CCP 長春集團 Chang Chun Group

2016

Corporate Social Responsibility Report

About This Report

This is Chang Chun Group's (CCPG) first Corporate Social Responsibility Report. It examines four major aspects of the Group's operations, which are listed and summarized as follows: products and services (CCPG is a reliable material supplier committed to providing products and services that guarantee customer satisfaction); environmental protection (CCPG is a sustainable manufacturer that believes in achieving prosperity by ensuring a safe and eco-friendly production environment); healthy workplace and external communications (CCPG takes the responsibility to create social values and spares no effort in cultivating talent and giving back to society); and corporate governance (CCPG is a diligent, pragmatic, and integrity-oriented company holding steadfast to our principles of "Be Diligent and Pragmatic," "Work Together," "Grow Together with our Customers," "Innovate Through R&D," and "Make Contributions to Society").

This report illustrates CCPG's sustainable development performance and commitment to society, as we aim to offer customers the highest-quality products and services, to improve industrial development and the living environment for future generations, and to achieve our business objectives of environmental and enterprise sustainability.

Report Scope and Boundary

We established our Executive Board in 2014, with the collective Group name CCPG created by the merging of Chang Chun Plastics Co., Ltd. (CCP), Chang Chun Petrochemical Co., Ltd. (CCPC), and Dalian Chemical Industry Co., Ltd. (DCC). The scope and boundary of this report include CCPG's Taipei Head Office and all Taiwan-based factories listed in the table below. The Group's overseas factories and consolidated subsidiaries are excluded. The CSR performance of overseas factories and consolidated subsidiaries will be gradually incorporated into the disclosure scope of future reports.

Company	Location of Operation
CCP	Hsinchu Factory
	Changpin Factory
	Mailiao Factory
	Dafa Factory
	Kaohsiung Factory
CCPC	Miaoli Factory
	Mailiao Factory
	Dafa Factory
DCC	Mailiao Factory
	Dafa Factory
	Kaohsiung Factory

Reporting Period and Issuance Date

The "Chang Chun Group 2016 Corporate Social Responsibility Report" was published in December 2017, covering the disclosure period of January 1, 2016 to December 31, 2016. The Group will release the previous year's Corporate Social Responsibility Report annually. As this is CCPG's first CSR report, complete disclosure has been ensured by utilizing some information from past performance figures and information from earlier period before the publication of this report in 2017.

Report Compilation and Audit

This report is compiled with information provided by CCPG's CSR Executive Secretariat, four CSR task forces, all departments under the Taipei Executive Board, and Taiwan-based factories. To ensure that the report is accurate and meets stakeholders' expectations, all content was approved by CCPG's CSR Committee before its official release.

Report Compliance Standards

The content and structure of this report are based on the Core Options of the Global Reporting Initiative's (GRI) G4 Sustainability Reporting Guidelines. The information disclosure for relevant content indexes also follows the Core Options, fully illustrating CCPG's material issue management policies and implementation performance in economic, environmental, and social aspects.

Contact

Feel free to contact us if you have any questions regarding the content of this report.

CCPG's Corporate Social Responsibility Executive Secretariat

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CCPG Executive Board Chairman's Message

Over Six Decades of Innovation

The petrochemical industry is a critical raw material supplier for all industries. As such, it has long been part of the backbone of Taiwan's economic development, driving our country's economy to take off. In 1949, Mr. Liao Ming-Kun, Mr. Tseng Shin-Yi, and I formed a partnership and established Chang Chun Plastics Co., Ltd. (CCP), planting the first seed of Chang Chun Group (CCPG). Today, CCP has developed into a national leader and model for the chemical industry.

Our internal R&D is the cornerstone of the Group's growth, and as long as we can maintain our operating results at a certain level, we will continue to innovate new, more efficient operating equipment and technology. Indeed, continual growth is a crucial and sustainable driving force in the chemical industry. To excel in this ever-changing business environment, our operating strategy is to continue investing in product development. As long as there are business opportunities in the purpose and content of product development, there will be no funding limit for our R&D—this is how CCPG fosters its strong culture of innovation.

Advancing Risk Management with the Times

To attain sustainable business operations, an enterprise must take into account both short-term profit and long-term strategy; for the chemical industry in particular, monitoring and controlling risks soundly is the foundation of sustainable operations and new business opportunities. As far as the Group's operations are concerned, raw material storage is our greatest risk because it can most substantially affect our profitability. Possible technology leakages and intellectual property infringements are also focuses of CCPG's risk management.

In daily operation, CCPG pays special attention to occupational health and safety. Regarding risks related to workplace safety and environmental protection, we seek to prevent them at their source; accordingly, all employees receive mandatory training and education, and we have implemented management systems such as ISO 9001/14001, OHSAS 18001, and process safety management (PSM). These efforts extend even to me—I personally teach workplace safety classes to ensure that employees have correct safety concepts and that safe behavior becomes a habit.

Establishing a Good Business Environment Together

In addition to an enterprise's own operational decisions, the business environment created by industry peers also affects the business operations of individual enterprises; although customers are obviously highly important, industry peers are even more so. Vicious competition among industry peers can be harmful to all, thus maintaining good relationship with industry counterparts is crucial. Long-term business operation could be achieved only by means of effective communication, good relationship, and fair competition between industry peers.

Sustainable and Long-lasting CCPG

Since CCPG's inception, the concept of sustainable development has been deeply rooted in its business philosophy. Indeed, the founders named the company "Chang Chun" with the intention that they would "make concerted efforts every day (Chun) so that the company would be sustained for a long, long (Chang) time." Therefore, we have ingrained the sustainable development ideal deeply into every employee's mindset and work procedures; from energy conservation and environmental protection to interacting with the community and contributing to local employment, these are the values that we, as a big family, aim to live by for the betterment of society. We expect CCPG to not only co-exist but to co-prosper with the environment and society in a sustainable manner—and to do so long into the future.

Shu-Hong Lin
CCPG Executive Board Chairman

Chairman's Message

Promote Structured Sustainable Development

In 2016, the Group formally established Corporate Social Responsibility Governance Mechanisms. With the active engagement of multiple task forces, we have transformed the concept of sustainable development into pragmatic action programs. Our employees first learn the structure and philosophy of sustainability; then, through the integration of CSR and ISO systems, relevant concepts and objectives are internalized within the organization and become a part of routine business. Thus, when we complete our daily work, we are also simultaneously fulfilling the Group's CSR goals.

Diverse Construction of Human Capital

We know that employees are an enterprise's most valuable asset, and as such we devote great effort to recruitment. We are interested not only in applicants' experience and education but also intangible qualities such as their personalities and functional abilities. From the very beginning of the recruitment process, whether an applicant embraces CCPG's culture and values is a screening criterion. Furthermore, we believe that as long as the Group has a high proportion of senior staff, our core values will be passed down in full to new generations of employees.

In recent years, CCPG has placed particular emphasis on training and education by promoting various programs, starting from new hires, and by providing training courses that meet the needs of employees at all levels. By doing so, we hope that employees can contribute everything they have learned and that they are capable of, and that our future management executives may be cultivated at the same time.

Circular Economy: The Central Tenet of Our Sustainability Efforts

Our R&D comprises two divisions: one is responsible for developing new products and the other is charged with finding new uses and process improvements for existing products, such as strengthening new process design for waste recycling. Environmental sustainability is already a key consideration in our production process and structure. For instance, in what we believe to be a world first, we use recycled carbon dioxide to produce acetic acid. Other examples include the copper foil we produce, which meets the requirements of new-generation electric vehicles' lithium batteries, as well as the PVB film we manufacture for application on building windows and as automobile safety glass, which can isolate UV rays and reduce energy consumption, thereby directly or indirectly reducing the impact on the environment. In addition, the Group has established a Product Standards Office, which is responsible for patent business inquiries and product compliance reviews. This enables CCPG to understand—right from the R&D stage—whether the raw materials we use pose potential environmental risks; we would rather not profit than move forward with a production process that may harm the environment.

In terms of operations, we are not hesitant to invest in equipment that can benefit the environment, such as the seven sets of air pollution control equipment that we have purchased for use across Taiwan. In addition, substantial funds are invested in internal R&D to improve factory operations, such as to reduce waste generation and increase recycling.

Holistic Consideration of the Value Chain

In facing emerging sustainability-related issues such as climate change, energy resource shortages, ecological destruction, and human rights, CCPG must consider its entire value chain in order to manage risks properly through systematic risk identification, assessment, control, and supervision. This approach—which starts from our dealing with contractors and suppliers as well as its extension through our own operations—aims to ensure that our end products are safe, secure, and meet the functional requirements of our clients.

A notable example of this approach is that, in addition to providing electronics manufacturers with chemical detergents, CCPG also develops effluent recycling and reuse technology and shares this expertise with our customers to achieve widespread recycling and reuse, creating a win–win situation.

The Group positions itself as a "reliable material supplier". From our point of view, all operation-related issues come under our CSR. Our core values of "Integrity," "Putting the Customer First," and "Creative Innovation" are also our foundation for internal management, making related investments, building a work environment, etc.

We have released this report—CCPG's first Corporate Social Responsibility Report—to share the results of our CSR implementation with all stakeholders so that they may understand and participate in CCPG's move to sustainability.

Long-Shing Liao
Chairman

CCPG's 2016 CSR Key Performances

Governance

- In 2016, CCP was ranked among ***the top 30%*** of more than 20,000 global companies whose environmental, social, and corporate governance performances were assessed by EcoVadis, earning the company a ***silver medal***.
- Three of the Group's companies received ***Security and Safety Authorized Economic Operator (AEO) certification*** in 2016.
- In 2016, CCPG's ***short-, medium-, and long-term sustainability strategies*** were developed and disclosed in a report.
- With the establishment of a sound ***risk management system***, there was no corruption-related incident in 2016.

Product

- As of 2016, CCPG owned a total of ***739 patents***.
- Templates of more than ***20 languages*** have been implemented on safety data sheets (SDS) to provide customers with sheets in their country's official language, ensuring they can clearly understand them.

Environmental

- We have developed a unique acetic acid process that uses ***recycled CO_2*** (a greenhouse gas) as the raw material; the amount used in 2016 reached ***103,531 tons***, setting a new record.
- From 2014 to 2016, CCPG invested a total of NT$34 million to implement a ***PSM system***.
- CCPG's environmental expense for 2016 increased by ***65%*** as compared to that for 2015.
- In 2016, recycled and reused water accounted for ***63.25%*** of all water used by CCPG.

Social

- We have insisted on not hiring foreign workers; when recruiting new hires, priority is given to local residents, with ***local employees*** accounting for more than ***70%*** of workers (in Miaoli, the rate is as high as 90%).
- Labor–management interaction is strong, with the channels in place ensuring smooth communication for both parties.
  The Group's subordinate factories established their first labor union as early as 1971, with the proportion of union members peaking at nearly ***99%***. Furthermore, CCPG has been signing ***collective agreements with labor unions*** as early as 1986, having completed ***7*** such agreements as of this report.

Identification of Material Issues

The Group takes stakeholders' needs and expectations very seriously. As such, questionnaires have been used to facilitate effective communication with stakeholders, specifically in order to identify and analyze their concerns for reference in composing reports' information disclosure and in formulating CSR policies. The major analytical steps involved in this process are as follows:

1. Stakeholder Identification

Using the five principles of the AA1000SES 2015 Stakeholder Engagement as criteria, CCPG identifies our major stakeholders by collecting opinions from employees representing all departments. The Group then aggregates and identifies major stakeholders in seven categories, namely employees, suppliers (including product vendors, freight services, and engineering firms), customers, governments/competent authorities, shareholders/joint ventures, community residents, and trade associations.

