returned to work in the after parental leave ended in 2021 (C)	1	1
Total number of employees that returned to work after parental leave ended in that were still employed 12 months after their return to work in 2021 (D)	0	1
Return to work rate after parental leave in 2021 (D/C)	0%	100%



Grants and Scholarship for Children

- ◆ **Basic education allowance:** To encourage employees' children (from elementary, junior high school to master degree) to study hard and engage in comprehensive development, we released a total of NT\$7.033M as scholarships in 2022, and a total of NT\$20.983M in 2020-2022 (recent 3 years).
- ◆ **Study and diversified development scholarship:** Following the life-long learning spirit, we encouraged employees' children to study hard and have diversified development. For children with outstanding performance, we provide another NT\$9,000 as incentive. There were 20 persons applied. We released a total of NT\$0.124M as scholarships in 2022, and a total of NT\$0.278M in 2020-2022 (recent 3 years).

	2020	2021	2022	2020 - 2022		2020	2021	2022	2020 - 2022
(unit: NT\$10,000)					(unit: NT\$10,000)				
Scholarship for Children	698.8	697.3	702.2	2,098.3	Number of employees that applied (persons)	19	16	20	55
					Scholarship for children with outstanding performance	9.0	6.4	12.4	27.8

Medical Allowance

- ◆ Including catastrophic illness (NT\$100,000/year), hospitalization allowance (NT\$30,000/year), family emergency assistance (disbursed from CLC Charity Foundation), accident/disaster allowance. Total allowance amount reached NT\$ 4.670M in 2022.

(unit: NT\$10,000)	2020	2021	2022	2020 - 2022
Medical allowance for employees and dependents	446.1	439.1	467.0	1,352.2

Travel Allowance

- ◆ Every year we organize group tours with fund for both domestic and foreign employees. In 2020, the allowance was increased to NT\$12,000 for each person. In 2021-2022, impacted by COVID-19, we adjusted the program into gift or accommodation vouchers and the allowance amount reached NT\$14,000.

	2020	2021	2022	2020 - 2022
Employee travel allowance	2,560.4	936.6*	1,195.6*	4,692.6

*Note: For the COVID-19 became serious in the middle of the year, most employees gave up the travel plan, and only few employees applied the accommodation vouchers.



Free Meal Supply

Supply free meals for employees, and establish a sanitary and comfortable dining environment.

Cash Gifts and Allowances

Wedding (including children) and birthday cash gifts.

Leave Diversity

➤ With superior natural disaster leave to the regulations, CLC employees are entitled to paid natural disaster leave with attendance bonuses; 1 day engagement leave; menstrual leaves once a month are provided for female employees.

Dormitory and Housing Allowance

➤ With the Job Rotation Policy, employees are able to receive the additional "Family Support Allowance" (NT\$1,200/ day, NT\$36,000/ month), provide dormitories, or offer them the housing allowance USD300-500/ month.
➤ Transfer living allowance: Provide dormitories for employees from other counties and cities in 11 mills/plants or offer them the housing allowance (NT\$6,000/month), and the traffic allowance to return home for 4 times.

COVID-19 Allowance

Responded to COVID-19, we offer the main assistance as followed:

- **Allowance for quarantine hotels:** Employees required to quarantine for job duties are entitled to the allowance for quarantine hotels at NT\$2,500 daily.
- **Medical allowance for expatriates:** A maximum of NT\$30,000 for outpatient consultation and NT\$100,000 for hospitalization.

Employee Assistance Program (EAP)

- Work (scope: management strategy, job adaptation, career assistance)
 - "CLC Total Learning" talents development system: We offer channels for systematic and targeted learning and continuing education and integrate internal instructors and job rotation to develop all-round talents for the paper industry and help employees respond to industry needs and job duties.
 - Life/work special training courses for foreign workers.
- Life (scope: work-affecting private life matters)
 - Emergency assistance: Financial aid is offered to employees living in difficulty due to illnesses or injuries.
 - Financial management, insurance and legal consultation services.
 - Established the "Regulations for Employee Counseling" to specify the process of handling employee grievances, including interpretation of the Company's rules and regulations, employee counseling, and daily life assistance.
 - Daily life assistance for foreign workers:
 - Assistance for getting medical attention and solving life adaptation problems.
 - Invitation for partition in the plant/mill anniversary celebration.
 - Funding travels and planning itinerary.
 - Full-amount funding for entry quarantine and isolation.
- Health (scope: health maintenance, and work and life quality improvement)
 - In-house medical services:
 - Services by full-time factory nurses and onsite physician consultation.
 - Provision of blood pressure monitors in-house to encourage employees to keep track of their own blood pressure.
 - Development of digital health tools:
 - In 2019 we launched the CLC Health Management Platform to digitize and systematize employee health management.
 - In 2020 we established the CLC Medical LINE@Health Group for nurse editors to provide real-time health and pharmaceutical information and health consultation services. The company has also used this group to conduct a comprehensive epidemic investigation, grasp the health information of colleagues at the first time.



5.2 Talent Cultivation and Development



Material Issues

Talent Cultivation and Development

Strategy

Accumulate talent strengths, optimize the job rotation heritage.

Goals of 2030

- Training hour per staff up to 48 hours/year
- Establish a key personnel talent pool and plan the talent development roadmap

Goals of 2023

- Training hour per staff up to 42 hours/year
- Empowered 300 internal instructors

Goals / Action Results of 2022

- Training hour per staff up to 42 hours/year
 - ➔ Training hour per staff up to 56 hours / year, YoY 10.8 hours
- Optimize existing training regulations/systems and 5 projects
 - ➔ Organized 32 physical courses (sessions) by external lecturer
 - ➔ Enhanced the professional and management competencies of supervisors, focused on team communication, established management guidelines, arranged job rotation for supervisors, and launched digital decision-making applications
 - ➔ Enforced education inheritance at home and abroad, empowered over 300 internal instructors
 - ➔ International talents recruitment policy and talents retention plan
 - ➔ Asia's first "Circular Economy Institute" established through industry-academia collaboration
- CLC E-Learning system upgrade
 - ➔ Completed the system upgrade, increased mobile functions and effectively traced training performance, accumulated 437 e-learning courses in 30 categories

“

Looking forward into overseas business deployment and the global trend of sustainable supply chain, we are promoting low-carbon smart paper transformation at full steam. Apart from enhancing the internal carbon reduction synergy through technology and operations, we emphasize the maximization of sustainable influence more. We also focus on developing green leaders that can keep up with the times, building a happy workplace featuring 'sense of honor,' 'sense of responsibility,' and 'sense of achievement' to incentivize and retain talents.

”

Chairperson Frank Cheng

10-Year Sustainability Talents Plan for Transformation towards Low-Carbon Operations

Upholding the corporate education philosophy of "accumulate talent strengths," we actively transform into a multifaceted and inclusive learning organization to develop sustainability talents. We set **48 hours of education and training per employee, empowerment of 300 internal instructors, and realization of young management by 2030 as the targets** to systematically implement ESG competency education and develop multifaceted international talents through job rotation in response to the increase in overseas business locations.

In 2020 we introduced the 10-Year Talents Empowerment Plan to respond to the group's implementation of the smart low-carbon paper plan in 2019. Based on the position and grade, contents were divided into fundamental competencies and professional competencies, **focusing on technology and engineering, ESG governance, digital technology, crisis management, international languages, and digital talents management and evaluation system** to promote total competence upgrading of employees through top-down implementation. In response to the trend in different fields, apart from dynamically setting targets and developing course contents for internal training and establishing long-term management and talents development plans for key positions, we also actively implement industry-academia collaboration, internship, and interdisciplinary programs, and run an internal academy to develop a steady sustainable talent pool for CLC and traditional industries. Additionally, aiming to become "Asia's new low-carbon and green energy paper company," we also joined the "TALENT, in Taiwan."

Establish own responsible units, to draw up training strategies and targets

Enhance training for key talents in response to the low-carbon operations transformation and group globalization. We developed the CLC organization benchmark learning system, established responsible training units, and built the business and industry key talents pool to continuously enrich multifaceted training resources.



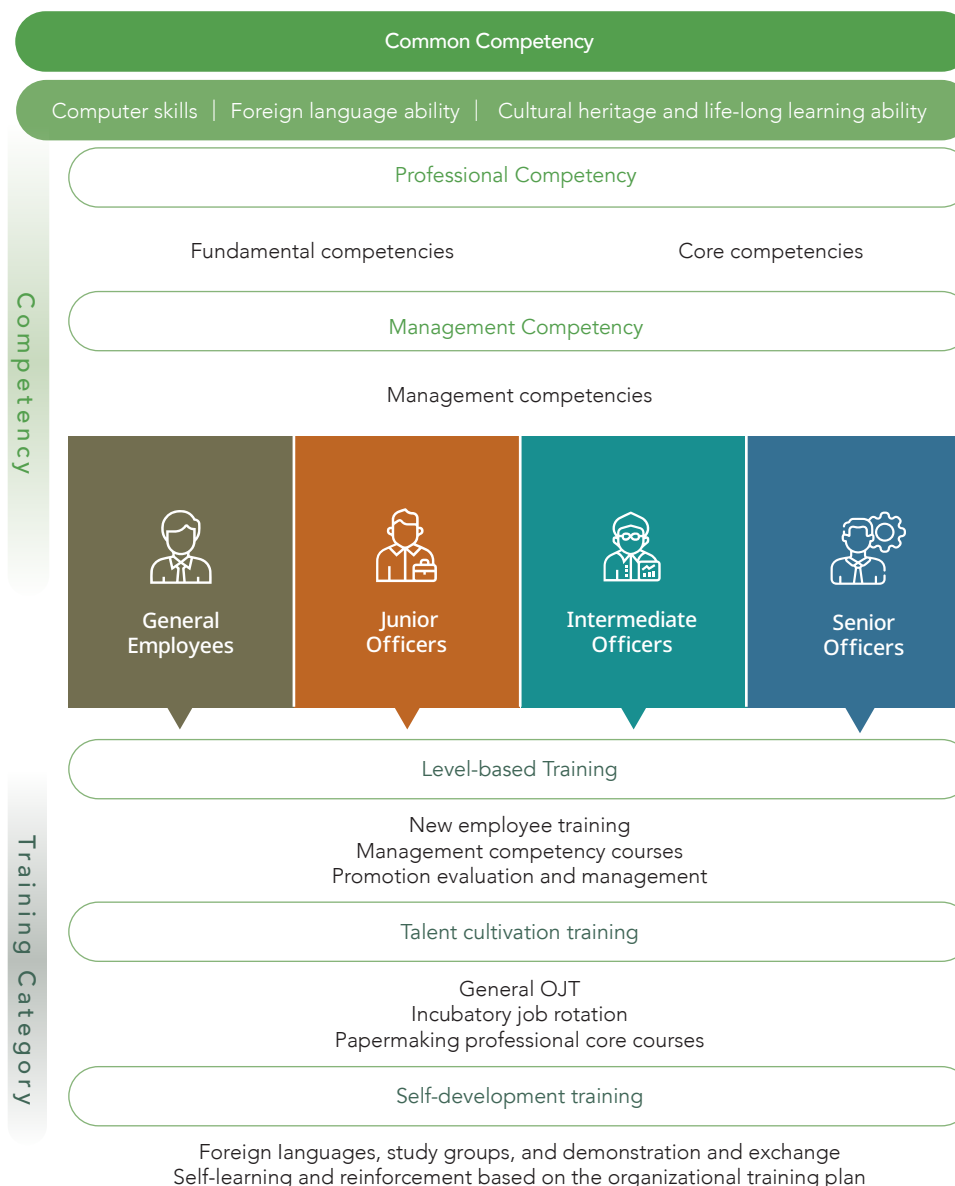
The HQ administration division planned the business-wide education and training.



Business units (across Taiwan and overseas mills/plants) take charge of employee competence education and training; emphasize experience inheritance, innovation, and practice; integrate internal instructors, total production management (TPM), and the excellent cases management system; and provide a systematic and targeted learning environment and continuing education channels.



CLC Talent Cultivation System



Multifaceted Channels for Continuing Education: Allowance for External Training, Continuing Education and "Foreign Language Improvement Program"



Allowance for external training and continuing education

Education allowance-NT\$100,000 for master's programs and NT\$150,000 for PhD programs

To encourage employees to practice lifelong learning, in 2021, we expanded the scope and increased the amount of allowances to provide NT\$100,000 for master's programs and NT\$150,000 for PhD programs for employees to freely choose the schools and courses for continuing education to optimize the cultivation of all talents.

Allowance for continuing education of other professional competencies: Papermaking competence optimization, ESG certificates

In 2022, a total of 918 employees applied for educational allowances, with an amount accumulating to over NT\$4.8 million.

Foreign Language Improvement Program: Foreign Language Allowance, English Presentation Contest

- Foreign Language Allowance: Across 3 foreign languages, a total of 147 employees have applied. We established the Foreign Language Allowance in 2006 and expanded the scope from English and Japanese to Vietnamese in 2015. In 2022, a total of 12 employees applied for the allowance, +8.89% YoY. It enriched CLC's international talent pools.