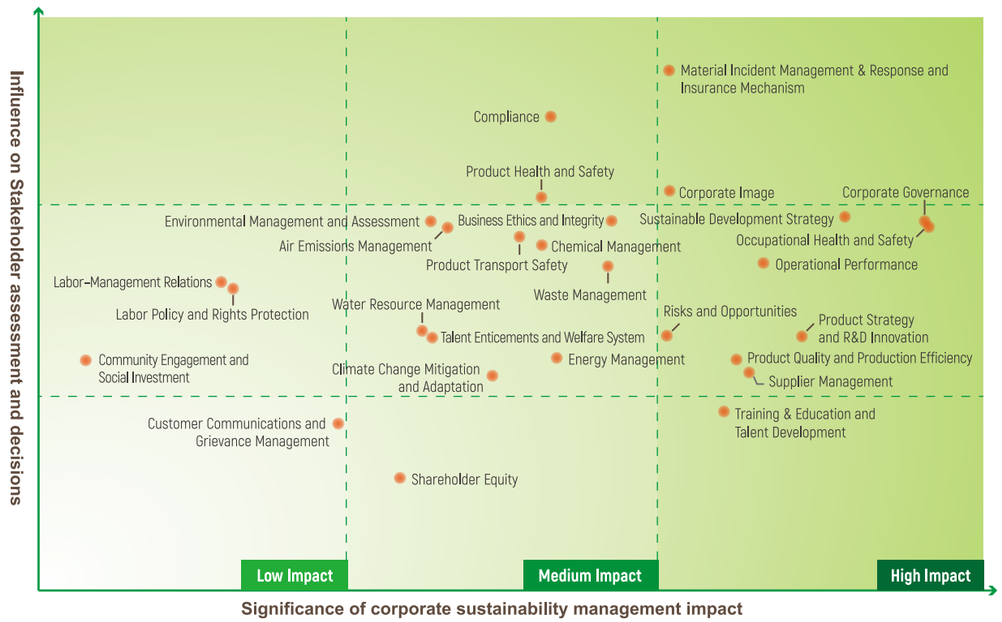
2. Outcome of Material Issue List

Concerning the identification of material issues, the opinions of CSR promotion members from all of the Group's business units are collected and summarized into seven categories of issues of concern to stakeholders. Subsequently, by referring to criteria such as the GRI's G4 material aspects, industry peer benchmarks, and international rating agencies, a list of 28 issues is compiled.

3. Results of Material Issue Analysis

Material issue identification questionnaires are distributed to the aforementioned seven major categories of stakeholders, and 110 valid questionnaires are received, analyzed, and sorted by the level of impact on the enterprise's sustainability development and the level of significant impact on stakeholders' decision-making. The management level's viewpoints are then consolidated to create a material issue matrix, which serves as the basis for the report's subsequent disclosure contents. We also analyze the results and use the insight yielded as a critical reference for communicating with stakeholders and implementing sustainable management strategies.

Materiality Matrix of Chang Chun Group



Please refer to the Scope and Boundary of Material Aspects table for a detailed description of the material aspect matrix.

Level of Impact	Issue(s)	Aspects Corresponding to GRI G4	Internal Boundary			External Boundary						Management Policy and Related Information		Page No.
			CCP	CCPC	DCC	Suppliers	Customers	Governments/ Competent Authorities	Shareholders/ Joint Ventures	Community Residents	Business Associations	Corresponding Chapter		
High Impact	**Material Incident Management & Response and Insurance Mechanism**	· Product Responsibility: Customer Health and Safety	●	●	●	●	●	●	●	●	●	2.2.3	Material Incident Management & Response	48
	Corporate Image	· Economic: Market Presence · Social: Anti-Competitive Behavior, Anti-Corruption	●	●	●				●	●	●	1.1.1	Company Profile	14
	Corporate Governance	· General Standard Disclosures: Governance · General Standard Disclosures: Ethics and Integrity · Economic: Economic Performance	●	●	●			●	●			1.2	Corporate Governance	20
	Occupational Health and Safety	· Labor Practices and Decent Work: Occupational Health and Safety	●	●	●			●				2.2.1 2.2.2	Workplace Safety Process Safety	43 46
	Compliance	· Environmental, Social, Product Responsibility: Compliance	●	●	●	●	●	●	●	●	●	1.4.2	Compliance	29
	Sustainable Development Strategy	· General Standard Disclosures: Strategy and Analysis · General Standard Disclosures: Organizational Profile · Economy: Economic Performance	●	●	●		●		●		●	1.3.1	CSR Governance and Management Organization	24
	Operational Performance	· Economy: Economic Performance	●	●	●				●			1.2.1	Financial Performance	21
	Product Health and Safety	· Product Responsibility: Customer Health and Safety	●	●	●		●			●	●	2.1.2	Chemical Management	39
	Product Strategy and R&D Innovation	· Environmental: Products and Services · Product Responsibility: Product and Service Labeling	●	●	●		●					2.1.1 2.1.2	Green Process and Products Chemical Management	34 39
	Supplier Management	· Economic: Procurement Practices · Environmental: Supplier Environmental Assessment · Labor Practices and Decent Work: Supplier Labor Practice Assessment · Human Rights: Supplier Human Rights Assessment · Social: Supplier Assessment for Impacts on Society	●	●	●	●						2.3	Supplier Management	52
	Product Quality and Production Efficiency	· Product Responsibility: Product and Service Labeling	●	●	●		●					2.1.2	Chemical Management	39
	Risks and Opportunities	· General Standard Disclosures: Strategy and Analysis	●	●	●				●			1.4.3	Risk Management	30
	Training & Education and Talent Development	· Labor Practices and Decent Work: Training and Education	●	●	●							4.3	Talent Cultivation	88

Note: ● indicates that the issue will cause an impact on this boundary

Level of Impact	Issue(s)	Aspects Corresponding to GRI G4	Internal Boundary			External Boundary						Management Policy and Related Information		Page No.
			CCP	CCPC	DCC	Suppliers	Customers	Governments/ Competent Authorities	Shareholders/ Joint Ventures	Community Residents	Business Associations	Corresponding Chapter		
Medium Impact	**Business Ethics and Integrity**	· General Standard Disclosures: Ethics and Integrity	●	●	●		●					1.4.1	Ethical Management	29
	Waste Management	· Environmental: Effluents and Waste	●	●	●			●		●	●	3.4	Waste Management	69
	Chemical management	· Environmental: Materials, Products, and Services · Product Responsibility: Customer Health and Safety, Product and Service Labeling	●	●	●		●	●			●	2.1.2	Chemical Management	39
	Product Transport Safety	· Environmental: Products and Services, Transport · Product Responsibility: Customer Health and Safety	●	●	●	●	●			●		2.3.1	Product Transport	53
	Air Emissions Management	· Environmental: Emissions	●	●	●			●		●	●	3.4.1	Emission of Air Pollutants	69
	Environmental Management and Assessment	· Environmental: Biodiversity, Products and Services, Overall · Social: Local Communities	●	●	●			●		●		3.1	Environmental Management and Investment	58
	Energy Management	· Environmental: Energy	●	●	●			●		●	●	3.2.1	Energy Management and Conservation	61
	Climate Change Mitigation and Adaptation	· Environmental: Emissions	●	●	●			●		●	●	3.2	Climate Change and Energy Conservation	61
	Talent Enticements and Welfare System	· Labor Practices and Decent Work: Labor–Management Relations	●	●	●			●				4.2.1 4.2.2	Employment Status Employee Benefits	80 84
	Water Resource Management	· Environmental: Water Resources, Effluents and Waste	●	●	●			●		●	●	3.3	Water Resources Management	66
	Labor Policy and Rights Protection	· Labor Practices and Decent Work: Labor Practices Grievance Mechanisms · Human Rights: Non-discrimination, Forced or Compulsory Labor, Human Rights Grievance Mechanisms	●	●	●			●				4.2.3	Labor-Management Relations and Communication	86
	Labor–Management Relations	· Labor Practices and Decent Work: Labor–Management Relations · Human Rights: Freedom of Association and Collective Bargaining	●	●	●			●				4.2.3	Labor-Management Relations and Communication	86
	Community Engagement and Social Investment	· Economic: Indirect Economic Impact · Environmental: Environmental Grievance Mechanisms · Social: Local Community, Grievance Mechanisms for Impacts on Society	●	●	●					●		4.1.1 4.1.2	Stakeholder Engagement Social Involvement	74 76
	Shareholder Equity	· Economic: Economic Performance	●	●	●				●			1.2.1	Financial Performance	21
Low Impact	**Customer Communications and Grievance Management**	· Product Responsibility: Customer Health and Safety, Marketing Communications, Customer Privacy	●	●	●		●					2.1.3	Customer Communication	41

Note: ● indicates that the issue will cause an impact on this boundary

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A Diligent, Pragmatic, and Integrity-Oriented Enterprise

When the Group's Executive Board was established in 2014, corporate governance, compliance, and risk management were all incorporated into Group-level integrated management. Since 2016, CCPG has further established CSR governance mechanism; to meet its self-expectation as a corporate citizen, environmental, social and supply chain issues have been incorporated into the scope of CCPG's governance. CCPG hopes that all subsidiaries' resources and expertise can be well connected to ensure the Group's sustainable development through systematic and integrated approaches.

1.1 Chang Chun Group (CCPG) Introduction

CCPG consists of three companies. With three founders' selfless minds, they work with great efforts day and night, through perfect long-term teamwork, which has not changed after more than six decades.

1.1.1 Company Profile

In 1949, CCPG's three founders, Mr. Liao Ming-Kun, Mr. Lin Shu-Hong, and Mr. Tseng Shin-Yi, created Chang Chun Plastics Co., Ltd. (CCP) with an initial capital of NT$500, and sowed the first seed for CCPG.

CCPGs first product was phenolic molding compound made from wood powder and self-produced phenolic resin, and CCP has hence become Taiwan's first plastic-producing factory. Three years later, urea resin molding materials were also developed successfully, prompting Taiwan's thermosetting plastics to start substituting for their imported counterparts.

In 1964, Chang Chun Petrochemical Co., Ltd. (CCPC), was founded. This is CCPG's second core company. CCPC produced methanol using natural gas from Miaoli, and was a pioneer in Taiwan's petrochemical industry. In 1979, Dairen Chemical Corp. (DCC), CCPG's third core company, was established to produce vinyl acetate monomers.

Currently, in addition to the aforementioned three core companies, CCPG has set up production bases in Mainland China, Malaysia, Indonesia, Singapore, etc., producing hundreds of products, including general-purpose chemicals, synthetic resins, thermosetting plastics, and high-performance engineering plastics, electronic materials, semiconductor chemicals, etc. CCPG has made great contributions to industrial development and enhancement of human life.

CCPG–CHANG CHUN GROUP
7F., No.301, Songjiang Road, Taipei City 104, Taiwan

Company Official Name	CHANG CHUN PLASTICS CO., LTD. (CCP)	CHANG CHUN PETROCHEMICAL CO., LTD. (CCPC)	DAIREN CHEMICAL CORP. (DCC)
	No.8 Huaxi Rd., Dafa Industrial Park, Daliao District , Kaohsiung City	7F., No. 301, Songjiang Road, Taipei City	No.8-1, Huaxi Rd., Daliao Dist., Kaohsiung City

Nature of Company Ownership and Legal Form	Limited Company

Taiwan-Based Factories

CCP Hsinchu Factory
No.8, Zhonghua Rd., Hsinchu Industrial Park, Hukou Township , Hsinchu County

CCPC Miaoli Factory
No. 246, Fuxing Fuan Village, Miaoli City

CCP Changpin Factory
No.31, Xiangong North 3rd Rd., Shengang Township, Changhua County

CCP Mailiao Factory
No.27 Taisu Industrial Park, Mailiao Township, Yunlin County

CCPC Mailiao Factory
No.26 Taisu Industrial Park, Mailiao Township, Yunlin County

DCC Mailiao Factory
No.25 Taisu Industrial Park, Mailiao Township, Yunlin County

CCP Dafa Factory
No.8 Huaxi Rd., Dafa Industrial Park, Daliao District, Kaohsiung City

CCPC Dafa Factory
No.11 Jianye Rd., Dafa Industrial Park, Daliao District, Kaohsiung City

DCC Dafa Factory
No.8-1,19-2 Huaxi Rd., Dafa Industrial Park, Daliao District, Kaohsiung City

CCP Kaohsiung Factory
No.14 Gongye 1st Rd., Renwu District, Kaohsiung City

DCC Kaohsiung Factory
No. 1-3 Xinggong Rd., Dashe District, Kaohsiung City

Major Product or Service Types	Printed circuit board related electronic materials, engineering plastics, electronic chemicals, high functional resins, specialty chemicals, general purpose chemicals
Major Countries or Markets Served	Taiwan, Mainland China, Asia, Europe and the United States and etc.