- English presentation contest: Improving the verbal expression of employees, with a total of 38 employees participated in. In 2021, we introduced the "Foreign Language Improvement Program" to provide resources including TutorABC online learning materials for foreign language training. We also first organized an English presentation contest.



Taiwan Green Leaders Empowerment through Industry-Academia Collaboration

Internship and talents development for active graduate students

To boost industrial transformation and let college students understand more about the paper industry, we cultivate talents for design, marketing, quality, and process management and engage in technological exchange through industry-academia collaboration and internship programs. All CLC sites in Taiwan offer job openings and scholarships for internship during summer and winter breaks. During 2019-2022, we engaged in industry-academia collaboration with colleges such as the Department of Forestry, National Chung Hsing University, Minghsin University of Science and Technology, and Lunghwa University of Science and Technology to provide 63 internship vacancies.

Elite Talents Industry-Academia Collaboration Program: Circular economy executive empowerment and low-emission operating technology development

Looking forward over the net-zero trend, we teamed with National Chung Hsing University and 11 leading businesses



in the circular economy to establish Asia's first "Circular Economy Institute" to develop circular economy executives and specialists for the country. In 2022, the institute successfully recruited 90 MA and Ph.D. students.

The per person training hour was 56.0 hours (+10.8 hours YoY)

Set the minimum hours of learning for required professional training and training as time off in lieu to encourage employees to enrich professional competencies adaptively. In 2022, the annual employee education/training was 206,132 hours (including E-Learning), and the per person training hour was 56.0 hours (+10.8 hours vs LY) in Taiwan area; the annual employee education/training was 98,054 hours overseas.

Employee Education and Training

Item	2020	2021	2022
Total amount of employee training (NT\$)	4,778,346	4,219,386	7,596,276
Total employee training hours (hours)	162,318	166,515	206,132
Training hours per person (hours/year-person)	44.3	45.2	56.0
Training expenses per person (NT\$)	1,305	1,146	2,064

Note: Taiwan Area. Training hours include internal training, external training hours, digital learning, work guidance and so on.

CLC Builds the fun "Reading Bar", "Study Groups" and "Seasonal Selected books"




Three training channels | E-Learning, the outstanding case management system, total productive maintenance (TPM)

E-Learning: Ubiquitous lifelong learning with systematized follow-up of training effectiveness

Apart from investing NT\$1.4 million in developing E-Learning modules ahead of competitors in 2003, we also made advance overseas deployment of sales locations, and built the ubiquitous e-learning channels when classroom courses were prevented by the pandemic to provide employees with self-learning opportunities. In 2011 we spent NT\$1.23 million on upgrading these modules to include knowledge management and license management and integrate them into the internal promotion system. In 2022 we spent NT\$1.38 million for a second-time upgrading to include the mobile learning function to ensure internal data security and safe and worry-free learning for employees.

- ◆ Continual expansion in line with industry trends: Accumulated 437 e-learning courses in 30 categories
Full support for employee lifelong learning and development of green leaders that can keep up with the times.
- ◆ Inheritance of professional experience: digitalizing internal instructor course and the outstanding case management system
In 2022 combined the "Internal Seed Instructor Cultivation and Training Program" and digitalized the internal instructor course and the outstanding case management system.

Item	2020	2021	2022
 The number of the new online courses	21	29	33

ESG outstanding case management system: over 1,000 cases, creating value up to NT\$700 million

- ◆ Establish the Internal Advice Channel: encourage the employees to figure out questions, and brain-storming the ESG innovative implement cases

In 2008, we promoted the "Excellent Case Improvement Activity". In addition, employees are encouraged to actively explore problems through the competition system. Therefore, it's able to promote the healthy competition and increase the problem-solving ability and innovative capacity. In addition, we have also extended excellent case improvement management activities to overseas subsidiaries since 2021. In 2022 over 100 cases were selected and creating value up to NT\$370 million (> NT\$700 million in 2021-2022).

TPM: Enforced education inheritance at home and abroad, empowered over 300 internal instructors

- ◆ 6 occasional education to enhance the overall productive and equipment effectiveness

In 1999 we introduced total productive maintenance (TPM) to enhance the overall productive and equipment effectiveness. Each plant and mill established the TPM executive secretary to arrange professional competence courses on productive maintenance for base-level employees and junior and intermediate supervisors to boost corporate competitiveness. Cross-plant/mill exchange was arranged half-yearly, with a total of 40 sessions so far.

- ◆ Smart manufacturing upgrading and application and two training themes for overseas learning in 2022

- **Smart manufacturing upgrading and application:** Enhance equipment reliability and operating efficiency through the smart use of digital systems, including process condition optimization, autonomous machine learning, with focus on optimizing personnel management and enhancing competence and knowledge base inheritance to reduce the impact from the retirement of senior employees and experience insufficiency of new employees.
- **Overseas learning integration:** Enhance the promotion of overseas ISO and TPM activities and training for Taiwanese staff expatriates to properly ingrain technology and data locally and accelerate the fundamental education of local employees.

- ◆ Empower over 300 internal instructors, and expand the Cultivation Program in 2022 to enforce the knowledge inheritance

In 2001, we introduced the "internal instructor" system to cultivate instructors required by corporate development to strengthen CLC's five pillars: TPM, production expertise, quality, environmental safety, and energy. We also constantly organized relevant courses to improve their teaching skills, capability and knowledge. In 2022, we implemented the "Internal Seed Instructor Cultivation and Training Program", and there were 38 internal instructors (> 300 instructors till 2022).



Multifaceted Inclusion, Deploying Key Management Talent Pools at Home and Abroad

We value professional innovation and multifaceted inclusion and emphasize the inventory of the management and technology capabilities of key talents and intermediate and senior officers. Additionally, we are committed to resolving the traditional labor-intensive and industry aging problems by actively promoting young and potential talents. We value the performance of female employees to build a gender-friendly workplace. With such, we aim to develop young and multifaceted officers.

For employees to keep up with new knowledge and put theory to practice, we perform annual performance evaluation every year and evaluation for new employees. Those who have been working (including reinstatement) with us for one year will receive the performance evaluation. The evaluation maintains absolute objectivity and equity regardless of gender. Employees are rated and ranked by their performance and will be rewarded according to CLC's operational performance in the year.

Moreover, we set building the local green leader pool as our macroscopic goal to enforce ESG talents development. We apply thematic education and training for intermediate and senior officers. In 2022, we focused on enhancing: **team communication, establishment of management guidelines, supervisor job rotation, and digital decision-making applications**. Additionally, we introduced digital management tools and built modularized management guidelines to ensure that supervisors engaging with overseas location expansion can maintain management at the same breadth and depth.

- ✓ To practice the young supervisor policy, during 2018-2022, we promoted 301 employees to supervisors, including 92 of them were below 35 years old, accounting for 30.6%, which was 3.7% higher than that of 2018-2021.
- ✓ During 2018 to present, we have promoted 46 excellent employees with seniority below five years to supervisors, and 13.0% of them were female employees.
- ✓ In 2022, a total of 3,138 received the performance evaluation, the proportion of male was 84% and female was 82%. In the evaluation results, the proportion of female employees with excellent performance (A grade) is higher than that of male employees.



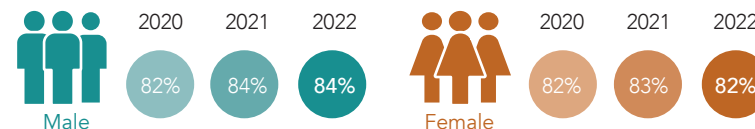
Number of employees promoted to supervisors



2022	74	Total 301
2021	64	
2020	69	
2019	43	
2018	51	

Note: Taiwan area

Ratio of Employees Receiving Regular Performance Assessment



*Note 1: Taiwan area

*Note 2: Exempt from participating in regular performance assessment: Senior supervisors, new employees with a service length less than one year, foreign employees, contract hourly paid employees, employees returning to work for less than half a year after unpaid leave.

Assessment Results



	2020	2021	2022	2020	2021	2022
Distinction	1.3%	1.9%	1.6%	1.8%	1.3%	1.0%
A grade	53.9%	60.8%	61.8%	56.4%	65.1%	67.5%
Other grades	44.8%	37.4%	36.6%	41.8%	33.6%	31.5%

Note: Taiwan area

1. Strengthening the Professional and Management Competencies of Taiwanese Supervisors

✓ Leadership training for intermediate and senior officers

In 2022 we offered 23 courses, such as "Workplace Communication Charm" and "Management Excellence MTP," for 1,241 section chiefs and managers in 30 sessions.

✓ Establishing management guidelines to enrich and maintain the consistency of management practices for section chiefs and managers

To enhance the influence of the 2022 year-end presentation of the Industrial Paper Division, virtual participation of 41 employees in 30 points were arranged. This will be expanded to the Container Box Division in 2023.

✓ Enhancing decision-making power through visualized big data management in the Digital Transformation Seed Program

In 2022 the education and training for senior officers and internal seed members were completed, training over 22 elite seed employees accumulatively.

✓ Upgrading international management capability with overseas operations and management training

The "Container Box Division Staff Development Course," "Officer Development Projects," and others were implemented in collaboration with the benchmark speeches on issues such as climate change, information security, talents, and so on. In 2022 a total of 32 courses were organized in 39 sessions for 1,602 participants.

2. Recruiting Overseas Industry Talents and Management Assistants

✓ Encouraging employee expatriation in response to globalization and new southbound deployment

In response to the operations globalization and new southbound development strategies, we maintain rolling adjustment of the "Regulations for Management of Overseas Expatriates".

Year	2019	2020	2021	2022
Number of the expatriated employees (persons)	134	132	140	145

*Note: Taiwan area



✓ Implementing the talents retention plan in response to the government's international talents recruitment policy

✓ Hiring and developing over a dozen overseas Chinese and international students into management assistants of overseas locations

3. Developing Future Management Talents by Holding "New Employees Consensus Camp" (3 Days, 2 Nights) Every Year

✓ Hold "New Employees Consensus Camp" 1 to 2 Times Every Year

Help the new member to improve the understanding of CLC's operational strategies, and industry and cohere the loyalty of new employees. From recent 3 years (2020-2022), we organized 3 camps with total of 188 participants.



5.3 Healthy Workplace

Material Issues

Healthy Workplace

Strategy

OH&S Policy: Total Participation, Zero Accident, Health and Safety



Goals of 2030

- Cultivate CLC's OH&S culture (Effective 2025, a 5% yearly growth for participants of OH&S promotion activities and talks)
- Get the MOHW "Healthy Workplace" certifications at 11 mills/plants
- Deepen the HSE management overseas
- Implement zero occupational accident

Goals of 2023

- OH&S promotion activities with 1,800 participants
- Employee OH&S training hours: 22 hours/ person/ year
- Get the MOHW "Healthy Workplace" certifications at 11 mills/ plants
- Help oversea area develop ISO 45001 HSE management system
- Implement zero occupational accident

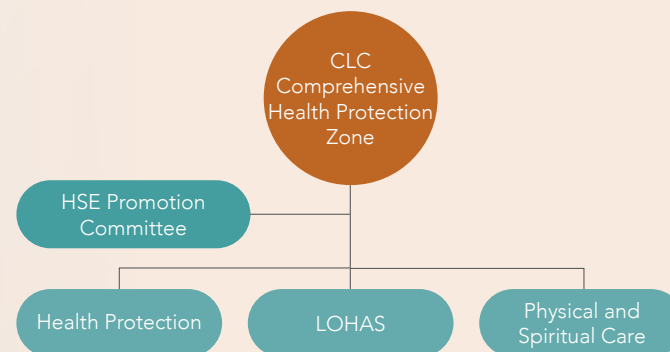
Goals / Action Results of 2022

- OH&S promotion activities with 1,700 participants
 - ➔ Physical and online course reached 5,614 participants (physical: 1,014 participants)
- Employee OH&S training hours: 20 hours/person-year
 - ➔ 23.5 hours/person-year
 - ➔ Houli mill was awarded Health Activation Mark, 8 mills/ plants certificated the MOHW "Healthy Workplace"
- Implement zero occupational accident
 - ➔ 1 occupational accident

CLC Safety and Health Policy

“We believe that valuing the safety and health of every employee is the only way to realize the vision of sustainable business development.”

Build CLC Comprehensive Health Protection Zone



To care about employee health, we established the HSE Promotion Committee in 2000. In conformity to the management framework of ISO 45001 and through the well-established health management system, we draw up implementation plans each year in terms of employee healthcare and wellness promotion focusing on health protection, LOHAS, and physical and spiritual care by HSE personnel, factory nurses, and occupational specialists of CLC plants and mills to proceed with health management to build a healthy workplace, hoping to build a comprehensive health protection zone through wellness promotion and strengthening sanitation management against the pandemic and the personal health risk management of employees.