1.1.2 Business Philosophy and Operating Principles

Business Philosophy—

Integrity	Integrity is the essence of CCPG's business philosophy. CCPG treats everyone with integrity, so customers receive CCPG's services with peace of mind, and government, employees, suppliers and the society all trust CCPG.
Customer First	Under the quality policy of "Enhancing Quality to Satisfy Customers", CCPG's products are sold well all over the world. To ensure quality, CCPG's quality satisfaction is rigorously examined, from procurement of materials to product delivery to customers.
Creative Innovations	CCPG has long maintained 10% of its human resources in research and innovation, combined with professional expertise accumulated year by year, hundreds of products have been developed, forming a complete vertically and horizontally integrated product chain.

Operating Principles—

Be diligent and pragmatic; work together. Grow together with customers.
Innovate through R&D and make contributions to society.

CCPG adheres to the principle of "Environment is the Most Precious Asset for Mankind, and Environmental Protection is our Responsibility", by introducing the world's most advanced technologies and equipment, continuously improving manufacturing processes, promoting industrial waste reduction, implementing pollution prevention, researching and developing various technologies to enhance the effectiveness of pollution treatment. CCPG considers "Environmental Sustainability" one of the Group's primary goals, and has taken both environmental protection and social responsibilities as its top priorities, as CCPG continues to progress toward sustainable development.

1.1.3 Product Introduction and Location of Operation

CCPG's products take very important positions in the upstream and midstream of petrochemical industry. They can be widely used as raw materials for end products of many industries. The descriptions of all companies' main products and applicable industries are as follows. For main descriptions of each product please refer to "Application" and "Products" on the Group's website.

	Major Products	Major Applications of Product	Major Countries Where Products Are Sold
CCP	Epoxy resins, engineering plastics, bisphenol A, copper clad laminates, and phenol	Electronics, coatings and thermosetting molding materials	Taiwan, Mainland China, Japan, South Korea, Southeast Asia and the United States
CCPC	Copper foils, hydrogen peroxide, electronic grade chemicals, antioxidant, and polyvinyl alcohol (PVA)	Chemicals, textiles, coatings, resins, semiconductors, medicine, electronics, paper & pulp, plastic	Taiwan, Mainland China, Japan, South Korea, Southeast Asia, the United States, Europe, and South Africa
DCC	Vinyl acetate, ethyl acetate, VAE emulsion, VAE redispersible powder, 1,4-butanediol, and PTMEG	Chemicals, coatings, resins, adhesives, paints, civil engineering, elastic fibers	Taiwan, Mainland China, Asia, America, Australia, Europe and Africa, etc.

Global Locations of Operation

Taipei

- ★ CCGP Taipei Headoffice
- RCCT Technology Co., Ltd.
- Jinzhou Technology Co., Ltd.
- Jilin Chemical Co., Ltd.
- ◇ Chang Chiang Chemical Co., Ltd.
- ◇ Tsu Kong Co., Ltd.
- ◇ Triplex Chemical Corporation
- ◇ Polyplastics Taiwan Co., Ltd.

Changpin and Mailiao

- CCP Changpin Factory
- CCP Mailiao Factory
- CCPC Mailiao Factory
- DCC Mailiao Factory

Taoyuan, Hsinchu, and Miaoli

- CCP Hsinchu Factory
- CCPC Mailiao Factory
- ◇ Tai Hong Circuit Ind. Co., Ltd.
- ◇ TOK Taiwan Co.,Ltd.
- Triplex Chemical Corporation Taoyuan Factory
- Tai Hong Circuit Ind. Co., Ltd. Taoyuan Factory
- TOK Taiwan Co.,Ltd. Tongluo Factory
- TOK Taiwan Co.,Ltd. Mailiao Factory

Dafa, Kaohsiung

- CCP Kaohsiung Factory
- DCC Kaohsiung Factory
- Lushun Warehouse Co., Ltd.
- CCP Dafa Factory
- CCPC Dafa Factory
- DCC Dafa Factory
- ◇ Sumitomo Bakelite (Taiwan) Co., Ltd.
- ◇ Tsu Kong Co., Ltd.
- Polyplastics Taiwan Co., Ltd. Dafa Factory

★ Taipei Headoffice
Factory
Subsidiary
◇ Affiliates
CCP
CCPC
DCC
Affiliates

Zhangzhou, Fujian

- Chang Chun Chemical (Panjin) Co., Ltd.
- Chang Chun Dairen Chemical (Panjin) Co., Ltd.

Tianjin

- Chang Long Chemical (Shenzhen) Co., Ltd. Tianjin Branch

Qingdao, Shandong

- Chang Long Chemical (Shenzhen) Co., Ltd. Qingdao Branch

Yangzhou, Jiangsu

- Dairen Chemical (Jiangsu) Co., Ltd.

Changshu, Jiangsu

- Chang Chun Chemical (Jiangsu) Co., Ltd.
- Chang Chun SB (Changshu) Co., Ltd.
- ◇ ADEKA Fine Chemical (ChangShu) Co., Ltd.
- ◇ Chang Chun TOK (Changshu) Co., Ltd.
- ◇ U-PICA Resin (Changshu) Co., Ltd.
- ◇ JSR Micro (Changshu) Co., Ltd.
- ◇ Chang Chun Formosan Union Fine Chemical (Changshu) Co., Ltd.

Suzhou, Jiangsu

- Chang Long Chemical (Shenzhen) Co., Ltd. Suzhou Branch

Shanghai

- ◇ Chang Chiang Chemical (Shanghai) Co., Ltd.

Dongguan, Guangdong

- Tai Hong Circuit Ind. Co., Ltd. Changping Factory

Shenzhen, Guangdong

- Chang Long Chemical (Shenzhen) Co., Ltd.

Guangzhou, Guangdong

- ◇ Guang Dong Shen Xing Industry Co., Ltd.

Zhangzhou, Fujian

- Chang Chun Chemical (Zhangzhou) Co., Ltd.

Factory
Subsidiary
◇ Affiliates
CCP
CCPC
DCC
Affiliates

Global Locations of Operation

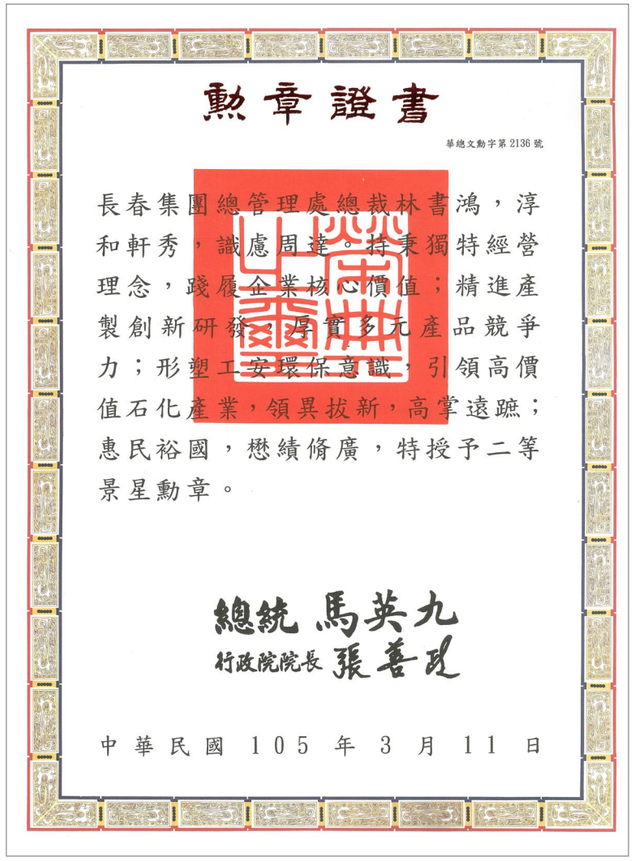
1.2 Corporate Governance

CCPG insists on operational transparency, and sets up a Board of Directors following laws and regulations, such as "Company Act", "Securities and Exchange Act," etc.; at same time, CCPG also focuses on shareholder equity and employee benefits. For a long time, the Board of Directors has continuously improved its corporate governance system, and conducted self-examination to reinforce employees' awareness of law and compliance as well as supervision and management of its subsidiaries; meanwhile, it also deepens its corporate social responsibility, emphasizes the concept of sustainable development, and maximizes the interests of its stakeholders.

In 2014, the Group established its Executive Board, composed of senior executives from three companies, and the Group's Chairman serves as Chief Executive Officer, three Presidents serve as Chief Financial Officer, Chief Technical Officer and Chief Operating Officer respectively. The Group's resources and information are integrated by Head Office's department and offices, under the Executive Board's jurisdiction, and invested in the three companies' production factories and overseas locations of operation. Starting from the Group's own core business, CCPG focuses on three aspects, including environmental protection, social relations, and corporate governance, by providing well-cared products and services to create a better life for our society.

▶ For CCPG Executive Board organizational chart please refer to CCPG's official website: http://www.ccp.com.tw/

Ever since its founding, CCPG has spared no efforts in innovative R & D, workplace safety, and environmental protection. On March 11, 2016, CCPG Executive Board Chairman Lin Shu-Hong was awarded the "Second Rank Order of Brilliant Star" by Office of the President, recognizing his contribution to development of national science and technology, talents cultivation, workplace safety, and environmental protection. In the future, CCPG will continue to lead social and innovation development, and enhance people's well-being for sustainable development.



Pictured above / CCPG President Lin Shu-Hong and former President Ma Ying-jeou

Pictured below / Certificate of the Second Rank Order of Brilliant Star

1.2.1 Financial Performance

Headquartered in Taiwan, CCPG indirectly contribute to this land through fees and taxes collected and distributed for various purposes by the government. In addition, in order to strengthen its relations with local residents, the Group makes every effort to invest in the communities.

CCPG has also devoted a great deal of efforts to protection of employees' rights and interests, such as training and education and employee protection facilities. Meanwhile, CCPG's contributions to salaries and benefits have also been growing year by year. In the aspect of employee bonus, after pre-tax net profit is settled and the annual dividend is set aside, business results are shared with employees. In the event that the Group still has accumulated losses, a reserve is retained to make up for the losses.

As for dividend distribution mechanism, after making up past year's losses and setting aside statutory surplus, the Board of Directors makes a proposal and the Shareholders' Meeting makes a resolution to confirm the Group's dividend distribution for the current year.

2014 - 2016 CCPG Economic Value Statistics

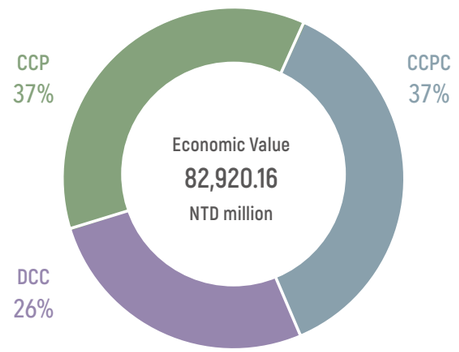
Unit: NTD million

Item	2014	2015	2016
Operating Costs	96,253.68	70,407.53	68,722.58
Employee Salaries and Benefits	5,694.30	6,030.65	6,421.46
Dividend Distribution	9,903.33	5,339.76	5,617.42
Interest Payment	419.97	346.57	325.55
Payment to the Government	1,907.81	2,221.06	1,814.91
Community Investments	14.04	11.98	18.24
Total Economic Value	114,193.13	84,357.55	82,920.16

2016 CCPG Economic Value Statistics - Per Company

Unit: NTD million

Item	CCP	CCPC	DCC	Total
Operating Costs	26,001.60	25,346.01	17,374.97	68,722.58
Employee Salaries and Benefits	2,621.50	2,592.13	1,207.83	6,421.46
Dividend Distribution	1,312.55	2,145.56	2,159.31	5,617.42
Interest Payment	93.79	225.96	5.80	325.55
Payment to the Government	454.45	694.63	665.82	1,814.91
Community Investments	0.74	11.16	6.33	18.24
Total Economic Value	30,484.63	31,015.45	21,420.06	82,920.16



In 2015 and 2016, CCPG's operating performance was affected by the decreases of raw material prices, and the market sales also fell subsequently; however, as the costs were appropriately controlled in the same period, the profitability also continued to rise.