Supervise the plants and mills to hold the wellness promotion activities ,and set the goal of increasing by 5% every year after 2026

Through constantly organizing wellness promotion activities, optimizing healthcare projects, and implementing workplace health, we hope to pass the certification for the Badge of Accredited Healthy Workplace of the Ministry of Health and Welfare for all CLC plants and mills across Taiwan to become one of the health enterprises. We have also set the short-, medium-, and long-term goals for the participants of wellness promotion activities. There are 5,614 participants in 2022 (physical: 1,014 participants).

| Strategic Goal | Total participation for safe and healthy workplace with zero accidents.

| Management Approach |

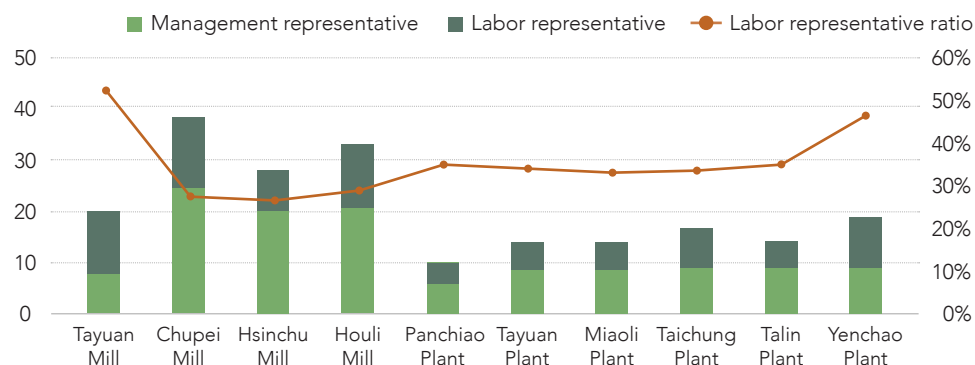
- ① Total participation: Promote the OH&S management system, encourage employees to participate in training, enhance OH&S awareness to equip with the ability to identify hazard and assess and handle risks. Provide OH&S-related consultation and assistance channels, prevent occupational accidents through improvement proposals, and continuous advancement of the overall OH&S performance.
- ② Zero Accident: Insist on providing employees with a safe workplace and achieving zero accident in business operations and project implementation.
- ③ Safety and Health: Promote self-management of workplace health, enhance protection and care for mental and physical health, arrange appropriate activities to enhance employee connection, enhance employees' environmental and social care, promote LOHAS, and enforce employee self-protection, mutual protecting, and supervision.

| Management Process | The management and HQs Health, Safety & Environment Department shall assess and determine the direction of implementation according to the ISO/CNS 45001:2018 OH&S management system and authorize mill/plant management and HSE staff to implement the system.

- ➡ Assess OH&S risks.
- ➡ Propose improvement and control measures.
- ➡ Department heads, industrial safety staff, mill/plant nurses, and occupational medicine specialist of each mill/plant implement health management.

We have established an OH&S Committee at each mill/plant with members including the site supervisor, OH&S personnel, and other related employees. Labor representatives are recommended by employees (proportion of labor representatives of each mill/plant is 31%–60%). Personnel include production workers, leaders, section chiefs, TPM executive secretary, and mill/plant nurses. The OH&S Committee holds a committee quarterly to discuss and promote mill/plant OH&S-related decisions and activities.

Labor and Management Representative of the OH&S Committee in 2022



*Note: Taiwan area

HSE Risk Assessment with a Total of 3,965 OH&S Proposals Were Received

We establish our HSE assessment criteria according to ISO 14001:2015 and ISO/CNS 45001:2018 management systems. Every year, they periodically assess the risks and opportunities to be addressed, propose improvement or control measures, and report them to the management review meeting for resolution, with the follow up by the mill/plant management representatives. Once equipment, SOP change, the corrective actions for an occupational accident or nonconformity are modified or occurred, hazard identification and assessment shall be performed again.



Near misses are important indicators of potential risks. We make the best use of the HSE management system to follow up near miss reports and corrective actions. To urge all mills/plants to improve OH&S performance, we introduce the improvement proposal system to encourage employees to propose improvement for operation safety or the work environment. In 2022, a total of 3,965 OH&S proposals were received, and mills/plants with outstanding HSE performance were rewarded at the year-end.

In 2022, 10 employee disability injuries were reported (Taiwan, China and Vietnam), including 1 serious occupational accident, and pinch hazard and fall was the main type of occupational injury. We also actively implement improvement procedures to move forward zero accidents:

- ✓ Strengthening safety operation education and training
- ✓ Reviewing the operating procedures and immediately improve the operating environment and equipment
- ✓ Reporting the case to factories across the company as the OH&S cases promotion reference.

In response to the critical occupational accidents, the following measures were adopted to enhance work safety after internal and external investigation and identification:



Enhance training in operating procedures and safety awareness of employees.



Install safety warning indicators, monitors, and protective grids.



Revise the risk assessment sheets and implement other key improvement measures.

To keep our commitment to valuing the health and safety of all CLC partners, we also included the occupational accidents of non-CLC employee resident at CLC premises in our statistics. In 2022, no occupational accidents on non-CLC employee resident at CLC was reported.

OH&S Education and Training Management

For HSE personnel to timely capture the changes and trends in OH&S related laws and regulations, we have setting up our own OH&S education and training program and sending staffs to participate in conferences and talks from time to time. In addition, each mill/plant sends senior staffs familiar with OH&S-related laws and regulations and with practice experience to help other employees understand the spirit and focus of implementation of related laws and regulations together with external experts and scholars by means of seminars or on-site diagnosis to strengthen their awareness of hazards in the work environment and protect the health and safety of workers. Since 2021, we have created "Health Promotion Column" in CLC Journal (published every 2 month) and shared 11 articles related to cancer and stay away from cardiovascular diseases, etc. The average OH&S training for each employee in 2022 is about 23.5 hours.

Item	2020	2021	2022
HSE training hours	71,552	95,542	78,130
Training length of each employee	19.3	25.9	23.5
CLC Bimonthly Journal: "Health Promotion Column" (amount)	-	6	5

*2022: Taiwan area; Include physical, online and written copies



Valuing Plant Operation Safety, 100% No Smoking, and Equipping AEDs, and Enhancing ESH Risk Awareness of Employees through Education and Training



Continue to retire, replace, and upgrade plant equipment and reduce safety risk with digital management

➔ We continuously improve the ventilation equipment and install cooling equipment across the plant. In response to group digitization, digital management equipment is installed to enhance plant safety management and reduce operation risks, e.g. installation of the vibration monitoring system at Hsinchu Mill to enhance the operation safety of machine maintenance personnel, prevent accidents, and assist with accident cause judgment.



Equipping all plants with AED to keep employees away from Taiwan's second top cause of death

➔ In view of the difficulty in responding to sudden cardiac death and increasing cases in society, sudden cardiac death has become Taiwan's second top cause of death. Hence, we equip all plants with AEDs and enhance worker AED education and training.



Organizing EHS talks to enhance crisis awareness

➔ We actively enhance the awareness education of workplace safety and sanitation for employees to enhance their awareness of workplace hazards to extend our responsibility for protecting the workplace health and safety of workers. In response to the pandemic and production line expansion in recent years, we have enhanced related education and training accordingly to ensure the workplace health and safety of employees.

Enhancing the Management and Efficiency of Visits by External Units of HSE

We constantly optimize OH&S management, by enhancing the efficiency of HSE information transmission and the effectiveness of the HSE management system, we have established the HSE mill/plant visit electronic response system to timely capture real-time data and improve the HSE effectiveness. There were 111 times of the HSE mill/plant visits.



Contractor Management

To enhance contractor HSE management, and maintain in-house operation safety and the safety of the contractor's employees and equipment, we have also established and implemented the Contractor HSE Management Regulations. In 2022, we arranged 1,524 hours of contractor education and training for 1,552 persons.

- ✓ Select and verify qualified contractors to undertake contracts.
- ✓ Sign the OH&S and environmental management undertaking.
- ✓ Hold consultative organization meetings to publicize hazard factors required notification for in-house operation.
- ✓ Perform plan entry control and apply for safe work permit.
- ✓ Implement in-house construction control and abide by in-house OH&S management regulations.
- ✓ Work safety check points: open fire, work at height, lifting/hoisting, risk management, cutting.
- ✓ Publicize the electrical equipment management regulations.

Cross-factory Audit/OH&S Rating

Every year, each mill/plant implements the annual HSE system targets and KPIs. Then, the HQs Health, Safety & Environment Department follow up their performance through periodic monitoring and measurement with the cross-factory audit and annual mill/plant assessment. The collected information is submitted to the management for the reference of decision-making and thereby set the targets and KPIs of the next year. In addition, though the HSE rating, we perform cross-factory and cross-division learning and exchange to establish a better OH&S management system. In 2022, we performed cross-factory OH&S audits on Corrugated Container Division at 6 mills and conducted annual OH&S rating on Containerboard Division, Household Products at 4 mills/plants.

As COVID-19 slowed and the epidemic control relaxed, we conducted the EHS inspection of paper mill and box plant in Vietnam in 2022 Q4. The inspection covered activities regarding onsite 5S management, onsite environmental management, and onsite ESH management and the operation of management systems. From 2023, we will integrate the ESH management of all overseas plants for cross-plant audit to enhance occupational safety management.

Health at CLC: CLC Health Management System Platform & LINE Health Group

We developed the "CLC Health Management Platform" to replace traditional paper data, hoping to keep track on employees in the health high-risk group by online. Then, professional in-house nurses and occupational medical specialists will analyze their data and give advice on health. The platform has been completed in 2021 and optimized referring to the sheets and software used to manage and analyze.

Build a healthy workplace, offer fully club allowance

Advocate the balance between work and life, encourage sports for all, and promote after-work exercise to relieve stress. We built exercise areas in 11 mills/plants in Taiwan. In addition, we encourage the employees to join the clubs together to attend the healthy leisure activities to cooperate with MOE "iSports Calendar Platform". We showed the sports activities to actively build the happy corporation and enforce the healthy and LOHAS workplace.



6 Health Instruction and Management Measures, Promoting Workplace Health

Health Inspection

We value the mental and physical health of employees. Every new employee must submit a physical examination report, and active employees must take the annual health checkup. For employees working in special work environments, we provide special health checkups (e.g. noise, dust, and ionized radiation examination). Cases requiring management and follow-up as determined by the physician will be followed up according to the protection plan and provided with sufficient information for further medical attention.

- ➔ In 2022, a total of 3,559 employees took the general health checkup, with an achievement rate of 95.2%; and 1,184 employees took the special health checkup. For employees with abnormal results, the Company also actively provided health guidance and related consultations by medical staff.
- ➔ Has hired Dr. Guan Tang Li as medical director since 2021 and provided severe illness, health care and other related issues consultation every week.

Improving Operation Environment

Besides improving the ventilation equipment, we installed cooling equipment at focused work zones to provide employees with a comfortable work environment.

Safeguarding Respiratory Tract through Advance Deployment!
Non-Smoking Workplace and Smoking Cessation Class from 2020

Health Promotion

We promote various health management and health promotion activities in order to build a happy, healthy workplace.

- ➔ In 2022, we organized a total of 36 health promotion activities and talks with 5,614 participants. Due to the epidemic situation and the whole group digital management, we also opened online courses and published article in CLC journal to share the new knowledge in 2021.

Health Protection

In conformity with the overwork, maternal, ergonomic, workplace violence, and respiratory protection issues as stated in the Occupational Safety and Health Act, we arrange stress relief talks, core muscles exercise, and ergonomic hazards prevention talks or on-site instructions to protect the health of employees.

Epidemic Prevention

We have established the "Guidelines for Epidemic Control"; built and implemented the epidemic investigation, plant/mill access health management, self-imposed health management systems, and other digital systems to implement the epidemic prevention work.

Achievements in Workplace Health Promotion

In 2022, Houli Mill also passed the certification of Badge of Accredited Healthy Workplace. Through health education activities, apart from implementing health management and follow-up on employees receiving special health checkups (e.g. noise, ionized radiation, dust), Houli Mill also organized a smoking cessation class from time to time to achieve a no-smoking workplace. It helps employees prevent from musculoskeletal disorders and help the high-risk group understand more about heart disease and prevention, and advocated various blood donation activities to encourage employees to engage with social welfare and health promotion.

8 Mills/Plants Awarded MOHW "Healthy Workplace"

| Health Promotion Mark | Head Office, Panchiao Plant, Tayuan Plant, Hsinchu Mill
| Health Activation Mark | Tayuan Mill, Miaoli Plant, Houli Mill, Yenchao Plant

Our efforts to turn the CLC into a health workplace were rewarded by the iSports certification of the Sports Administration (validity 2022-2025).

We attended 《Commonhealth Magazine》 "Corporate Health Responsibility" Assessment and will continue to provide full protection for employees based on the 4 aspects "Knowing, Eating, Exercising, Supporting":



"Knowing" means "knowledge promotion".

We use the CLC Bimonthly Journal, EIP internal website, health management APP to share new health knowledge and hold health promotion lectures.



"Eating" means "Healthy Diet".

The head office and mills offer free healthy meals which are checked by the professional medical staff in factory.



"Exercising" means "Play sports in life".

We encourages clubs. In 2022, there were 25 clubs with sports clubs accounted for 80% of the total clubs and the number of participants were 718.



"Supporting" means "Medical Support".

We analyze the health examination report and self-assessment questionnaire to screen out colleagues with high health risks, providing health guidance, and assist in arranging interviews with doctors or referral to medical institutions.