2012 - 2016 CCPG Operating Performance

Unit: NTD million

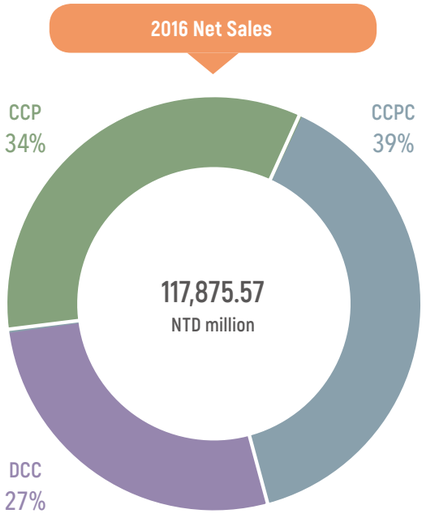
Item	2012	2013	2014	2015	2016
Total Number of Employees	4,193	4,425	4,474	4,676	4,913
Net Sales (or Net Interest Income)	130,212.10	133,102.88	141,227.42	118,463.08	117,875.57
Current Net Profit (Before Tax)	12,517.73	12,477.42	17,608.48	13,669.02	15,708.02
Total Assets	166,552.93	176,440.26	184,402.49	183,379.19	191,994.88
Total Liabilities	54,935.83	54,770.65	51,898.08	47,220.10	51,588.28
Total Shareholders' Equity	111,617.10	121,669.61	132,504.40	136,159.09	140,406.59

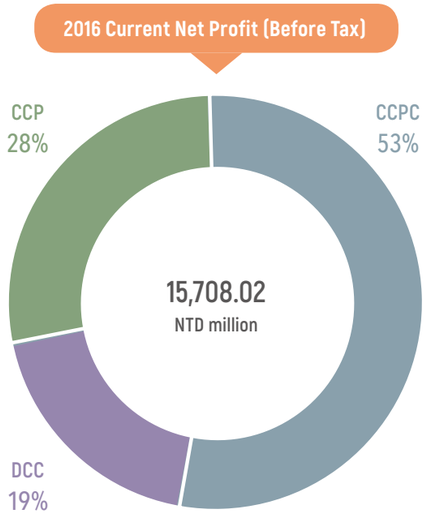
CCPG 2016 Operating Performance - Per Company

Unit: NTD million

Item	CCP	CCPC	DCC
Total Number of Employees	1,930	2,094	889
Net Sales (or Net Interest Income)	40,395.72	46,027.00	31,452.85
Current Net Profit (Before Tax)	4,376.76	8,294.78	3,036.48
Current Net Profit (After Tax)	3,662.10	7,051.31	2,466.46
Total Assets	64,909.03	88,712.17	38,373.67
Total Liabilities	18,907.14	28,008.79	4,672.36
Total Shareholders' Equity	46,001.90	60,703.38	33,701.31

Note: This table excludes three companies' overseas factories and consolidated subsidiaries.



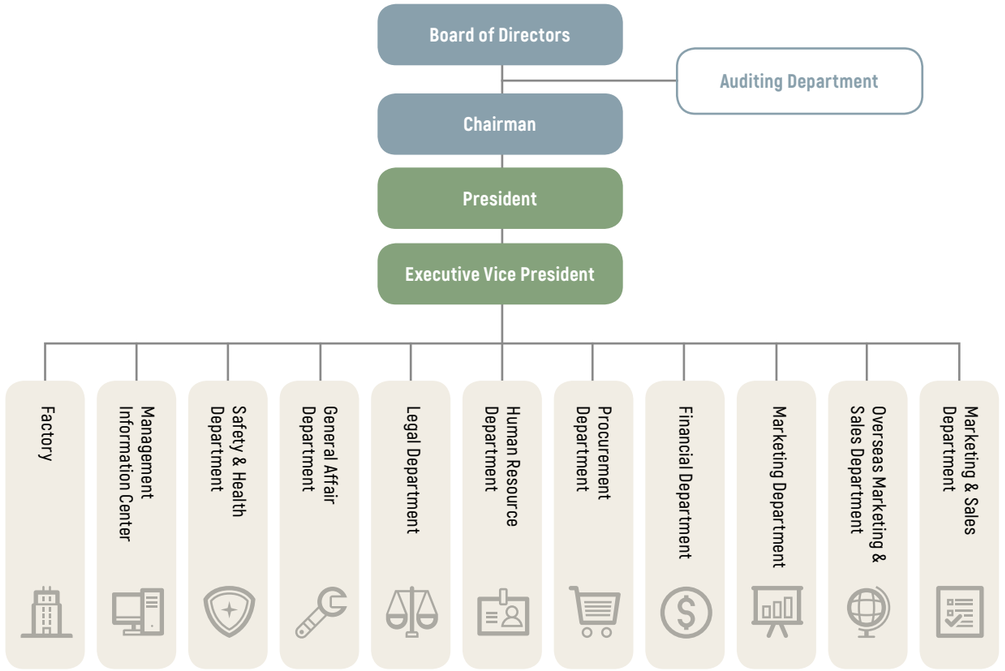


1.2.2 Corporate Governance Framework

CCPG's corporate governance is effectively supervised and strategically guided by each company's Board of Directors. First of all, CCPG sets up dedicated auditing personnel to complete supervision function, and conducts operational audits for each company and each department. This is to ensure that the business operations are conducted without any irregularities, that all information is correct, that its disclosure is immediate, and that the laws and regulations are strictly followed.

Secondly, in principle, the Board of Directors meets on a quarterly basis, and the frequency of meetings is increased when necessary. The Board of Directors, on a quarterly basis, listens to the management team's reporting, including President and Executive Vice President, etc., and has dialogues with management team members. The management team proposes the company's vision and strategy to the Board of Directors. The Board of Directors assesses the feasibility of the company's strategy and urges the implementation schedule.

There are 9 members on CCP's Board, 9 members on CCPC's Board, and 15 members on DCC's Board, with a term of three years for every director. Relevant election procedures are in accordance with relevant laws and regulations, rigorous selection, and evaluation. In addition to professional management skills, great attention is also paid to members' personal conduct and leadership abilities to ensure professionalism and independence, so they can provide the most appropriate strategic guidance for future development of all of the Group's companies. For the enhancement of corporate governance information transparency and sound functional competencies of Board of Directors, the members of the Board of Directors, their professional experiences, and related matters to be discussed are publicly disclosed in each of the Group's companies' annual reports. The corporate governance structure for CCP, CCPC and DCC are as shown in the following diagram.



1.3 Sustainable Management Strategy

Since its inception, CCPG not only focuses on enterprise earning growths and sustainable operation based on corporate social responsibility, but is also committed to rooting its business philosophy and shaping corporate culture, as well as seeking co-prosperity, co-sharing, and sustainable development of environmental friendliness and corporate growth. CCPG is committed to making contributions to the land and the people of Taiwan, and a green earth.

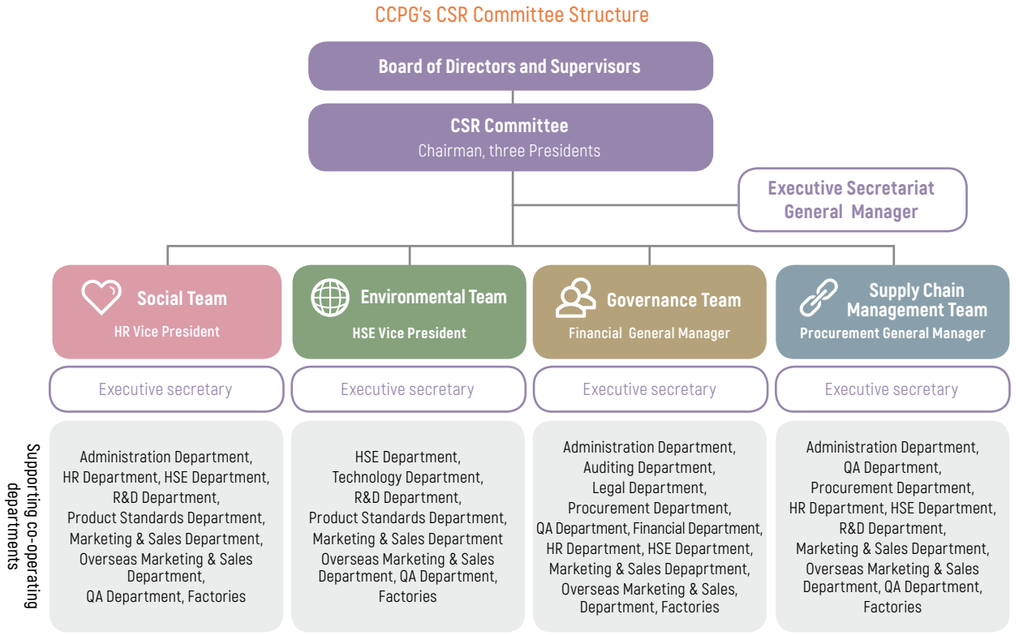
The Group is devoted to developing a sustainable strategy based on its core business, and its planning is therefore pragmatically oriented. The focuses of its strategy encompass four aspects: social, environmental, corporate governance, and supply chain management. On environmental aspect, CCPG continues to improve efficiency of energy utilization, improve product processes and raw materials, move towards recycling manufacturing process byproducts and developing alternative raw materials for petrochemicals, in order to achieve the goal of a circular economy; on social aspect, externally, the Group continues its efforts in deepening industry-university cooperative contents and maintaining good interactions with communities; internally, CCPG promotes a happy workplace and strengthens workplace safety culture; on corporate governance aspect, CCPG further implements integrity-oriented management through systematic management, gradually discloses performance of corporate social responsibility, and strengthens communications with stakeholders; on supply chain management aspect, CCPG progressively incorporates ESG management concepts and accompanies supplier to growth.

1.3.1 CSR Governance and Management Organization

CCPG established its CSR Committee in 2017. Following the Group's organizational structure, the Chairman serves as Committee Chairman, and three Presidents serve as Committee Vice Chairmen. Under the Chairman and Vice Chairmen, Executive Secretariat, Governance Team, Social Team, Environmental Team, and Supply Chain Management Team are established, and the Executive Director of the Executive Secretariat and all team leaders are held by heads of responsible departments and they are also members of the Committee.

The CSR Committee assigns the Executive Secretariat to be in charge of confirming execution and implementation of various CSR tasks, supporting co-operating departments, integrating issues with factory representatives, and reporting results of sustainable performance and stakeholder communications, on a quarterly basis, to CSR Committee.

CCPG's CSR Committee Structure



In order to implement the Group's sustainable development strategy, the CSR Committee, in collaboration with its subordinate CSR teams, formulates short-term and mid to long-term sustainable development goals as well as action plans, and systematically plans related risk management issues for each responsible unit to implement and report. The heads of all CSR teams are responsible for leading and supervising the implementation status and reporting regularly to the Executive Secretariat. The CSR teams' sustainable development goals and action plans are shown in the following table:

Social Aspect

Target Direction	Short-term Goals and Action Plans	Mid-and-Long-Term Goals and Action Plans
Improve talent selection and management system	**Optimize recruitment and appointment system** · Plan annual manpower requirements · Expand recruitment channels · Use online quiz to optimize selection process · Establish a new hire evaluation system	**Key talent recruitment** · Analyze functional requirements and give feedback to talent recruitment to recruit key talents and reserve the talents
Improve talent cultivation and talent deployment management system	**Construct talent development foundation** · Promote online learning system · Establish employee training system · Cultivate internal lecturers · Review and establish performance evaluation items · Build a talent bank	**Plan talent development blueprint** · Establish key talent bank, develop employee individual development plan, and organize management trainee program
Improve talent retention and management system	**Promote employee engagement** · Establish multi-directional communication channels, for example: grievance mailbox and hotline mechanisms · Promote employee benefits	**Construct a happy workplace** · Formulate reward and talent retention related measures · Regularly collect employees' opinions for company to review and improve corporate strategy · Enhance welfare and friendly working environment for female employees · Employees are encouraged to participate in club activities according to their hobbies in order to reach a consensus.
Social Welfare Involvement	**Actively participate in social welfare and school activities** · Sponsor campus activities, such as: scholarships, orientation activities · Community involvement, for example: environmental volunteers, sending blessings to those in need during festivals · Establish cross-field talent training	**Integrate Group's resources for social investment** · Establish systems and platforms to screen sponsorships for public welfare activities or arts activities · Promote Taiwan's petrochemical strength and actively participate in government's high-value petrochemical industry promotion

Environmental Aspect

Target Direction	Short-term Goals and Action Plans	Mid-and-Long-Term Goals and Action Plans
Environmental Management Mechanism	**Establish environmental management mechanisms for the Group's informatization** · Establish the Group's energy and environmental information platforms · Establish environmental monitoring and environmental indicators · Grasp environmental resources related data and control related performance	**Further change the Group's energy consumption structure and optimize efficiency through integration of energy and environmental information** · Continuously optimize, revise and integrate all factories' management systems · Strengthen knowledge management mechanism
Response To Climate Change And Global Warming	**Confirm the Group's greenhouse gas emissions** · Receive counseling for greenhouse gas Pro-grammatic CDM (Clean Development Mechanism) · Evaluate greenhouse gas emissions per product type	**Promote the Group's and Factories' implementation of GHG reductions** · Coordinate with national policy process by promoting relevant programs, such as: internal carbon pricing, green accounting, carbon trading
Water Resources Management	**Enhance the Group's water conservation potentials and water recovery** · Take inventory of all factories' water consumption · Evaluate the Group's water conservation potentials · Install additional effluent recycling equipment · Track water conservation potential programs	**Reduce water consumption per product unit** · Enhance process water-saving ratio · Increase proportion of recycled water usage · Increase wastewater recycle and reuse ratio · Introduce new technology or upgrade existing technology
Waste Management	**Reduce waste generation and properly dispose of hazardous wastes** · Take inventory of process wastes and analyze waste composition to assess and implement waste recycling · Establish a mechanism to control the amount of waste disposed of from factories	**Realize circular economy through waste management** · The Group to manage waste information in a unified manner, through waste output classification control, and research and discuss the feasibility of reuse
Toxic Chemical Management	**Effectively control toxic chemical operations** · Establish toxic chemical management information platform	**Reduce the number of toxic chemicals in operation and reduce associated operational risks** · Grasp relevant domestic and foreign laws and regulations · Research and develop alternative energy or reduce toxic chemical operation mechanism
Chemical Management	**Effectively control chemical operations** · Construct chemical management platforms · Introduce chemical exposure assessment and chemical control banding (CCB) technologies, establish safety and health management system, and publish results	**Establish chemical toxicology database** · Incorporate data of chemicals that cause cancer and reproductive toxicity, and be in line with domestic and foreign chemical management regulations
Promote Process Safety Operations	**Reduce total number of process accidents down to 10 or less in each of Taiwan-based factories** · Cultivate process safety management (PSM) related professional personnel · Implement dedicated full-time personnel · Construct and strengthen process Safety Systems	**Shape the Group's safety culture and achieve "zero" material process accident** · Develop high-quality safety operation habits through four safety management steps: standardization, autonomy, digitalization, and transparency · Implement reporting of false alarm accidents, and conduct accident investigation · Integrate the Group's resources to complete related equipment and systems
Labor Health Management	**Implement labor health protection and management measures and advocacy** · Establish employee health management measures, such as: operation procedure manual · Plan health education materials and related programs · Each factory completes the construction of breastfeeding room in accordance with law, in line with maternity protection rules · Complete new employee special physique examination and related procedures	**Reduce labor health related risks** · Grasp development of labor health related laws and regulations, and continue to strengthen management mechanism and advocacy

Governance Aspect

Target Direction	Short-term Goals and Action Plans	Mid-and-Long-Term Goals and Action Plans
Group Ethics And Integrity	**Construct the Group's code of ethics and compliance framework** · Formulate code of conduct · Establish anti-corruption investigation procedures and compile annual reports · Conduct training and education on compliance, and establish internal risk identification mechanisms · Establish intellectual property protection policy	**Implement the Group's code of ethics** · Establish grievance, reporting channels and internal investigation procedures · Strengthen internal training and education
Co-Exist And Co-Prosper With Stakeholders	**Understand stakeholders and their connections with the Group** · Identify stakeholders through questionnaires, seminars and etc. · Analyze issues of concern to stakeholders	**Obtain stakeholders' trust and respect for the Group** · Establish diversified and systematic communication channels, interact with stakeholders, and explain their issues of concern
Group's Sustainable Development	**Promote ESG governance framework** · Integrate CSR with routine business execution and provide budgeting · Identify business risks	**Link the Group's core values and products with ESG** · Periodically assess CSR implementation performance and management principles
Corporate Image	**Reinforce information transparency and establish the Group's CSR image** · Publish CSR Report · Use public information platforms to demonstrate CSR results	**Become CSR benchmark for industry peers** · Continue to improve CSR strategies and programs

Supply Chain Aspect

Target Direction	Short-term Goals and Action Plans	Mid-and-Long-Term Goals and Action Plans
Csr Advocacy And Commitment	**Develop and disclose Supplier Code of Conduct and request them to sign** · Publicly release Supplier Code of Conduct · Advocate signing code of conduct to domestic and foreign manufacturers	**Develop sustainable procurement policies and advocate related concepts** · Develop sustainable procurement policies and incorporate them into Supplier Code of Conduct to reinforce advocacy · Implement supplier CSR training and education · Communicate and exchange CSR concepts with suppliers
Csr Assessment And Management Mechanism	**Practice Sustainable Procurement Assessment** · Develop supplier CSR assessment questionnaires · Advocate CSR questionnaires to domestic and foreign manufacturers · Improve the Group's procurement strategy	**Practice supplier CSR performance management and risk assessment** · Encourage suppliers to continue practicing CSR by praising excellent suppliers and through adjusting procurement strategies · Conduct supplier risk assessment according to questionnaire results · Conduct supplier on-site assessment

1.3.2 External Participation

CCPG actively participates in trade associations, academic societies, social gatherings and other non-profit organizations to enhance industrial development and progress through various exchange and sharing activities. In order to exercise specific influence and enhance the value of industrial chain, CCPG assigns managers, according to their expertise, to assume roles in related organizations and lead industry development or participate in academic research.

I. Signing of "Responsible Care Global Charter"

Upholding the spirit of "Caring for the Society and Taking Self-Discipline as Our Own Responsibility", CCPG's subordinate companies started signing the commitment and statement of Responsible Care Global Charter in 2000 and continued to improve chemical manufacturing industry's management systems in environment, health and safety (EHS) aspects, in accordance with international standards, to jointly promote social co-prosperity and sustainable development of chemical Industry in our country.

II. Participation in French EcoVadis Supplier Sustainability Ratings

French EcoVadis is a third-party rating platform for the sustainable development of global supply chain. Its review method is constructed based on international CSR standards. In 2016, CCP, one of CCPG's companies, participated in EcoVadis rating, and won a Silver Medal. It was also rated amongst top 30% of more than 20,000 companies rated. In the future, CCPC and DCC will also participate in EcoVadis rating to actively ensure the implementation of the Group's corporate social responsibility in order to achieve the goal of sustainable development.

III. Relevant Guilds and Associations

In 2016, CCPG participated in a total of 10 industry associations, 12 R&D associations and academic societies, and 28 other associations. By actively communicating with the external world, it provides even more assistance and support for the Group's sustainable development.

August 30, 2016

Chang Chun Plastics Co., Ltd. (CCP) was awarded the "Industry Contribution Award" by Taiwan Chemical Technology Industry Association (TCIA), affirming CCP's contributions to the industry.

Industry Association
Chinese National Federation of Industries
Taiwan Responsible Care Association
Taipei Chemical Material Business Association
Taiwan Flat Panel Display Materials and Devices Associations
Taiwan Synthetic Resin & Adhesives Industrial Association
Petrochemical Industry Association of Taiwan
Taiwan Paper Industry Association
Taiwan Synthetic Resins Manufacturers Association
Taiwan Electrical and Electronic Manufacturers' Association
Taiwan Printed Circuit Association

R & D Associations and Academic Societies
Chinese Chemical Society
Chinese Petroleum Institute
Chinese Association for Industrial Technology Advancement
Taiwan Institute of Chemical Engineers
Taiwan Chemical Industry Association
Taiwan Nanotechnology Industry Development Association
Taiwan Filtration and Separations Society
Taiwan Stresses Association
Taiwan Safety Council
Huizhi Club (National Cheng Kung University Chemical Culture and Education Foundation)

Other Associations	
The Third Wednesday Club	Chinese Society for Quality
Taiwan-Japan Business Exchange Association	Taiwan CIO Association
Straits Economic and Cultural Interchange Association	Information Management Association
Cross-Strait CEO Summit	Chung-Hua Association For Financial and Economic Strategies
Chinese National Association of Industry and Commerce, Taiwan (CNAIC)	Taipei Accounting Association
Importers and Exporters Association of Taipei	Taiwan Hydrogen Association
Taiwan Responsible Care Association	Pressure Vessel Association
Industrial Safety and Health Association (ISHA) of the R.O.C.	Taiwan Institute of Steel Construction
Taiwan Occupational Safety Association	Taiwan Cogeneration Association
Radiation Protection Association R.O.C.	Taiwan Soul-Searching College
The Formosa Association of Resource Recycling	The Polymer Society, Taipei
The Chinese Institute of Environmental Engineering	Association of Bio-Based Material Industry association
New Kaohsiung Red Cross	Taiwan Halal Integrity Development Association
Taiwan Union of Nurses Association (TUNA)	

1.4 Ethical Management and Risk Management

The implementation of corporate social responsibility must be based on ethical management. CCPG hopes to become the industry benchmark, as it upholds ethical governance principle of fairness, justice and openness, and carries out sound monitoring and management mechanism for internal and external risks; while CCPG achieves operational objectives, it also effectively grasps business opportunities.

1.4.1 Ethical Management

CCPG upholds the Group's core management philosophy of "Integrity, Customer First, Creative Innovations" as revealed by CCPG's three founding members. In 2016, CCPG clearly defined its Code of Conduct as the guidelines for all employees to follow while cooperating with customers, suppliers and other business partners, shaping the Group's ethical corporate culture. Since 2017, CCPG has been urging all employees to complete the code of conduct training and education. As of August 2017, more than 90% of employees have completed training and passed the test.

Prior to this, CCPG regularly conducts anti-bribery, anti-corruption and anti-competitive training and education for its Directors and employees at all levels to convey corporate culture of integrity and core values every year. Employees or related stakeholders suspected to be involved in unlawful incidents or violating codes of conduct can be reported through confidential channels such as reporting hotline and mailbox, and the Group will take disciplinary actions or turn them over to the judicial authorities for further investigation, depending on the cases. As all employees are aware of CCPG's core values, there were no corruption incidents in 2016, nor any related cases or lawsuits involving antitrust investigation.