Society

Develop a society of diversity and inclusion, enhance public wellbeing, and shape a society of a positive circle.

二次森林

兒童關懷

社會參與

急難救助



- 1,831 volunteer service hours +12% YoY
- Invested NT\$14.21 million on social welfare
- Built 4 paper libraries, with a total of 25 nationwide and planted over 16,800 sustainable seeds
- Secondary Forest, Education of school age children, Planted the seeds of circulation for the society
Won the 6th Asia Pacific Chinese PR Awards
- Held 10 sustainability teacher training camps (Accumulated), trained 463 teachers and affected 6,902 students
- CLC Binh Duong Mill won TOP 100 Sustainable Businesses 2022 (CSI 2022)

Material Issues

Social Participation

Strategy

Based on the vision of "CLC: Love Paper & Love Earth," we integrated internal resources with "Cheng Huotien Charity Foundation" and "Cheng Loong Children's Care Foundation" to engage in social welfare in terms of four aspects: "Secondary Forest," "Care for Children," "Social Participation," and "Emergency Assistance."



Goals of 2030

- Invest in social welfare > NT\$10 million
- Expand external cooperation in social welfare
- Establish a platform for social participation
- Constantly promote the Secondary Forest Program, by establishing a demonstration site for the circular economy, and promoting the correct paper recycling
- Complete a total of 40 paper libraries
- Educate seed instructors for paper library docents

Goals of 2023

- Invest in social welfare > NT\$10 million
- Optimize volunteer system
- Establish social caring system for operation base overseas
- Continue to promote activities relating to Secondary Forest
- Add 2 paper libraries
- On-site inspection and maintenance of existed paper libraries

Goals / Action Results of 2022

- Invest in social welfare > NT\$10 million.
 - ➔ NT\$14.21 million (include 2 foundations)
 - ➔ Caring 95,776 families in winter for 14 consecutive years
 - ➔ 78 assistance cases, with a total of 230 in recent 3 years
- Improve volunteer participation system
 - ➔ 96 environmental volunteers, 907 caring volunteers, with a total of 1,831 volunteer service hours, commended in public
- Establish social caring system for operation base overseas
 - ➔ Set up the welfare system in Vietnam
 - ➔ Started the 1st CLC Scholarships in Vietnam
- Promote activities relating to Secondary Forest
 - ➔ Developed the creative recycled teaching tool, "Paper Superman Card Game", to activate recovered paper education
 - ➔ Held 10 "elementary school teacher training camps", and accumulatively trained 463 teachers and affected 6,902 students
 - ➔ Recycled 857 tons of recovered paper from community, with a total of 3,328 tons in recent 3 years
 - ➔ Factory Visit >1,000 persons
- Add 2 paper libraries
 - ➔ Built 4 paper libraries, which exceeding the yearly goal. Including the first paper libraries in off-shore island (Jin Ding Elementary School in Kinmen), cooperated with Good Neighbor Foundation of President Chain Store Corporation to build 2 paper libraries
 - ➔ Revisited 3 paper libraries, and reopened 1 paper library

Education of Secondary Forest, CLC builds the green inclusive future

→ Complete a total of 40 paper libraries by 2030.

Every sheet of paper is the extension of the tree. Recycled paper can create the Secondary Forest and let the resource circulation. Knowing that the basic education is the driving force for the advancement of society, CLC has built "paper libraries" combining with the key competency in Taiwan since 2014, echoing the sustainable development vision of the United Nations SDGs 4 Quality Education. In addition, we created the "Paper Library" for elementary schools in remote townships with recovered paper and design resources. Besides enabling schoolchildren to touch paper and understand the importance of forest conservation and environmental protection, the library also resolved the book resource shortage in remote townships to stimulate the learning interest of children and get together to build the green inclusive future.

Foreseeing the changes in macroenvironmental trends, we engaged in the earliest paper library, the education for youths, made the industry-academia collaboration, opened plant/mill visits. Since 2020, we have started the Paper Library 2.0 upgrade project. CLC cooperated with various shareholders to build the Paper Library, designed sustainable teaching tools, and held sustainable teacher training camps, and so on. Additionally, we promoted the sustainable value of secondary forests through various innovative actions to plant more seeds of circulation in society.



1. 100% Recovered Paper Library

“ Using 1 ton of recycled pulp can reduce the felling of 20 trees, just like planting 20 invisible trees. This is the secondary forest. ”

New Taipei City Pu Qian / Kuang Fu / Ji Sui / **He Ping** Elementary School

Taoyuan City Wuquan / Cho Ing / Si Hai Elementary School

Hsinchu Feng Kang / Ding Pu / Sin Gang Elementary School

Miaoli Jung Shing Elementary School

Taichung Nei Pu / Yue Mei / Houli Library / Fu Chuen / Da Nan Elementary School, Taichung School for the Visually Impaired

Chaiyi San Ho Elementary School

Tainan **Liu Chia Elementary School(Hu Dong Branch Campus)**

Kaohsiung City An Chao, Yan Qiao, Hou Hong, Chian Feng Elementary School

Kinmen Jin Ding Elementary School

* Note: The School marked yellow are through cross-industry collaboration with 7-ELEVEN Good Neighbor Foundation

CLC has built "paper libraries" in Taiwan since 2014 to promote the secondary forest education. CLC has built at least 2 paper libraries every year and has set a goal of building 40 paper libraries by 2030. Additionally, We revisited the conditions of the paper libraries periodically to maintain and upgrade the facilities. Recently CLC even cooperated with various sustainable partners. A total of 25 libraries were established till 2022 including the cities in Taiwan and off-shore island Kinmen, benefiting more than 16,800 children, donating more than 6,300 good books. CLC also revisited 3 paper libraries and tracked the usage of the facilities.

To facilitate the seed of sustainability and circulation engraving in Taiwan, CLC Paper libraries Case was awarded the 2023 6th Asia Pacific Chinese PR Awards achievement from Taiwan/Taipei International Public Relations Association(TIPRA).



Building the first 100% recovered paper library in off-shore island to give the sustainable energy to Jin Ding Elementary School in Kinme



Observing that Kinmen, an off-shore island, is committed to promoting waste classification due to limited resources and lack of final disposal facilities for waste, and its recycling efficiency is ranked first in Taiwan. Therefore, when Jin Ding Elementary School applied for a paper library at the end of 2021, CLC actively discussed the design and arrangement of paper library with teachers and students. It took a year of adjustments to break through the predicament of the epidemic, and finally let the 24th paper library successfully settled in Kinmen. On the eve of the opening, children were invited to assemble 100% sustainable paper chairs together to create a "green and sustainable" learning environment.



Jin Ding Elementary School in Kinme
Hsiu-Ling Tseng Principal

"I appreciated CLC for committed to putting the resources to Jin Ding Elementary School to build the paper library. It'll become the local multi-functional Environmental Education place for teachers, students, parents and people in community to enjoy the Green Place."

2. Cross-border Cooperating to Build Paper Library

Expanding influence of secondary forest education in collaboration with green sustainability partners through paper libraries: First through cross-industry creation



For the seed of sustainability to bud, in 2022 we collaborated with Good Neighbor Foundation of President Chain Store Corporation, our long-term supporter for encouraging "reading and study" in remote townships, to select elementary schools in remote townships emphasizing environmental education and the multifaceted development of schoolchildren to flip the unfriendly libraries into lively and warm "paper" reading space with the 5,000 kg of recovered paper provided by 7-ELEVEN and the resources of affiliates through integration with our low-carbon smart paper and R&D capacity.

Creating the unique recovered paper theme wall and wish tree carrying the originality of 100 teachers and students



As both elementary schools are located in places with rich natural ecological resources, we teamed up with Good Neighbor Foundation and teachers and students to integrate the campus ecosystems and the schools' educational features. Through the paper art skills of our design team, we invited students to create the recovered paper theme wall and wish tree together to pour vitality into paper.



Good Neighbor Foundation of President Chain Store Corporation CEO Zhi-He Lee

Good Neighbor Foundation has continued to encourage "reading and study" in remote townships. In 2022, collaborated with from channel resource of the President Chain Store Corporation and Retail Support International. Joining CLC "Paper Libraries" project, we built the Good Neighbor Paper Libraries together with the 5,000 kg of recovered paper provided by 7-ELEVEN. Through the common for good power of the cross-border cooperation, we are able to improve the environment of elementary schools in remote townships and implement the circular economy.

3. Holding Sustainable Teacher Training Camps

Developing and designing recovered paper teaching tools 2.0, learning to understand paper recovery and sorting from the Card Game

In 2021, CLC cooperated with Tetra Pak and Future Parenting Platform to design the sustainable lesson teaching plans and picture book, which received enthusiastic responses from elementary school teachers across Taiwan. In 2022, we cooperated again to analyze the feedback of more than 200 teachers, made the teaching briefings, and developed recovered paper teaching tools 2.0 "Paper Superman Card Game" to build a complete recovered paper teaching system to improve the teaching effectiveness. At the same time, all teaching content is open to be downloaded online, so that teachers and even the general public can use and learn freely on their own.

["Paper Circulation and Recycling" Teaching Tools](#)



The sustainability teacher training camps first held in Eastern Taiwan, training 463 teachers accumulatively

Actively cultivating sustainable teachers in elementary schools, In 2022, we continued to implement the sustainability teacher training camp project, and hold in one of the CLC Paper Library. It was the first time to enter the eastern Taiwan to implement sustainable education investment regardless of urban and rural areas. The training camp project has started since 2021, and we have traveled to Taichung, Hsinchu, Kaohsiung, Taipei, New Taipei City, Hualien, and Chiayi to let the teachers to conduct face-to-face teaching, studying and sharing with one another. It has cultivated a total of 463 sustainable teachers, affecting 338 classes and 6,902 students, continued to root down the correct concepts of recycling and sorting.



[2022 Paper Circulation and Recycling teacher training camps – Registration Site](#)

4. Sharing Sustainable Education Resource

Using the digital power to share the Industry education resource and messages

As the leading role in the industry, CLC continued to share the recycled education resources through the network platform, which used for the sustainable environmental education to implement the recycling. We posted a total of 29 videos on the corporate website to help stakeholders quickly understand recycling by a KOL of environmental issues, making the microfilm, and so on to proactively engage in dialog with the young generation. Cumulatively, nearly 19,584 persons visited CLC recycling webpage on the corporate website in 2022, +44% YoY.



[CLC recycling webpage - Love Paper, Love Earth](#)
[CLC "Paper Circulation and Recycling" Education Performance](#)

CLC Mill/Plant Visit

To pursue the common good and improve the circular economy image of the paper industry, we have proactively opened mill/plant visits to the public since 1959 for them to understand the operations of paper manufacturing and share the circular knowledge. Although the visitors were reduced during recent pandemic, there were still 1,000 visitors, including from clients, the same trade, government, academic units and schools and eco-friendly groups. Through the exchange, cooperation, and sharing of resources, CLC promoted to secondary forest sustainable education.

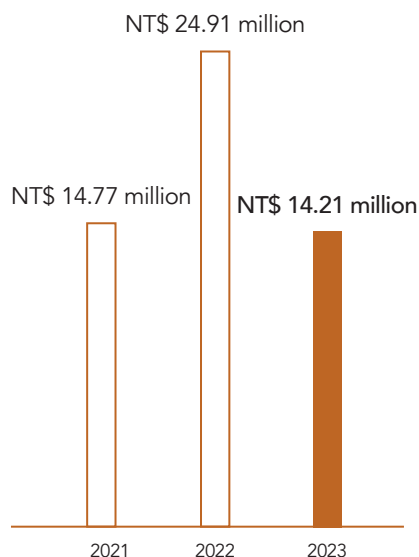


We established the "Cheng Loong Children's Care Foundation" and "Cheng Huotien Charity Foundation" to care for the vulnerable in society and invested over NT\$124.71 million for society. We committed to donate over NT\$10 million every year for charity to establish diverse society and enhance benefit of public. In 2022, two foundation and CLC invested NT\$14.21 million and the allocation were as follows:

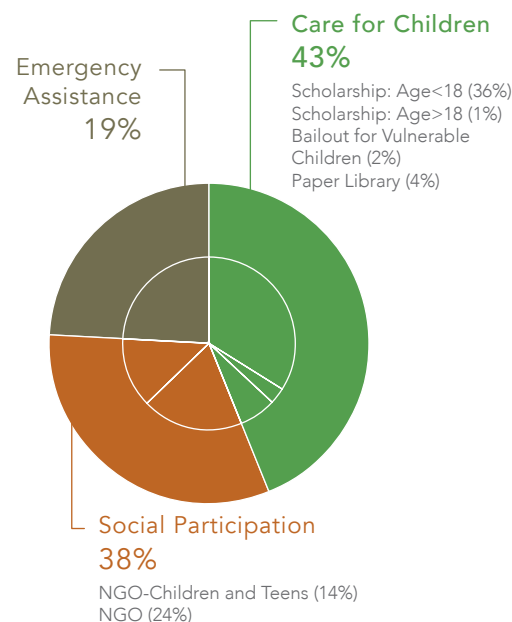
Cheng Loong Corporation: NT\$5.39 million	Totaled NT\$62.51 million
Cheng Loong Children's Care Foundation: NT\$4.94 million	Totaled NT\$45.79 million
Cheng Huotien Charity Foundation: NT\$ 3.88 million	Totaled NT\$78.91 million

* CLC Foundation Annual Donation Details/Budget/Account

Social Expenditure in Recent 3 Years
(CLC and 2 Foundations)



2022 Social Expenditure Ratio
(2 Foundations)



By transplanting the Taiwan experience, the Vietnam business group established the "Vietnam Business Group Charity Promotion System" in 2022 to actively engage with social welfare. Additionally, it also founded the elementary school scholarships to provide financial aid to seniors living in poverty and orphans in local communities. In 2022, it distributed elementary school scholarships to 90 persons and red envelopes and gifts to 120 elderly or disabled persons at Spring Festival to actively practice social engagement, earning the recognition of the local government.