1.4.2 Compliance

In order to ensure that the Group's corporate governance, environmental protection, process safety, occupational health management, and business operations meet the requirements of the competent authorities, a "Compliance Committee" is established. The President of the Executive Board serves as the Chairman, and all department heads and factory Directors serve as members. In accordance with the "Regulations Governing Compliance", the Compliance Committee conducts regular and irregular self-examinations and assessments to assist the Group enhance the sensitivity to compliance.

In order to ensure that the departmental supervisors and factory Directors understand the requirement of compliance, hence to reinforce the integrity of the self-review results, the Group's Legal Office takes the role as a legal counselor and is responsible for providing legal advices, training and education as well as assisting various departments in completing their compliance review. The Legal Office also conducts on-site inspections, in collaboration with auditing units, regularly reports to the Board of Directors, and continuously tracks improvement status of units which are identified with deficiencies.

On the other hand, CCPG's products and services all comply with regulatory requirements, and all products are provided with warning labels or attached with material safety data sheets. As of 2016, there were no violations involving the provision and use of products or services.

1.4.3 Risk Management

In order to effectively grasp business risks and opportunities, after CCPG assesses the impacts of relevant issues on its sustainable operation, the risk management is divided into six major aspects. Each department responsible produces a risk matrix according to probability and severity of occurrences, proposes response countermeasures with respect to high-risk issues, conducts management following Plan-Do-Check-Act (PDCA) process, and regularly reviews and tracks effectiveness at management review meeting. Their goal is to continue to strengthen CCPG's management constitution and reduce operational risk.

1. Compliance

According to laws and regulations applicable to the Group's companies and factories, a regulatory checklist is formulated to be abided by. CCPG has also established internal and external grievance and reporting methods (please refer to 4.1.1 Stakeholder Engagement) to investigate and report unlawful incidents, complete relevant corrections and punishments, and prevent recurrences (Please refer to 1.4.2 Compliance).

2. Internal Control and Audit Management

CCPG has established Auditing Office under each company's Board of Directors, and according to the scales and characteristics of the companies, "Internal Control System" and "Enforcement Rules of Internal Audit" are formulated. Each year, a risk matrix is created regularly, and an independent internal audit system examines whether the behaviors of each of the Group's companies comply with law and regulations, internal regulations, and operating procedures. On-site internal inspections and supervision are conducted regularly on overseas subsidiaries, and corrective notices are issued to the units identified with deficiencies, and improvement deadlines are given, to ensure internal management procedures and internal control system are correctly implemented, and the Group's goodwill and related interests are protected from losses.

3. Financial Risk Management

The Group's financial risks are divided as follows:

(1) **Credit Risk**: Maintain quality of accounts receivable, endorsements and guaranteed, and control of loans and capitals to lower risk of financial losses arising from customers or the trading targets of financial instruments failing to perform contractual obligations.

(2) **Liquidity Risk**: Maintain cash, cash equivalents, high-liquidity securities and sufficient bank financing limits, etc., required for operations to ensure that the Company has sufficient financial flexibility and liquidity.

(3) **Market Risk**: Properly manage exchange rates and interest rate, control the degree of exposure within acceptable range, and thereby optimize returns on investment.

(4) **Property Risk**: Various property insurances are purchased for operating assets, such as fire insurance, property insurance and cargo transportation insurance, to thereby reduce the risk of losing business assets caused by natural disasters or non-natural disasters, by transferring part of the risks to insurance companies.

4. Quality Risk Management

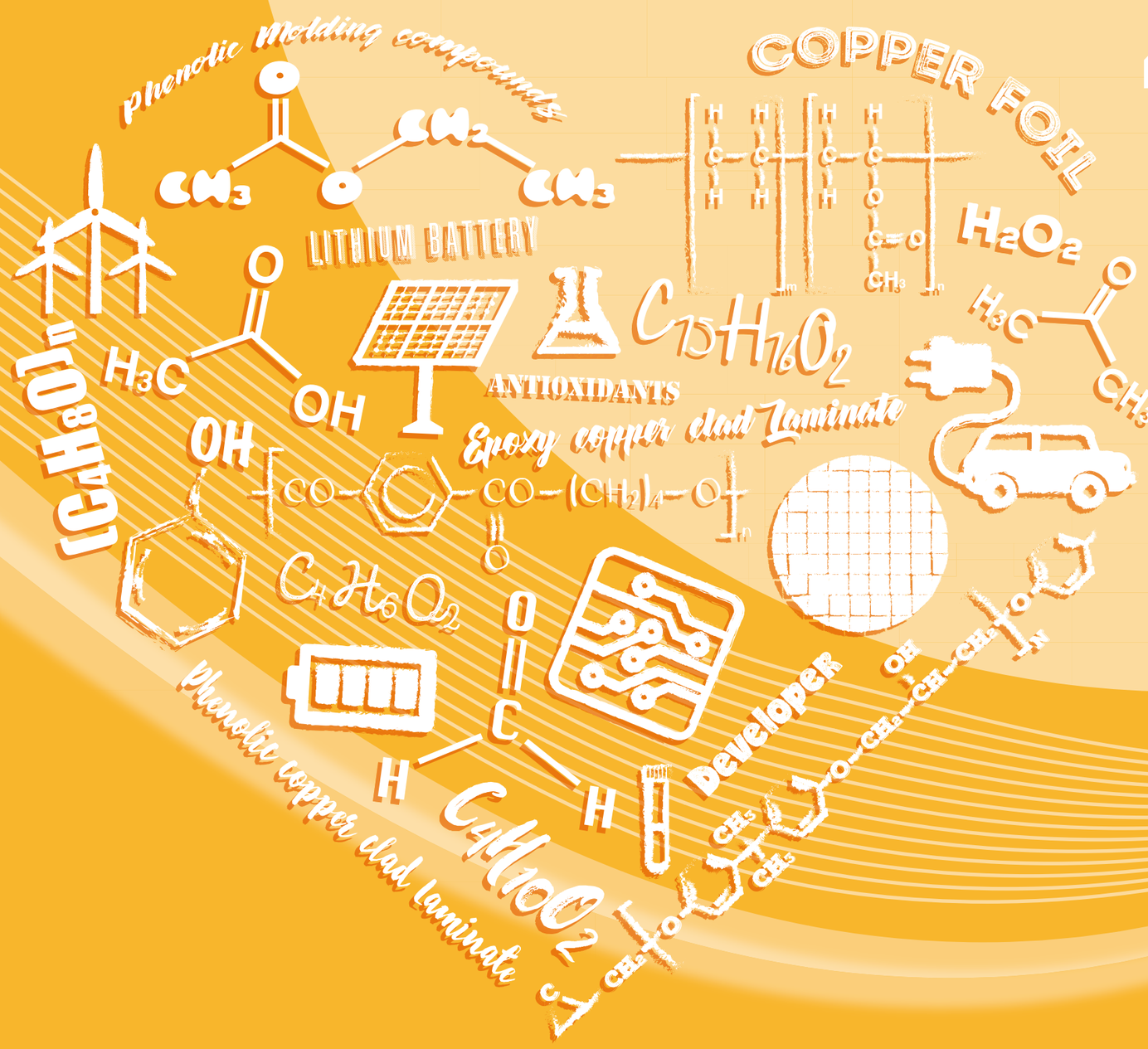
In 2016, a quality risk management system was formulated; from high-risk items identified through annual risk matrix, and major change issues raised by the "List of Internal and External Issues" and "List of Stakeholders and Issues of Concern", the company assesses the risk levels which may influence the Group's companies' quality management system, in order to take corresponding countermeasures and control measures, reduce the impacts on products and services, and increase competitive advantages.

5. Environmental and Occupational Safety and Health Risks

Concerning environmental protection and workplace safety aspect, which is given the highest priority by the chemical industry, CCPG has formulated environmental safety and health (ESH) risk management procedures, including "Environmental Aspect Assessment" and "Safety and Health Hazard identification and Risk Assessment," etc., and also established ESH departments to conduct risk assessment operations for the Group's companies and factories, internally and externally, to significantly improve ESH risks identified by risk matrix. In addition, the Group has also established emergency response system, to rapidly response to sudden, large-scale natural and man-made disasters to comprehensively manage environmental impacts and protect personnel's safety and health.

6. Confidential Business Information Protection

As the Group's operations highly depend on information system, to safeguard information security issues during the operation of the enterprise, CCPG has developed "Business Secret Management System" and "Regulations Governing Personal Information Protection Act." Not only that new hires are required to complete training and education of information security, but CCPG's ISMS-Information Security Management System also received ISO 27001: 2008 certification in 2012, and was successful validated with ISO 27001:2013 certification in 2015, to fully meet information security needs of customers, suppliers and partners. In 2016, a total of 5,000 employees completed ISMS online training and education.



2

A Trusted Material Supplier

2.1 Product Kinetic Energy

2.2 Responsible Chemistry

2.3 Supplier Management

Expertise and products in chemical materials are CCPG's core capabilities that allow them to prosper and facilitate innovation and transformation of other industries for a low-carbon emissions and sustainable future. Responsible chemistry is fused within CCPG's DNA. We adopt green manufacturing process, products, and workplace safety management and team up with customers and suppliers to play our roles in the value chain and maximize the benefits and value of green materials.

2.1 Product Kinetic Energy

CCPG aims to be a trusted material supplier. We have established comprehensive quality policies, strengthened manufacturing process controls, ensured the product quality and stable supplies, valued each requirement and idea of customers, implemented strict management of chemicals and products, and actively invested in innovation and development in order to continuously provide customers with high quality products.

2.1.1 Green Process and Products

Green technology and innovation is the focus of CCPG's development as CCPG marches towards sustainable development. CCPG is dedicated high-value product development projects through continuous improvement in manufacturing technology of existing products and debottleneck projects. In addition, CCPG continues to develop new catalysts to expand production capacity, enhance production efficiency, and lower production costs, hoping to integrate upstream and downstream material supply chain on top of the existing product lines.

As Taiwan's second largest chemical industrial group, our products range from engineering plastics, chemical electronic materials, plastic additives, adhesives, medical intermediates, industrial intermediates, and resins. CCPG also produces the intermediary materials required for these products including acetic acid, PBT, epoxy resins, etc. However, certain materials and chemical intermediates (e.g., hydrogen, formaldehyde, and butyraldehyde) must be purchased from external sources or produced from purchased materials. The upstream and downstream supply chain has not been integrated and it makes the cost difficult to control. In addition, all chemical intermediates and products are produced from petrochemical materials and processes and many processes use strong acid, alkali, or solvents and chemicals that are not environmentally friendly and emit massive amounts of CO_2 and waste that is difficult to process. With the rise of the petrochemical/macromolecule/chemical processing of coal in China in recent years and the development of shale gas in the United States, CCPG and related domestic industries currently face severe tests in low-price competition. Therefore, the Group currently tackles issues such as:

- Speed up the reduction of CO_2 emissions and product carbon footprint in order to overcome market barriers
- Adjust product production methods in response to the challenge of shale gas and chemical processing of coal on material supply and industrial clusters
- Improve the functions and value of existing products and expand their application fields (e.g., health and healthcare products) to create differentiation
- Strengthen green technologies and establish sustainable development

To embrace the aforementioned challenges, CCPG has established the Innovation Research Division and Application Development Division under the CCPG Executive Board and CCPG factories across Taiwan have also established R&D Departments. CCPG's internal value chain continues to advance and innovate and it also takes into account its economic, energy, environmental, process safety, and social responsibilities to actively develop byproducts that makes full use of the process, products from waste materials, and non-petrochemical plastic products based on its core value of sustainable development. CCPG also seeks to improve the process to produce initial/intermediary materials and use energy/resource integration and green chemical technologies to achieve the goal of a circular economy.