CLC Binh Duong Mill won Top 100 Sustainable Businesses 2022 (CSI 2022) Rewarding the industry capacity and practicing common for good in local

Adhering to the business philosophy "Caring for Life, Utilizing Resources Wisely, and Contributing to Society", CLC Binh Duong Mill is committed to practicing social integration, hoping to become a benchmark for the local sustainable paper industry. Internally, we provide competitive salaries, free annual health checkups, half-year maternity leave, staff dormitories and other complete salary and benefits, which contributing to local employment growth and increasing people's income. Externally, we donated to the establishment of Binh Duong Hospital, and helped the Vietnamese government purchase new vaccines for Covid-19, provide epidemic prevention materials, and practice social care during the epidemic. In 2022, it won the representative award of Vietnamese enterprise sustainability assessment - "Top 100 Sustainable Enterprises 2022 (CSI 2022)" in Vietnam, which standing out from more than 400 participating companies and ranked 14th.



Care for Children

“Caring for education, welfare and growth of children and teens, we cooperate with NGOs to enrich children's spirits and vision of life.”

We care for children over time through the Cheng Loong Children's Care Foundation in collaboration with NGOs and social welfare organizations. In addition to the paper library project, we also provide scholarships for disadvantaged, family fragmentation, lunch subsidy and after-school care expenses to assist students near the factory. To enlarge the concern with kids, we cooperate with "Taiwan Fund for Children and Families" and "Seed of Love Education Foundation". In 2022, we continued to support the children with a total of NT\$3.26 million of scholarships (included 38 schools, covered the students from elementary to college) were awarded and accumulatively help over 10,000 children, and award over NT\$20 million of scholarships.

CLC Scholarships and Grants

Taiwan (15th) 7,364 students (Total)
Eligibility: Students of primary and secondary schools near CLC mills/plants

Vietnam (1st) 90 students (Total)
Eligibility: Students of primary schools near CLC mills/plants in Vietnam

"Let Trees Grow High and Let Love Fly" Scholarships and Grants

31th 3,088 students (Total)
Eligibility: Fostered children and youth from Taiwan Fund for Children and Families

We Care! CLC Care Scholarship

CLC established the "CLC Care Scholarship" in 2015 providing scholarships for disadvantaged in elementary schools near the CLC factories so that the students with excellent grades or special talents can also continue to study hard under the encouragement. Since 2016, we expanded to more school and added scholarships for the junior high school in 2018 to benefit more students. Furthermore, we founded and expanded the elementary school scholarships overseas to Vietnam in 2022 to let unceasing love without border restrictions.

"Let Trees Grow High and Let Love Fly" Scholarships and Grants

CLC has collaborated with "Taiwan Fund for Children and Families" to promote "Let Trees Grow High and Let Love Fly" project since 2007, awarding scholarships to foster students with excellent grades and behavior in elementary, junior and high school, and university, recognizing the hard work of foster families. Volunteers from CLC also plan every awarding ceremony and activities for parent and child carefully, helping the participants to enrich knowledge and good memories.

Partner	Theme
Taiwan Fund for Children and Families	<ul style="list-style-type: none"> Publicity for "Embrace Abused Children with Love" Open the Door of Love "Let Trees Grow High and Let Love Fly" Scholarships and Grants No Poor Generation Program
Seed of Love Education Foundation	<ul style="list-style-type: none"> Orphanage Scholarship
Elementary School Sport Association	<ul style="list-style-type: none"> National Basketball Championship



Facebook Link of "Cheng Loong Children's Care Foundation" and "Cheng Huotien Charity Foundation"

Let unceasing love without border restrictions!
CLC founded the 1st elementary school scholarships overseas to Vietnam

2022 We Care! CLC Care Scholarship first expanded to the Vietnam business group, and the first scholarships were awarded by the Vietnam business group CEO, Chieh-Yang Chen, and factory director, Kuei-Sheng Chang, in October to 30 students with excellent grades and behaviors in Fu Xin elementary school. Additionally, we continued to award the scholarship before the end of the year, and accumulatively benefiting 90 children.



"Andante Care Proposal Recruitment Co-Thinking Project" Recruiting all local tender power to burgeoning tenderness

The Andante label under CLC launched the "Andante Care Proposal Recruitment Co-Thinking Project" to invite the public to submit about 1–3 minutes long videos to Andante's LINE official account to improve the life of vulnerable groups with care based on the care brand intent of Andante. With touching image videos, the project recruited over 100 care proposals, with 41 being selected for the review.



"Andante Care Proposal Recruitment Co-Thinking Project"



Environmental Protection Volunteers:

Engaged in the publicity of paper recycling in all CLC mills/plants across Taiwan to collect a total of 857 MT of recovered paper, with a total of 3,328 MT in recent 3 years. The team also engaged in coastal clean-ups, street clean-ups, mountain clean-ups, and tree plantations; and adopted and maintained 90 public toilets across Taiwan to provide eco-friendly toilet tissues and clean up public toilets. For example, Tayuan Mill also adopted since 2016 and was awarded the certificate of appreciation for Excellence in Corporate Public Toilet Adoption by the Taoyuan City Government.



CLC Environmental Protection Volunteers attended the "Xindian He-Mei Mountain Clean-ups" which cleared out nearly 60 kg rubbish.



CLC employees volunteered to clean up the public toilets together.



From July 2022, CLC adopted 3 bus shelters including the CLC Paper Mill Bus Stop (both directions) and Fangliao Bus Stop (to the north) in Houli District. Combining resource utilization, ecological benefits, low-carbon environmental protection and local characteristics, it presents the concept of continuous innovation and sustainable environment to add a new look to the city.



Caring Volunteers:

Implementing the society care, CLC volunteers visited over 25 townships and downs across Taiwan. We also engage in active interaction and cooperation with external units to engage in various projects, such as winter charity donations, in-kind donations on three major folk festivals, and blood donations, and so on. In addition, we launch 6 major actions to provide warmth before CNY, integrating cross-border resources to expand influence.

Social Participation

Volunteer Service

Promoting Social Care and Services during the Epidemic Situation

Upholding "spending on society with what is taken from society," we actively engage in charitable activities and address major social issues. In addition to publicly commending, providing volunteer leave, rewards, and professional service training courses, CLC also assists employees to establish related volunteer clubs within the company. For instance, Hsinchu Mill joined hands with the residents in the community to set up a water environment patrol team, and jointly maintains the community stream environment. In 2022, we participated in 160 charitable activities. A total of 907 volunteers making selfless contributions up to 1,831 hours through two CLC volunteer teams: "environmental protection" and the "caring", which +12% YoY.

CLC Volunteer Service in 2022

Note: Taiwan Area

Volunteers Type	Count	Number of Participants	Hours
Environmental Protection	29	101	305
Caring	131	806	1,526
Total	160	907	1,831

Six Care initiatives before Lunar New Year: Integrating cross-industry resources for bigger influence Warmth from CLC did not stop for the pandemic and benefited 95K households over 14 years

Before LNY of 2023, we upheld "Love Paper & Our Earth" and integrated the caring cases of waste collectors within the internal supply chain, and launched "Six Winter Charity Operations" in collaboration with government units and four non-governmental organizations (NGOs). In addition, we combined cross-industry resources and mobilized volunteers to ceaselessly support to make these enterprise charitable acts safe and warm.

Care individual collectors in Hsinchu county

Adopt and maintain 90 public toilets

Work with the Police Radio Station to care for the elders in nursing home

Accompany the elders who live alone in Huashan in CNY

Expand care for waste collectors in Taichung area

Work with the volunteers of Taiwan Fund for Children and Families to send warmth to 9,600 disadvantaged families



Promotion of Art and Sport

CLC dedicated to the promotion of arts and culture, and sports activities. We have sponsored concerts, road races, bicycle activities, calligraphy feasts, talent sketches, and painting activities for years, enriching the spiritual life of the community. Since 2013, we organized the national Andante Softball Friendly Game, Table Tennis Competition, inviting employees, third-party manufacturers, community groups, government agencies and academic groups and other groups to join and improve physical and mental health.

Glory for Taiwan: Development of Next-Generation Table-Tennis Stars for Taiwan from CLC

Since 2013, we have held Andante Table Tennis Competition: which attracting over 2,000 players to join. Although the competition was canceled due to COVID-19, CLC continued to promote and committed to the table tennis sport to children. Since 2020, CLC have kept funding the table tennis team of Chu Jen Elementary School and Feng Tien Elementary School in Hsinchu County in 2020, including sponsoring the fund for events and practice equipment. The CLC also hired professional coaches to provide players with guidance and training to support table tennis players' development. Student Yun-Yan Wu in Chu Jen elementary school was selected as the Next-Generation Table-Tennis Stars which bringing glory to Taiwan from CLC.



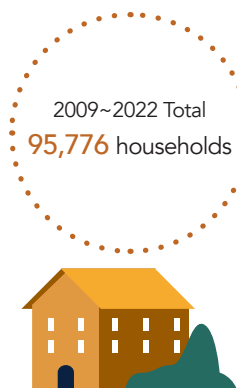
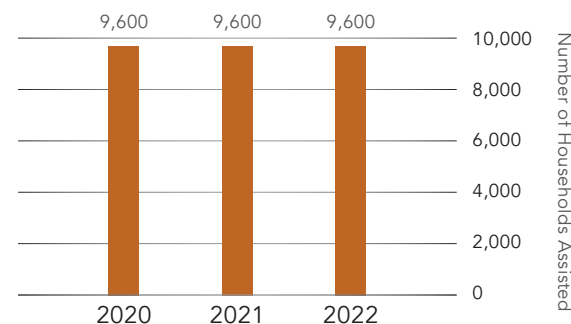
Emergency Assistance

Since the establishment in 1993, Cheng Huotien Charity Foundation has spared no effort in promoting emergency assistance. Since 2009, the foundation has sponsored the "Winter Charity Donation for Vulnerable Family Program" for 14 consecutive years with the Hondao Senior Citizen's Welfare Foundation, Tayuan Jensho Temple Foundation, Huashan Social Welfare Foundation, and Genesis Social Welfare Foundation to provide the needy with CLC household tissues to show warmth in society at the end of the year. So far, we have benefited 95,776 households. In 2022, Cheng Huotien Charity Foundation invested NT\$3.89 million in supporting 78 cases, with a total of 230 cases in recent 3 years. Additionally, to thank charities for extending fraternity with CLC, we also launched the CLC "AeSHOP Nonstop Fraternity Extension" to offer the staff discount for partner charities to shop on the CLC platform, benefiting nearly 200 partners.



Winter Charity Donation: Toilet Tissues and Supplies Donation

Note: Taiwan Area



Panchiao 2nd Stop, Panchiao Huashan Social Welfare Foundation
Ms. Wan-Ling Hong

I'm grateful for the needy of living materials provided for the disability, dementia elders by Cheng Huotien Charity Foundation to reduce financial burden of the elders living alone.

GRI Standards Index

| Statement | The 2022 ESG Sustainability Report has been prepared in accordance with Global Reporting Initiative (GRI) Standards.

| The version of GRI 1 | GRI 1: Standards 2021

The information disclosed in this report mainly covers data in the fiscal year 2022 (January 1, 2022 to December 31, 2022).

GRI	Disclosure Title	Chapter	Pages	Note
GRI 2: General Disclosures 2021				
Organization and reporting	2-1 Organizational details	About This Report	2	-
	2-2 Entities included in the organization's sustainability reporting	About This Report, 1.1 Operational Performance	28	-
	2-3 Reporting period, frequency and contact point	About This Report, Identification of Stakeholders and Material Issues	2	-
	2-4 Restatements of information	-	-	No restatements.
	2-5 External assurance	About This Report	132	-
Activities and workers	2-6 Activities, value chain and other business relationships	1.1 Operational Performance	28	-
	2-7 Employees	5.1 Diversity and Equal Opportunity	97	-
	2-8 Workers who are not employees	5.1 Diversity and Equal Opportunity	129-130	-
Governance	2-9 Governance structure and composition	1.2 Governance Organization	31	-
	2-10 Nomination and selection of the highest governance body	ESG Committee 1.2 Governance Organization	17 31	-
	2-11 Chair of the highest governance body	ESG Committee	17	-
	2-12 Role of the highest governance body in overseeing the management of impacts	ESG Committee	18	-
	2-13 Delegation of responsibility for managing impacts	ESG Committee 1.3 Risk Management	17 35	-
	2-14 Role of the highest governance body in sustainability reporting	ESG Committee	17	-
	2-15 Conflicts of interest	1.2 Governance Organization	31	-
	2-16 Communication of critical concerns	Identification of Stakeholders and Material Issues	20-22	-
	2-17 Collective knowledge of the highest governance body	1.2 Governance Organization	32	-
	2-18 Evaluation of the performance of the highest governance body	1.2 Governance Organization	32	-
	2-19 Remuneration policies	1.2 Governance Organization	32	-
	2-20 Process to determine remuneration	1.2 Governance Organization 5.1 Diversity and Equal Opportunity	32 101	-

GRI	Disclosure Title	Chapter	Pages	Note
Governance	2-21 Annual total compensation ratio	5.1 Diversity and Equal Opportunity	-	Ratio: Taiwan is our principal operating base. In Taiwan the highest annual income of individuals was about 4.24 times the median annual income of other employees. Variance (increase) percentage: The highest annual salary variance (increase) of individuals in Taiwan was -1.61%. Additionally, the percentage of the highest annual income reduction amount of individuals and the median annual income reduction amount of other employees was about 64.0%. Income in 2022 reduced mainly because of the reduced year-end bonus and performance bonus caused by the reduced operating performance and profitability over last year, leading to the reduction of the median annual income of employees.
	2-22 Statement on sustainable development strategy	Message from Top Management Strategy and Objectives	3 4	-
	2-23 Policy commitments	1.1 Operational Performance 5.1 Diversity and Equal Opportunity	27 98	-
Strategy, policies and practice	2-24 Embedding policy commitments	1.1 Operational Performance 5.1 Diversity and Equal Opportunity	27 98	-
	2-25 Processes to remediate negative impacts	Identification of Stakeholders and Material Issues	19-22	-
	2-26 Mechanisms for seeking advice and raising concerns	Identification of Stakeholders and Material Issues 5.1 Diversity and Equal Opportunity	19-22 98	-
	2-27 Compliance with laws and regulations	1.4 Ethical Management	39	In legal compliance, no material fine in 2022 (single event with administrative fines accumulated up to NT\$1 million) was reported. Please refer to the annual report for details.
	2-28 Membership associations	1.1 Operational Performance	27	-
Stakeholder engagement	2-29 Approach to stakeholder engagement	Identification of Stakeholders and Material Issues	20-22	-
	2-30 Collective bargaining agreements	-	-	No signing.

GRI	Disclosure Title	Chapter	Pages	Note
Major Issues				
GRI 200 : Economic Disclosures				
Economic Performance GRI 201: 2016	3-3 ★ Operational Performance	1.1 Operational Performance	24	-
	201-1 Direct economic value generated and distributed	1.1 Operational Performance	29	-
	201-2 Financial implications and other risks and opportunities due to climate change	4.1 Action for Climate Change	75	-
	201-3 Defined benefit plan obligations and other retirement plans	5.1 Diversity and Equal Opportunity	99 101	-
	201-4 Financial assistance received from government	-	-	NT\$146,539 thousand (including the subsidization for recovery and disposal of waste paper tableware at NT\$113,618 thousand, and the subsidization for the energy conservation and carbon reduction improvement plan of the vacuum system of machine #10 at NT\$1,874 thousand)
Market Presence GRI 202: 2016	3-3 ★ Workplace diversity and equality	5.1 Diversity and Equal Opportunity	96	-
	202-1 Ratios of standard entry level wage by gender compared to local minimum wage	5.1 Diversity and Equal Opportunity	129-130	-
	202-2 Proportion of senior management hired from the local community	5.1 Diversity and Equal Opportunity	129	-
Indirect Economic GRI 203: 2016	203-1 Infrastructure investments and services supported	-	-	Incomplete information
	203-2 Significant indirect economic impacts	-	-	Incomplete information
Procurement Practices GRI 204: 2016	3-3 ★ Supply Chain Management, Green Procurement	3.1 Supply Chain Management 3.2 Green Procurement	59 64	-
	204-1 Proportion of spending on local suppliers	3.1 Supply Chain Management	63	-
Anti-corruption GRI 205: 2016	205-1 Operations assessed for risks related to corruption	1.4 Ethical Management	39	-
	205-2 Communication and training about anti-corruption policies and procedures	1.4 Ethical Management	39	-
	205-3 Confirmed incidents of corruption and actions taken	-	-	No corruption incidents.
Anticompetitive Behavior GRI 206: 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	1.4 Ethical Management	39	-
Tax GRI 207: 2019	207-1 Approach to tax	1.1 Operational Performance	29	-
	3-3 ★ Corporate Governance	1.2 Governance Organization	30	Customize Issue
	3-3 ★ Risk Management	1.3 Risk Management	34	Customize Issue

GRI	Disclosure Title	Chapter	Pages	Note
GRI 300 : Environmental Disclosures				
Materials GRI 301: 2016	3-3 ★ Sustainable Products and Development, Product Responsibility and Customer Service	2.1 Sustainable Products and Development 2.2 Product Responsibility and Customer Service	41 50	-
	301-1 Materials used by weight or volume	2.2 Product Responsibility and Customer Service	51	-
	301-2 Recycled input materials used	2.2 Product Responsibility and Customer Service	51	-
	301-3 Reclaimed products and their packaging materials	2.1 Sustainable Products and Development	42-43	-
	3-3 ★ Energy Management	4.2 Energy Management	79	-
Energy GRI 302: 2016	302-1 Energy consumption within the organization	4.2 Energy Management	81	-
	302-2 Energy consumption outside of the organization	4.2 Energy Management	81	-
	302-3 Energy intensity	4.2 Energy Management	81	-
	302-4 Reduction of energy consumption	4.2 Energy Management	80	-
	302-5 Reductions in energy requirements of products and service	4.2 Energy Management	80	-
Water and Effluents GRI 303: 2018	3-3 ★ Water Management	4.3 Water Management	85	-
	303-1 Interactions with water as a shared resource	4.3 Water Management	85-86	-
	303-2 Management of water discharge-related impacts	4.3 Water Management	88	-
	303-3 Water withdrawal	4.3 Water Management	87	-
	303-4 Water discharge	4.3 Water Management	87	-
Biodiversity GRI 304: 2016	303-5 Water consumption	4.3 Water Management	87	-
	3-3 ★ Biodiversity	4.6 Biodiversity	93	-
	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	4.6 Biodiversity	93-94	-

Note: 3-3 ★ Major Issues Management

GRI	Disclosure Title	Chapter	Pages	Note
Biodiversity GRI 304: 2016	304-2 Significant impacts of activities, products and services on biodiversity	4.6 Biodiversity	93-94	Each year we conducted biodiversity investigation to observe changes in the environment and review the results of environmental monitoring. In 2021 Tayuan Mill began to explore the habits of local species and local environmental needs in collaboration with the Department of Life Science, National Central University (NCU) to seek active methods to co-exist with local ecosystems.
	304-3 Habitats protected or restored	4.6 Biodiversity	93-94	
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	-	-	NA. No CLC location is located in areas with IUCN Red List species and national conservation list species.
	3-3 ★ Action for Climate Change, Air Quality Management	4.1 Action for Climate Change 4.4 Air Quality Management	70 89	-
Emissions GRI 305: 2016	305-1 Direct (Scope 1) GHG emissions	4.1 Action for Climate Change	76	-
	305-2 Energy indirect (Scope 2) GHG emissions	4.1 Action for Climate Change	76	-
	305-3 Other indirect (Scope 3) GHG emissions	4.1 Action for Climate Change	76	-
	305-4 GHG emissions intensity	4.1 Action for Climate Change	76	-
	305-5 Reduction of GHG emissions	4.1 Action for Climate Change	76	-
	305-6 Emissions of ozone-depleting substances (ODS)	-	-	No emissions.
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	4.4 Air Quality Management	90	-
Waste GRI 306: 2020	3-3 ★ Waste to Resources	4.5 Waste to Resources	91	-
	306-1 Water discharge by quality and destination	4.5 Waste to Resources	91-92	-
	306-2 Waste by type and disposal method	4.5 Waste to Resources	91-92	-
	306-3 Significant spills	4.5 Waste to Resources	91-92	-
	306-4 Transport of hazardous waste	4.5 Waste to Resources	91-92	-
	306-5 Water bodies affected by water discharges and/or runoff	4.5 Waste to Resources	91-92	-
Supplier Environmental Assessment GRI 308: 2016	3-3 ★ Supply Chain Management	3.1 Supply Chain Management	58	-
	308-1 New suppliers that were screened using environmental criteria	3.1 Supply Chain Management	61-62	-

GRI	Disclosure Title	Chapter	Pages	Note
Supplier Environmental Assessment GRI 308: 2016	308-2 Negative environmental impacts in the supply chain and actions taken	3.1 Supply Chain Management	61-62	-
	3-3 ★ Digital Transformation	2.3 Digital Transformation	55	Customize Issue
GRI 400 : Social Disclosures				
Employment GRI 401: 2016	3-3 ★ Diversity and Equal Opportunity	5.1 Diversity and Equal Opportunity	96	-
	401-1 New employee hires and employee turnover	5.1 Diversity and Equal Opportunity	99 130	-
	401-2 Benefits provided to full-time employees that are not provided to temporary or parttime employees	5.1 Diversity and Equal Opportunity	101-103	-
	401-3 Parental leave	5.1 Diversity and Equal Opportunity	102	-
Labor/ Management Relations GRI402: 2016	402-1 Minimum notice periods regarding operational changes	-	-	CLC will make advance notification regarding significant operational changes.
	3-3 ★ Healthy Workplace	5.3 Healthy Workplace	110	-
	403-1 Occupational health and safety management system	5.3 Healthy Workplace	111	-
	403-2 Hazard identification, risk assessment, and incident investigation	5.3 Healthy Workplace	112-113	-
	403-3 Occupational health services	5.3 Healthy Workplace	114	-
	403-4 Worker participation, consultation, and communication on occupational health and safety	5.3 Healthy Workplace	113	-
	403-5 Worker training on occupational health and safety	5.3 Healthy Workplace	112	-
	403-6 Promotion of worker health	5.3 Healthy Workplace	114	-
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	5.3 Healthy Workplace	113	-
	403-8 Workers covered by an occupational health and safety management system	5.3 Healthy Workplace	112	-
	403-9 Work-related injuries	5.3 Healthy Workplace	112	-
	403-10 Occupational disease	5.3 Healthy Workplace	112	-

Note: 3-3 ★ Major Issues Management

GRI	Disclosure Title	Chapter	Pages	Note
Training and Education GRI 404: 2016	3-3 ★ Talent Cultivation and Development	5.2 Talent Cultivation and Development	104	-
	404-1 Average hours of training per year per employee	5.2 Talent Cultivation and Development	106	-
	404-2 Programs for upgrading employee skills and transition assistance programs	5.2 Talent Cultivation and Development	106	-
	404-3 Percentage of employees receiving regular performance and career development reviews	5.2 Talent Cultivation and Development	108	-
Diversity and Equal Opportunity GRI 405: 2016	405-1 Diversity of governance bodies and employees	1.2 Governance Organization 5.1 Diversity and Equal Opportunity	17 98	-
	405-2 Ratio of basic salary and remuneration of women to men	5.1 Diversity and Equal Opportunity	130	-
Non discrimination GRI 406: 2016	406-1 Incidents of discrimination and corrective actions taken	-	-	No incidents of discrimination.
Freedom of Association and Collective Bargaining GRI 407: 2016	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	-	-	All subsidiaries comply with the collective bargaining agreement in accordance with the laws and regulations of the host regions/countries and respect the right to collective bargaining and freedom of association of employees.
Child Labor GRI 408: 2016	408-1 Operations and suppliers at significant risk for incidents of child labor	5.1 Diversity and Equal Opportunity	98	CLC promise that all employees are treated with respect and dignity and no child labor will be used.
Forced or Compulsory Labor GRI 409: 2016	409-1 Operations and supplier Operations and suppliers at significant risk for incidents of forced or compulsory labor	-	-	No forced or compulsory labor was reported in high-risk and suppliers' operational locations and suppliers.
Security Practices GRI 410: 2016	410-1 Security personnel trained in human rights policies or procedures	-	-	Same as CLC employees.
Rights of Indigenous People GRI 411: 2016	411-1 Incidents of violations involving rights of indigenous peoples	-	-	No incident in 2022.
Local Communities GRI 413: 2016	413-1 Operations with local community engagement, impact assessments, and development programs	6 Society	122-123	-
	413-2 Operations with significant actual and potential negative impacts on local communities	6 Society	122-123	-
Supplier Social Assessment GRI 414: 2016	3-3 ★ Supply Chain Management	3.1 Supply Chain Management	59	-
	414-1 New suppliers that were screened using social criteria	3.1 Supply Chain Management	61	-
	414-2 Negative social impacts in the supply chain and actions taken	3.1 Supply Chain Management	61	-