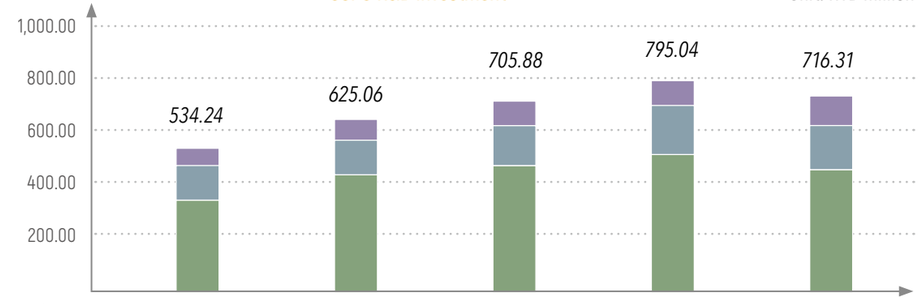
CCPG R&D Teams' Missions

Innovation Research Division	R&D plans for new products, progress tracking, implementation of evaluation on results, instructions and reviews of patent and intellectual property rights applications for new products and processes.
Application Development Division	Application and development plans for existing products, progress tracking, implementation of evaluation on results, instructions and reviews of patent and intellectual property rights applications for existing products and processes.

CCPG continues to invest resources into research and development. The amount of research and development investment in 2016 reached 4.6% of the net profit before tax and it obtained a total of 739 patents. CCPG also actively implements industrial and academic cooperation and alliances with strategic partners. It invests more than NT$32 million each year and its partners include Tsinghua University, National Taiwan University, National Chiao Tung University, National Central University, National Chung Hsing University, Yuan Ze University, Chung Hua University, Taiwan University of Science and Technology, Chung Cheng University, Industrial Technology Research Institute, Plastic Industry Development Center and Food Industry Research and Development Institute, etc. CCPG has adopted green chemicals process improvement, and biomass materials as development targets to help the Group develop new high added-value products, improve core technologies of existing products, optimize existing processes, and improve the expertise of researchers of the Group. CCPG's main innovation and results shall be described later in this Chapter.

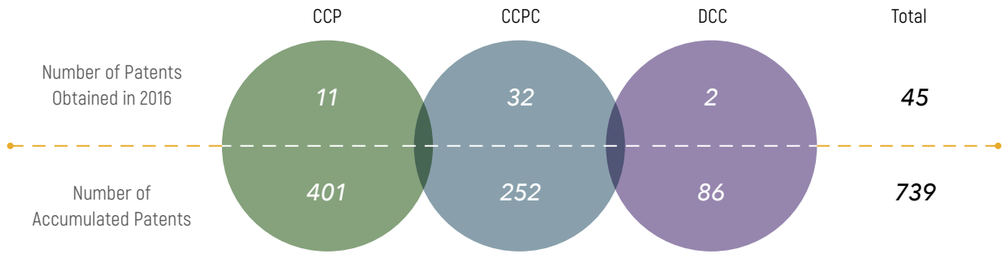
CCPG R&D Investment

Unit: NTD million



Company / Year	2012	2013	2014	2015	2016
CCP	340.86	423.15	465.79	515.41	447.90
CCPC	126.40	127.48	141.51	173.71	161.1
DCC	66.98	74.43	98.58	105.92	107.31
Total	534.24	625.06	705.88	795.04	716.31

CCPG's Total Number of Patents



CCPG's Next-Generation Green Chemical Technology Innovation Development

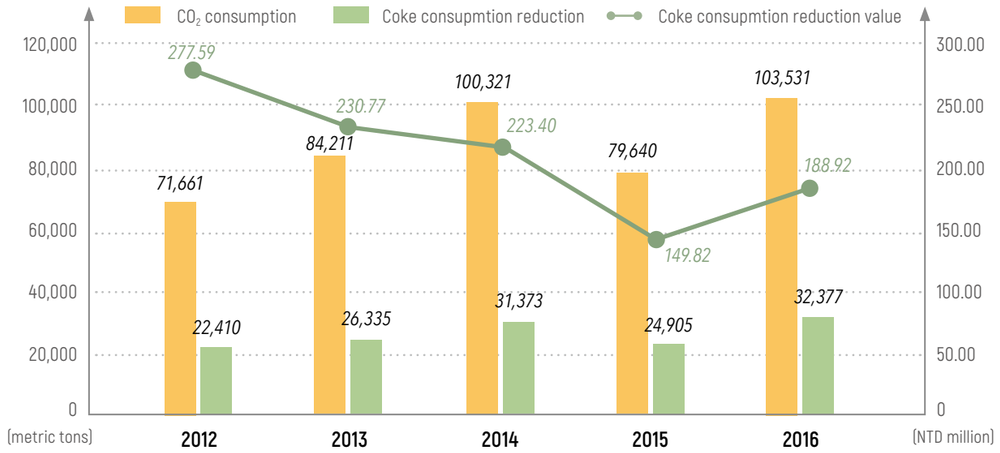
- CO_2 capture and reuse technology
- Green energy hydrogen production technology
- Biomass materials pre-processing technology
- Avant-garde bioreactor technology
- Advanced Green Chemical Manufacturing Technologies
- Product added-value technologies

CCPG shall enter sectors including renewable energy, biomass materials, and medical and healthcare materials. In addition to building green technologies from upstream resources to downstream products, CCPG shall also use the development of valuable technologies in green energy, biomass processes, and products to build technology niches so that CCPG's product line would not only maintain or reach its top position in the world but also obtain advanced opportunities in the transition of shale gas and chemical processing of coal and become a benchmark enterprise in responding to climate change.

I. Reuse of CO_2 - Acetic Acid Production Process

CCPG has developed a unique acetic acid manufacturing process. CCPC's Mailiao Factory collects the CO_2 emitted by nearby factories in their production processes as the materials for acetic acid with an annual production of 600,000 tons to replace the existing coke pyrolysis process while reducing CO_2 emissions and air pollutants. The CO_2 recycled for use in the process exceeded 103,531 tons in 2016. It reduced the use of 32,377 tons of coke and reduced nearly NT$190 million for the purchase of coke.

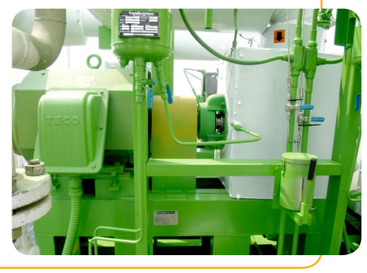
Quantity of CO_2 and Saved Coke Used in the Production Process of Acetic Acid



II. Manufacturing Process Improvement

Heat integration

CCPG improves the purification system within its manufacturing process and changed the operating pressure (increase pressure or vacuum) of certain distillating towers so that the energy can be shared between the distillating towers to perform heat integration of between distillating towers and save substantial amounts of steam expenses. For example, the vinyl acetate factory currently has four production lines. The first production line is the purchase of key know-how from foreign countries. CCPG conducted independent research and development to debottleneck the catalyst issue and reduced the steam consumption for every ton of vinyl acetate product to 57% of the original design by the foreign manufacturer. The second to fourth production lines were expanded and designed by CCPG. The heat integration technology adopted for the fourth production line saves approximately NT$160 million in the cost of steam and the effects of the improvement of catalysts and heat integration lowered steam consumption to 28% of the original design of the foreign manufacturer.



Reactive distillation

CCPG is a member of the US-based Fractionation Research, Inc. It uses its superior process design and technical capabilities to integrate the reactor and distillating tower into a reactor distillating tower to implement chemical reactions and distillation at the same time. The products are immediately distilled and separated in the reaction process and it reduces the reactant cycle and lowers energy consumption. CCPG has currently designed five reactant distillation systems that are currently in service. The unit steam consumption has been reduced by approximately 50% compared with the integrated reactor and distillating tower process in the past.

Cooling water hydraulic analysis

CCPG performed cooling water hydraulic analyses on newly-built factories and existing factories and optimized the cooling water pipelines and pumps to lower power consumption. Take the cooling water consumption volume of 8,000 m^3/h at a certain factory of the Group as an example. The factory installed a smaller pump to boost pressure for 3 coolers that are over 22m in height. The total power consumption of the main pump and the booster pump is 788kw and it saves approximately NT$3.7 million in electricity charges when compared with the main pump's power consumption of 1,060kw.

Optimization of the anode-drum gap on the electro-deposition machine

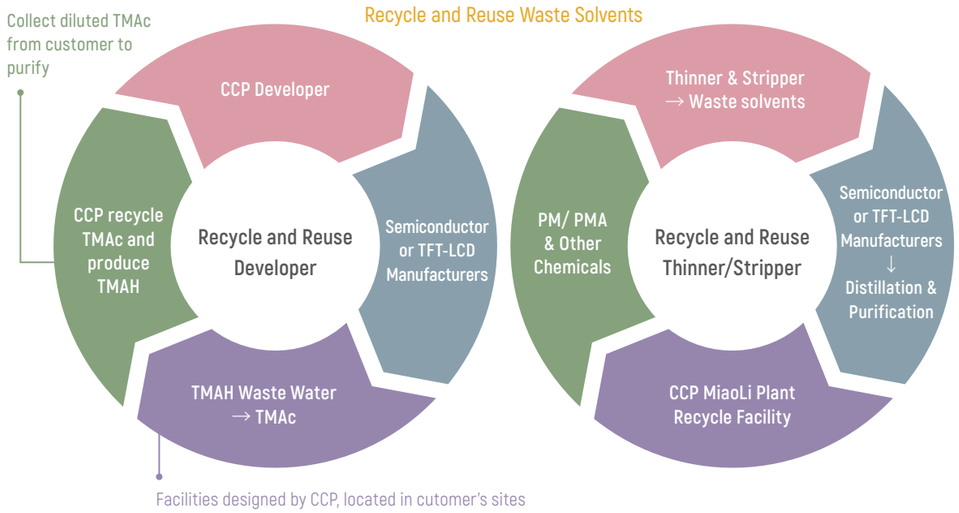
The voltage of the electro-deposition machine is proportional to its power consumption and it means that the machines consumes more power when the anode-drum gap is larger. To lower production costs, Miaoli Factory lowered the gap of certain electro-deposition machines with high gaps to save power and it saves approximately 32,000 kWh of electricity each month.

Hydraulic coupling installed on the induce draft fan

CCPG installed hydraulic couplings on the induce draft fan (IDF) and saves massive amounts of electricity, extended mechanical life, allowed the motor to launch with no load, extended the life of the motor, and isolated vibrations. It achieves a carbon reduction of more than 1.2 million CO2e and saves approximately NT$2.9 million in electricity charges each year. The cost of installation is expected to be recovered within 3.02 years.

III. Electronic Industry Waste Solvents Recycling and Reuse

CCPG supplies multiple electronic chemical products for Taiwan's semiconductor and panel industries and it develops green production processes to help customers recycle and process waste solvents. The developer, for example, leads to an annual recycling amount in excess of 150,000 tons, TMAc in excess of 10,000 tons, and waste solvent in excess of 150,000 tons. In addition, CCPG recycled more than 40,000 tons of waste solvents such as thinners and strippers and produced more than 25,000 tons of solvents. The related recycled products are adequately processed and purified before being supplied to customers. This green production process is not only environmentally friendly but also saves tremendous amount of processing costs for customers.



IV. Green Products

Coating resin

Volatile organic compounds (VOCs) are harmful to humans and the reduction of VOC emissions is important to resolving the current air pollution. It is also particularly important to reduce VOCs in industrial coating and the industry has converted solvent-borne coating to waterborne coating.

CCPG is committed to using resins in waterborne coating for compliance with regulations as well as using high solids low viscosity coating resin and powder coating resin to avoid polluting water. It also uses biomass materials whenever possible to lower CO2 emissions.