GRI	Disclosure Title	Chapter	Pages	Note
Public Policy GRI 415: 2016	415-1 Political contributions	-	-	No political contributions.
Customer Health and Safety GRI 416: 2016	3-3 ★ Product Responsibility and Customer Service	2.2 Product Responsibility and Customer Service	50	-
	416-1 Assessment of the health and safety impacts of product and service categories	2.2 Product Responsibility and Customer Service	52-53	-
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	-	-	No violation of relevant laws and regulations.
Marketing and Labeling GRI 417: 2016	417-1 Requirements for product and service information and labeling	2.2 Product Responsibility and Customer Service	52-53	Related service information and labeling are disclosed on products and the CSR website with 100% compliance with various international standards, voluntary disclosure standards, and green mark regulations.
	417-2 Incidents of non-compliance concerning product and service information and labeling	-	-	No significant violation.
	417-3 Incidents of non-compliance concerning marketing communications	-	-	No significant violation.
Customer Privacy GRI 418: 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	-	-	No complaint regarding breach of customer privacy or lose in data.
	3-3 ★ Social participation	6 Society	115	Customize Issue

Note: 3-3 ★ Major Issues Management

SASB Index

Topic	Code	Category	Accounting Metrics	Note/ Chapter/ Pages		
				2021	2022	Unit
Greenhouse Gas Emissions	RR-PP-110a.1	Quantitative	Gross global Scope 1 emissions	1,174,581 4.1 (p.79)	1,113,036 4.1 (p.76)	MT CO ₂ e (Exclude overseas sites)
	RR-PP-110a.2	Discussion and Analysis	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	4.1 (p.78-79)	4.1 (p.72, 76)	-
Air Quality	RR-PP-120a.1	Quantitative	Air emissions of the following pollutants: (1) NO _x (excluding N ₂ O) (2) SO ₂ (3) volatile organic compounds (VOCs) (4) particulate matter (PM) (5) hazardous air pollutants (HAPs) -	(1) 575 (2) 278 (3) 92 (4) 84 (5) 0 4.4 (p.92)	(1) 483 (2) 228 (3) 101 (4) 89 (5) 0 4.4 (p.90)	MT
			(1) Total energy consumed, (2) percentage grid electricity, (3) percentage from biomass, (4) Proportion of renewables (deducting biomass energy) (5) Capacity of self-generation of renewables -	(1) 14,279,553 (2) 9.84% (3) 6.39% (4) - (5) 0.01% 4.2 (p.82-86)	(1) 13,153,671 (2) 10.7% (3) 10.13% (4) - (5) 0.08% 4.2 (p.79-84)	% / GJ (Exclude overseas sites)
Water Management	RR-PP-140a.1	Quantitative	(1) Total water withdrawn (2) total water consumed (3) total water withdrawn, percentage of each in regions with High or Extremely High Baseline Water Stress (4) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress -	(1) 17,428,047 (2) 410,532 (3) - (4) - 4.3 (p.89)	(1) 17,635,019 (2) 1,015,708 (3) - (4) - 4.3 (p.87)	10 hL
	RR-PP-140a.2	Discussion and Analysis	Amount of recycled and recovered fiber procured	4.3 (p.87-89)	4.3 (p.85-87)	
Supply Chain Management	RR-PP-430a.1	Quantitative	Percentage of wood fiber sourced from (1) third-party certified forestlands and percentage to each standard and (2) meeting other fiber sourcing standards and percentage to each standard	98.9% 3.2 (p.71)	92.6% 3.2 (p.65)	% FSC™ pulp ratio
	RR-PP-430a.2	Quantitative	Amount of recycled and recovered fiber procured	Used 1.794 million MT recovered paper, 1.934 million MT and used recycled materials consumption 2.2 (p.58)	Used 1.572 million MT recovered paper, 1.699 million MT and used recycled materials consumption 2.2 (p.51)	million MT

Employee Information Tables

CLC Manpower Structure in 2022		Taiwan		China		Vietnam		Subtotal				Total	
Item	Category	Number	Number	Number	Number	Number	Number	Number	Ratio	Number	Ratio	Number	Ratio
Position	Labor	2,468	437	603	372	1,190	527	4,261	81.7%	1,336	89.2%	5,597	83.4%
	Management*	641	47	106	46	66	65	813	15.6%	158	10.6%	971	14.5%
	Senior Management*	143	3	1	0	0	0	144	2.8%	3	0.2%	147	2.2%
Age	<30	493	72	69	42	623	294	1,185	22.7%	408	27.3%	1,593	23.7%
	30~50	1,984	285	550	331	578	266	3,112	59.6%	882	58.9%	3,994	59.5%
	≥51	775	130	91	45	55	32	921	17.7%	207	13.8%	1,128	16.8%
Seniority	≤ 5	1,062	159	250	149	1,003	411	2,315	44.4%	719	48.0%	3,034	45.2%
	6-15	997	93	385	245	231	166	1,613	30.9%	504	33.7%	2,117	31.5%
	16-25	605	60	75	24	22	15	702	13.5%	99	6.6%	801	11.9%
	26-35	504	165	0	0	0	0	504	9.7%	165	11.0%	669	10.0%
	≥ 36	84	10	0	0	0	0	84	1.6%	10	0.7%	94	1.4%

*Management: Number of supervisors (non-high-level) ; Senior Management: number of supervisor above level six

Average Wage of New Employees VS Local Minimum Wage

		Taiwan		China		Vietnam	
Item	Category	Number	Number	Number	Number	Number	Number
Education	Below senior high school	7.8%	8.4%	57.6%	54.8%	28.3%	28.0%
	Senior high school	36.9%	28.5%	29.6%	17.7%	41.1%	26.2%
	University	49.8%	55.4%	12.8%	27.5%	30.1%	19.8%
	Master / PhD	5.4%	7.6%	0.0%	0.0%	0.1%	0.0%
Nationality	Taiwan	92.5%	94.0%	China		Vietnam	
	Foreign (Blue-collar)	7.4%	4.9%				
	Foreign (White-collar)	0.0%	1.0%				
Period of Employment Contract	Irregular	99.1%	96.7%	34.8%	34.4%	99.9%	100.0%
	Regular	0.9%	3.3%	65.2%	65.6%	0.1%	0.0%
Type of Employment Contract	Full time	99.9%	99.2%	100.0%	100.0%	100.0%	100.0%
	Part time	0.1%	0.8%	0.0%	0.0%	0.0%	0.0%



Note 1: Calculation: (Minimum compensation for non-supervisor new employees/Statutory minimum wage) x 100%

Note 2: The above amount includes all fixed compensations, excluding non-fixed salary including OT pay, standby allowance for emergency repair, shift allowance, and variable performance bonuses.

Note 3: The 2022 statutory minimum wage in Taiwan was NT\$25,250 each month.







Note 4: The statutory minimum wage in China and Vietnam is different by region. In China, the statutory minimum wage is CNY1,810-CNY2,590. In Vietnam, it is VND3,250,000-VND4,680,000. The calculations thus fall within 100-155% for China and 109-143% in Vietnam. In the table, the lowest value (China: 100% and Vietnam: 109%) means the minimum compensation of each region is higher than the local statutory minimum wage.

Minimum Wage of New Employees VS Local Minimum Wage

Year	2020		2021		2022	
	Bachelor	Master	Bachelor	Master	Bachelor	Master
Statutory minimum wage	1.00	1.00	1.00	1.00	1.00	1.00
	\$23,800		\$24,000		\$25,250	
	1.24	1.46	1.38	1.56	1.33	1.45
	1.24	1.41	1.30	1.61	1.33	1.52







Note: Taiwan area

Salary Ratio (by Gender)

Year	2020		2021		2022	
						
General Employees	0.99	1	1.03	1	0.99	1
Junior Supervisors	1.05	1	0.99	1	1.03	1
Intermediate Management	0.99	1	0.98	1	1.00	1
Senior Management	0.99	1	0.98	1	0.96	1







Note: Taiwan area

New Employees (by age and by gender)

Item	2020		2021		2022	
						
< 30	186 (25.3%)	75 (53.2%)	141 (27.7%)	32 (42.7%)	177 (35.9%)	28 (38.9%)
31-45	122 (7.5%)	15 (7.1%)	104 (6.6%)	14 (8.2%)	138 (8.6%)	19 (11.5%)
46-60	8 (0.8%)	2 (1.1%)	3 (0.3%)	1 (0.5%)	10 (1.0%)	10 (4.1%)
> 60	0 (0%)	0 (0%)	0 (0%)	0 (0%)	5 (3.0%)	1 (11.1%)
Subtotal	316 (9.8%)	92 (19.8%)	248 (7.7%)	47 (10.0%)	330 (10.1%)	58 (11.9%)







Note: Taiwan area, calculation: new employees of an age group/ the total number of employees of the same age group

Resigned Employees (by Age)

Item	2020		2021		2022	
						
< 30	113 (15.4%)	51 (36.2%)	91 (17.8%)	29 (38.7%)	108 (21.9%)	21 (29.2%)
31-45	96 (5.9%)	15 (7.1%)	87 (5.5%)	10 (5.9%)	105 (6.6%)	14 (8.5%)
46-60	46 (4.5%)	6 (3.4%)	45 (4.6%)	5 (2.4%)	50 (5.0%)	5 (2.1%)
> 60	38 (25.2%)	1 (12.5%)	47 (30.32%)	1 (10.0%)	40 (24.2%)	2 (22.2%)
Subtotal	293 (9.1%)	73 (15.7%)	270 (8.4%)	45 (9.6%)	303 (9.3%)	42 (8.6%)







Note: Taiwan area, calculation: resigned employees of an age group/ the total number of employees of the same age group (including retirees)

New Employees (by Region)

Item	2020		2021		2022	
						
North	172	80	135	36	208	37
Central	107	7	73	8	81	9
South	37	5	40	3	41	12
East	0	0	0	0	0	0
Subtotal	316	92	248	47	330	58

Note: Taiwan area







Resigned Employees (by Region)

Item	2020		2021		2022	
						
North	169	71	165	39	180	32
Central	93	2	71	3	88	8
South	31	0	34	3	35	2
East	0	0	0	0	0	0
Subtotal	293	73	270	45	303	42

Note: Taiwan area

Healthy Workplace Information Tables

Occupational Accident Statistics (in Taiwan)

Item		2020		2021		2022	
All Employees							
GRI	The rate of fatalities as a result of work-related injury	0.16	0	0	0	0.16	0
	The rate of high-consequence work-related injuries	1.10	1.10	0.16	0	0.00	0
Taiwan MOL Occupational Accident Statistics	Disabling Frequency Rate (FR)	1.26	0.16	0.95	0	1.42	1.07
	Disabling Severity Rate (SR)	1,906	1	39	0	54	1
	Frequency-Severity Indicator (FSI)	1.55	0.01	0.19	0	0.28	0.03
	Pulp, paper, and paper product manufacturing FSI	1.03		0.87		0.83	
	Hours worked	6,348,126	912,482	6,334,200	922,304	6,452,421	737,111

Note:

- Non-staff whose work and/or workplace is under CLC control are not included in the statistics.
- The rate of fatalities as a result of work-related injury = Fatalities as a result of work-related injury / Hours worked x 1,000,000
- The rate of high-consequence work-related injuries = Number of high-consequence work-related injuries / Hours worked x 1,000,000
- FR = Number of disabling injuries / Total hours worked x 1,000,000
- SR = Number of workdays lost due to disabling injuries / Total hours worked x 1,000,000
- Pulp, paper, and paper product manufacturing industries are subject to the "2020-2022 FSI by Industry" announced by Occupational Safety and Health Administration, Ministry of Labor on OH&S management system recognized information and application platform on February 2, 2023.



Assurance Statement



獨立保證意見聲明書

正隆股份有限公司 2022 年永續報告書

「法國標準協會」於1926年成立，作為法國國家標準的主管機關，並擔任「國際標準組織」的常任理事國代表，是國際知名的驗證機構之一。本項驗證工作由「法國標準協會」亞太公司「艾法諾國際(股)公司」執行，團隊成員均具有專業背景，且接受過AA1000 AS、AFAQ 26000、ISO 9001、ISO 14001、ISO 14064、ISO 45001、ISO 50001等永續性相關之品質、環境、能源、安全與社會責任等國際標準的訓練，而擁有主審稽核員或查證員之資格。法國標準協會除了本獨立保證聲明書所述內容外，並未涉及或介入任何正隆股份有限公司永續報告書之準備過程。

法國標準協會與正隆股份有限公司(以下簡稱正隆)為相互獨立的實體，艾法諾國際(股)公司依據AA1000保證標準(v3)及GRI永續報導準則(GRI Standards)，對正隆2022年永續報告書進行評估。

查證範圍

正隆股份有限公司永續報告書揭露範圍涵蓋台灣地區所有營業據點，以及部分大陸、越南等海外營業據點的經濟、環境與社會面向相關的活動與營運績效。

艾法諾國際(股)公司負責：

- 依照AA1000 保證標準(v3)的第一應用類型評估正隆遵循AA1000當責性原則的符合程度，但不包括對於報告揭露的特定永續性績效資訊與數據之可信賴度的查證；查證範圍包含相關的永續性議題、回應機制、績效資訊與資料的管理系統，以及重大性評估與利害關係人的參與過程。
- 依照GRI永續報導準則，查證正隆編撰之聲明選項與重大主題之揭露。

查證標準

保證範圍包括評估特定績效資訊的來源合理性，以及對以下報導標準遵守情況的評估：

- AA1000 當責性原則(2018)
- GRI 永續報導準則



查證方法

- 針對永續報告書中所述與AA1000 當責性標準(2018)有關的包容性、重大性、回應性與衝擊性原則之流程與管理進行審查。
- 該報告採用依據 GRI 永續報導準則進行報導，針對報告內容符合 GRI 準則的一般揭露及特定主題揭露進行審查。
- 針對管理團隊進行訪談，以確認利害關係人的溝通與回應機制。
- 基於指標計畫，查驗組織提出、蒐集與管理報告中所揭露的實化與量化的資料的流程。
- 切實與永續發展管理、報告書撰寫有關的組織成員，包含各階層與各部門代表。
- 查驗團隊藉由訪問正隆的各個負責人員，檢驗與客觀報告相關的文件、資料與資訊。
- 審查報告書內容之支持性資料與證據的充分性與完整性。

結論

- AA1000 當責性原則

包容性

正隆已持續廣泛廣泛的利害關係人參與方案，以造成識別與瞭解利害關係人關注之議題所產生之重要資訊。報告中已公正地報告與揭露經濟、環境與社會的訊息，足以支持適當的計畫與目標達成。未來的報告可：

- 持續健全永續發展策略，有效整合企業內外資源，風險與機會的管理，清楚訂定方案目標，呈現利害關係人所關注永續性相關議題。
- 持續強化既有之利害關係人與重大性議題識別機制，並擴展瞭解利害關係人關注重點與具體的參與方式及合理期望與利益。

重大性

正隆已公布永續發展和關鍵利害關係人得以對公司的管理與績效進行判斷，並發表及實施重大性議題決策機制，得以廣納來自各方的議題。未來的報告可：

- 擴大利害關係人之問卷調查及回收數量，持續完善及揭露具重大意義的永續發展資訊，並完整揭露具重大意義的永續性發展訊息。
- 持續強化正面面衝擊、重大考量面與相關衝擊之識別機制，強化重大議題之風險與機會管理，並落實至各部門作業程序。



回應性

正隆已發展且實施利害關係人回應機制及SDGs的對應，明確宣告各項相關政策、規範、守則、目標與標準，且與利害關係人進行溝通，並盡力執行符合利害關係人的期待之管理方針與目標。未來的報告可：

- 持續強化各部門與利害關係人回應與溝通機制，加強揭露數據之深度與廣度並增加其可比性。
- 持續健全利害關係人對本報告之回應，做為未來持續參考。

衝擊性

正隆已發展且實施用以理解、監測、評估與管理組織的衝擊性之流程，並提供必要的能力與資源，並致力於將組織對利害關係人及自身之衝擊性的監測與評估做出全面且平衡的揭露。未來的報告可：

- 持續強化各項重大永續行動與相關衝擊之風險與機會管理、監測機制，並落實至各部門作業程序中。

GRI 永續報導準則

基於審查的結果，我們確認報告書在一般揭露項目與特定主題揭露，包括重大主題管理與揭露項目，符合GRI永續報導準則要求。未來的報告可：

- 持續完善並揭露未來可再提及至其他區域或營運據點相關資訊，並加強揭露資訊之深度與廣度，以強化管理方針揭露內容，更完整呈現永續性策略與相關永續性績效。
- 持續健全重大性議題風險與機會並加強管理、實踐成果及逐步落實至組織各營運據點子公司之營運各項作為，以擴大企業對永續經營的影響力。



意見聲明

我們總結「正隆股份有限公司2022年永續報告書」內容，對於正隆的相關運作與特定績效提供了一個公平的觀點。我們相信有關正隆在2022年的經濟、社會及環境等特定績效指標是正確地呈現。

「法國標準協會」依據AA1000保證標準(v3)的查證指引及GRI永續報導準則，已發展完整的永續性報告保證流程。我們認為就正隆所提供的足夠證據及現場查證的所見事實，秉持公允的原則，其此聲明其已依據AA1000保證標準(v3)的報告方法及GRI永續報導準則，符合他們遵守全球永續性報告準則原則的自我聲明。

保證等級

依據AA1000保證標準(v3)，我們僅依據本聲明書中所描述的範圍與方法，審定本聲明書為中度保證等級。

責任

本獨立保證聲明書的意見聲明僅供正隆股份有限公司使用，「法國標準協會」不對其他的用途負責。我們的責任僅基於所描述的範圍與方法，為提供利害關係人一份獨立的保證意見與聲明。

以上，謹代表「法國標準協會」



Trevor Warner
總經理與審計部門 理事
2023年05月11日

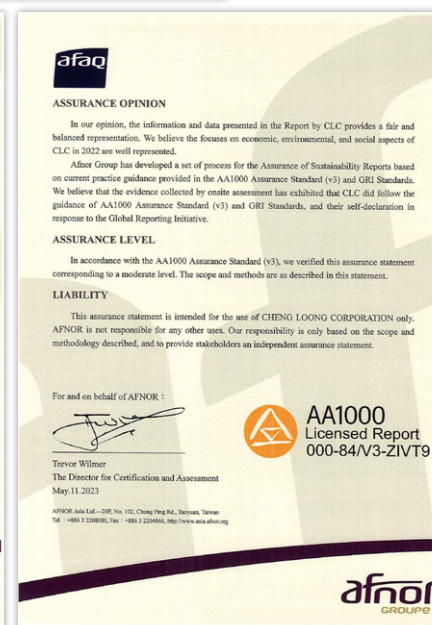
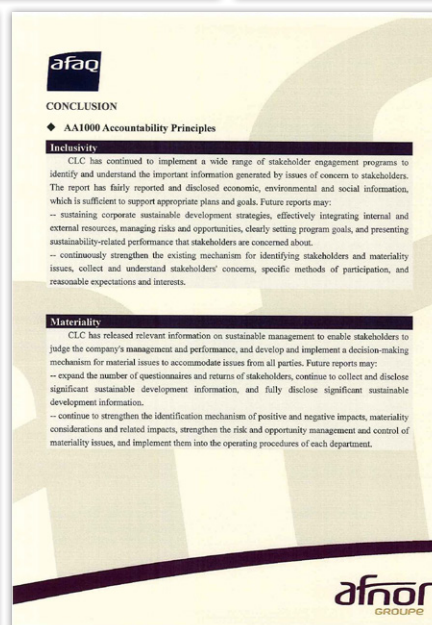
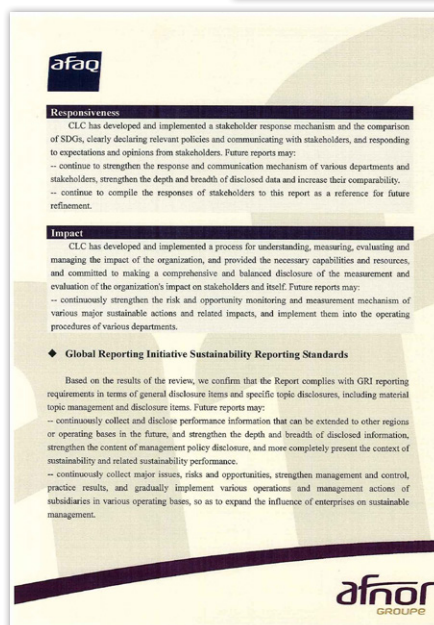
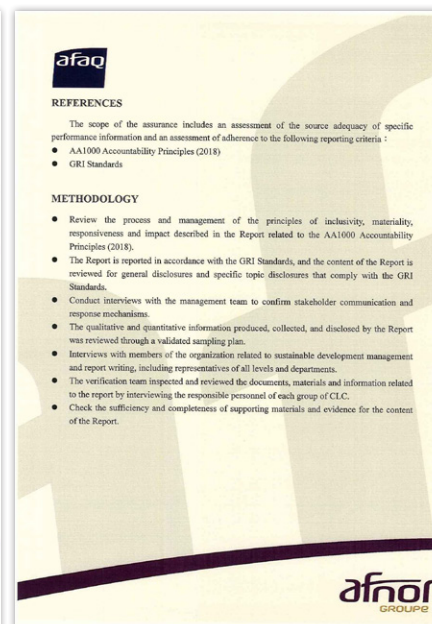
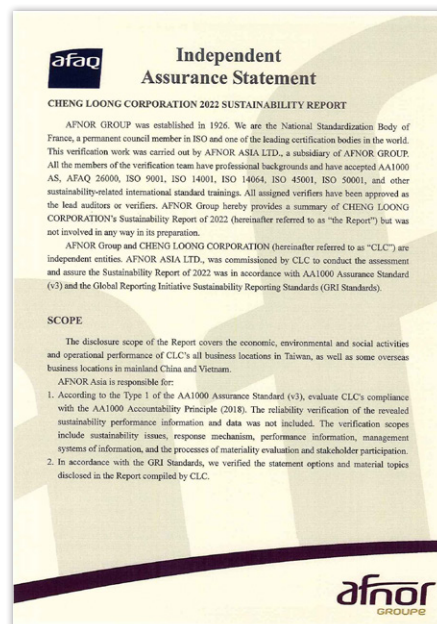
艾法諾國際股份有限公司—臺灣總公司地址：台北市 102 號 20 樓
電話：+886 3 2208800、傳真：+886 3 2204866、Email: info@www.afnor.org

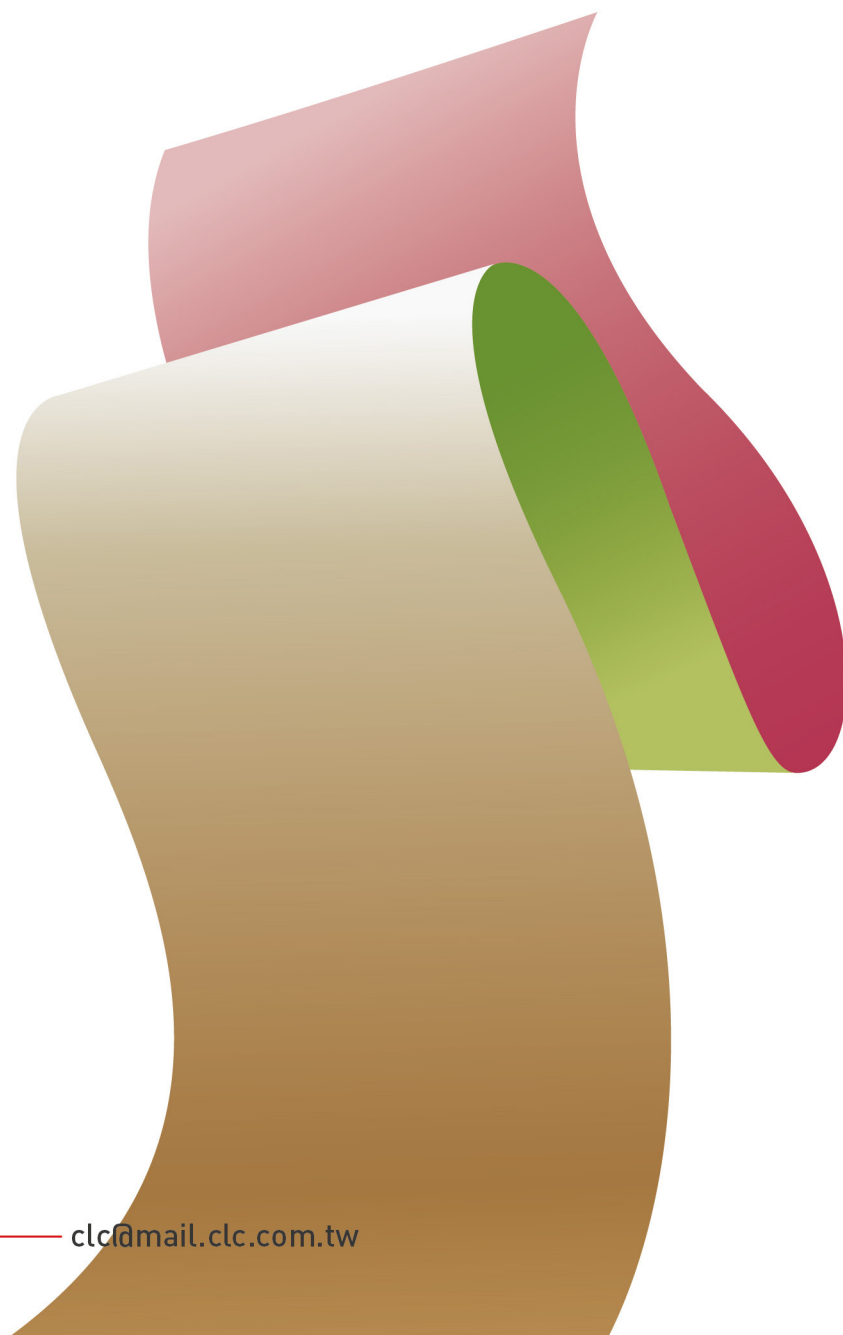


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Assurance Statement





No.1, Sec 1, Min Cheng Rd., Panchiao Dist., New Taipei City 220, Taiwan

+886-2-2222-5131 / +886-2-2222-6110 ——— <http://www.clc.com.tw> ——— clc@mail.clc.com.tw