The directions of environmentally friendly development of resins for coating are as follows:

- Waterborne coating: Water-based epoxy, water-base amino resin, water soluble polyester resin coating, and water-based acrylic resin
- High solids low viscosity coating: New liquid epoxy
- Powder coating: Solid type epoxy resin and polyester resin
- Formaldehyde-free amino resins
- The use of biomass materials: Materials extracted from plants

The use of VAE emulsion in eco-friendly and low VOC paint

Traditional indoor paint emits large quantities of VOCs, causes indoor air pollution, and damages the nerve center and respiratory system. The waterborne emulsion developed by CCPG replaces traditional indoor paints and drastically reduces the health and environmental impact of VOCs. The waterborne paint product was awarded the national certification for Green Building Material and its VOC content (VOCs 1.4g/L) was far lower than the national standard of 200g/L.

The use of VAE powder for energy conservation in buildings

The effective heat/cold retention properties of buildings can prevent unnecessary energy consumption and CCPG is developing the EIFS redispersible powder for exterior insulation and finish system for external walls to improve the energy efficiency of buildings. It meets requirements of advanced nations in energy conservation applications and it also helps improve the Earth's environment. The product is continuously produced in Singapore in expanded factories.

Electrodeposited copper foil applications in lithium batteries of electric vehicles

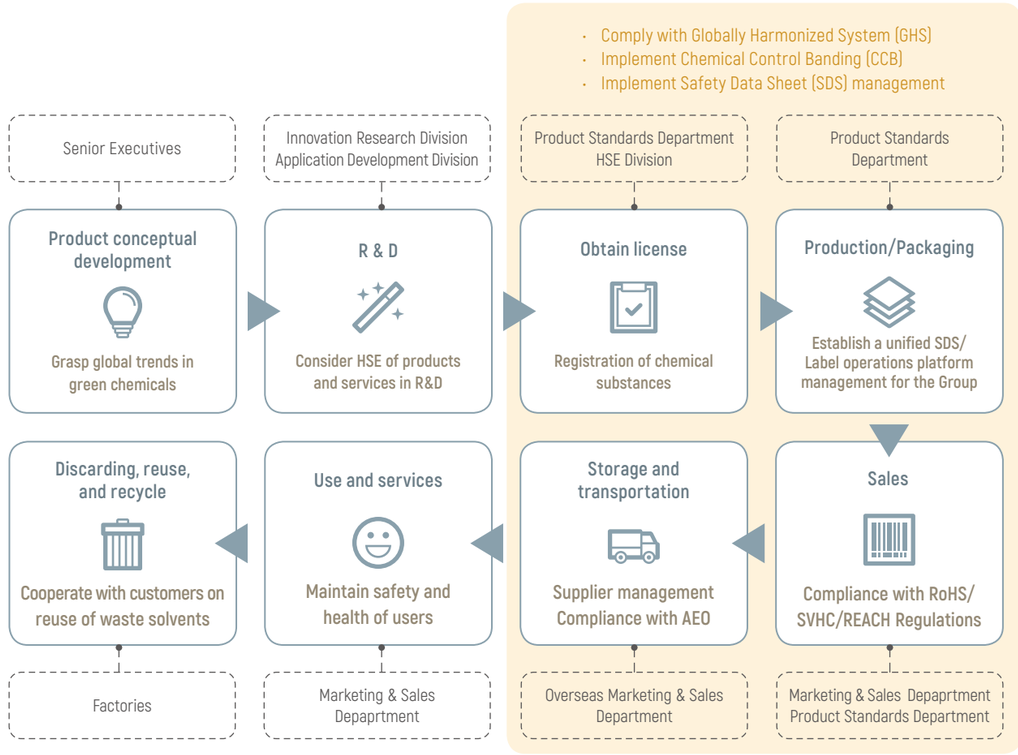
CCPG is currently one of the world's largest producers of electrodeposited copper foil. Miaoli Factory and the Changshu Factory in China produce and supply electrodeposited copper foil for use in the lithium battery industry and the batteries are used for electric vehicles and hybrid vehicles. Expansion is planned in 2018 in response to the rapid development in the electric vehicle market. As the energy density of lithium batteries increase in the future, CCPG shall continue research and development to increase the quality of the copper foil.

2.1.2 Chemical Management

CCPG upholds the policy of the quality management system in the acquisition of materials, production process, product inspection, sampling checks on shipping, and packaging and transportation inspections: Improve quality, satisfy customers, continue improvements, and honor commitments. CCPG uses automated equipment, outstanding teams, and reliable inspection analyses to provide customers with reliable products.

As a chemicals manufacturer, CCPG focuses on the management of independent products and adopts a progressive concept that uses compliance to create product value. It has established the Product Standards Department under the CCPG Executive Board to take charge of the compliance of products and the safe use and management of products. It also monitors international chemicals quality management trends (e.g., REACH of the EU) and implements internal reports and plans in accordance with changes in the policies of various nations so that CCPG products are able to respond legally and effectively.

CCPG Chemicals Management Value Chain



Internal Management Procedures for Chemicals

We have established internal management procedures for REACH-compliant chemical registration: The process starts from the inventory of products and materials and clarifies the Group's internal operating procedures from pre-registration assessment and identification of chemical substances to registration of the scientific data of the substances and the completion of the safety assessment of the chemical. It also builds a sound foundation for the management of chemicals. Today, we have successfully completed the registration or entry of dozens of chemicals in the EU, China, and Taiwan. We also have multiple chemicals in Korea for which we must complete regulatory obligations before the statuary period in order to provide customers with product compliance protection.

The factory completes the management and registration of materials and chemicals for customers in accordance with the management standards of various countries and requirements of customers of industries provided by the Product Standards Department. It also issues product safety and registration certificates so that customers are able to purchase all kinds of products from CCPG without having to worry.

Globally Harmonized System of Classification and Labeling of Chemicals (GHS) and Safety Data Sheet (SDS) Management

It is the common goal of all CCPG companies to fulfill the spirit of the GHS system and reduce the harm of chemicals on humans and the environment. CCPG follows international trends and satisfies the chemical classifications constructed to satisfy domestic demand and the GHS to classify hazardous chemicals and provide instructions on the safe use of chemicals. The system is implemented in all nations under the consistent structure provided by the United Nations. CCPG is aware of the development of related policies and it authorizes dedicated departments to take charge of planning and implementing the Group's related GHS procedures and operations including the establishment of GHS hazard classification for all products, SDS and labeling compilation tasks, and regional emergency response consultation telephone lines. CCPG also provides SDS in accordance with its global operation strategies and legal requirements of local nations as the basic requirements for product sales. To ensure users read the SDS effectively, CCPG introduced more than 20 language modules in 2016 and provides SDS in customers' local official languages for customers to fully understand its products.

Supplier Management

In addition to the Group's own management, CCPG also uses supplier auditing management to help suppliers improve social responsibilities and environmental management capabilities. It also continuously requests suppliers not sign commitments not to use hazardous materials and conflict minerals so that CCPG employees and downstream customers are protected from negative impact or indirect harm in the use of CCPG products.

Employee Workplace Safety Management

Employee protection starts with the identification of the essential risks associated with chemicals. The exposure process and content of various operations are used to evaluate the possible risks faced by employees in the manufacturing process to establish control mechanisms. The goal of the aforementioned chemical management mechanisms is to impose "zero harm" to employees. In accordance with regulations, qualified agencies are consigned to perform at least two inspections on the operating environment each year. Please refer to 2.2.1 Workplace Safety and Health for detailed descriptions.

Product Safety and Customer Service

International regulations on the management of chemicals change rapidly and customers may request to understand product compliance at any time. As related regulations on hazardous substances across the world grow increasingly strict, in addition to regular analysis and inspection equipment at our factories, CCPG also established ICP-OES, ICP-MS, GC/MS, and LC/MS analysis instruments to help customers take care of the inspection tasks of harmful materials. A set of rigid management mechanisms have also been established for the chemical transportation process that includes the installation of GPS on tankers, regional emergency allied defense, and tanker inspection mechanisms to strengthen management for the safe transportation of chemicals. Please refer to 2.3.1 Product transport for detailed descriptions.

In addition to restricted chemical products, a few of CCPG's products have been listed or will be listed as precursors of psychotropic substances. To demonstrate and fulfill CCPG's corporate responsibilities, CCPG, members of the industry, as well as industrial associations have begun to adopt global independent management to prevent illegal use and proliferation and it implements effective management from production management to investigations on the use of the end customer.

Future Goals and Commitment

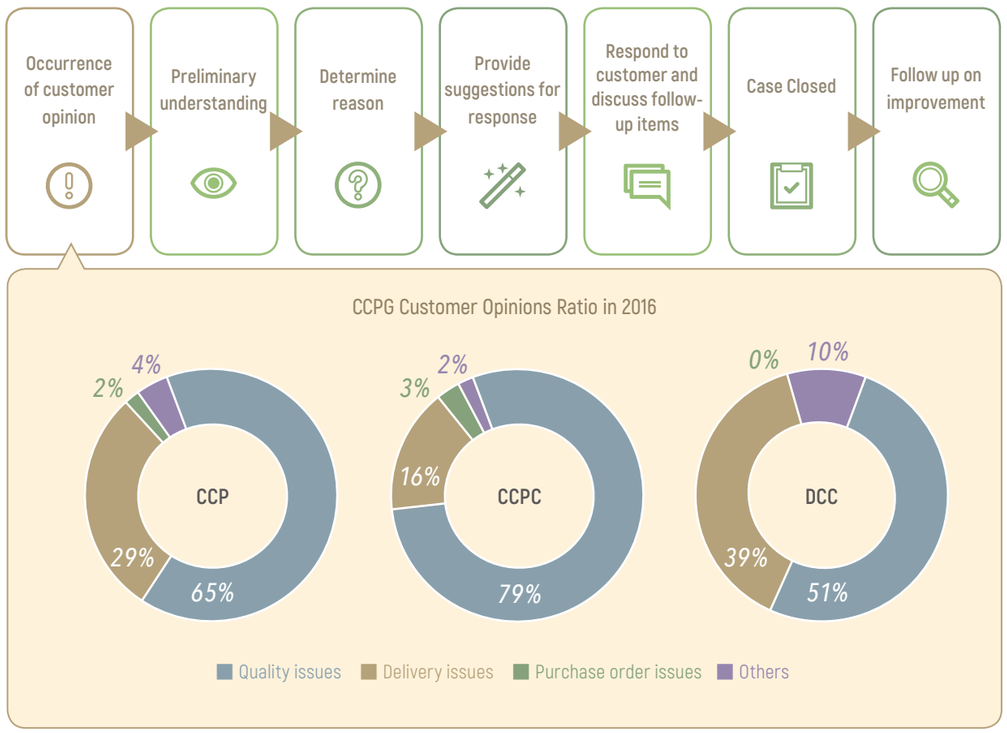
CCPG values sustainable development and it is particularly committed to environmental protection. We will continue to strengthen internal management of chemicals and continue to monitor international chemical management trends to provide customers across the world with alternatives to restricted chemicals. CCPG shall also actively develop new environmentally friendly products to achieve the goal of completing the management of chemicals.

2.1.3 Customer Communication

CCPG places great emphasis on the management of customer relations and it periodically uses customer satisfaction surveys and customer opinion forms of periodic tracking, rectification, and prevention in order to maintain good communications with customers. We continue to collect customer consultation services and feedback to discuss and analyze in order to process and resolve issues. CCPG lists customer opinions and information provided in customer satisfaction feedback as focus for discussions to prevent the same conditions from reoccurring. CCPG shall implement the management cycle, continue to make improvements, and think from the customer's perspective to achieve the maximum social value by profiting with customers and creating prosperity for both CCPG and customers.

I. Processing Customer Opinions

CCPG is able to use opportunities to visit customers to collect customer feedback and customers can also use the Group's official website, telephone, and e-mail to provide feedback. All related opinions are included in the customer opinion system and the reason and progress of opinions. Authorized units designated by supervisors are responsible for analyzing the causes from different levels, respond to customers as quickly as possible, and submit adequate improvement plans. The root cause, product type, customer, and other major categories of statistical data are listed on the customer opinion system and improvement measures are considered to prevent the same errors from reoccurring. 100% of the customer complaint cases in 2016 have been confirmed through internal processing procedures and the cases have been closed. Related statistics are displayed in the table below.

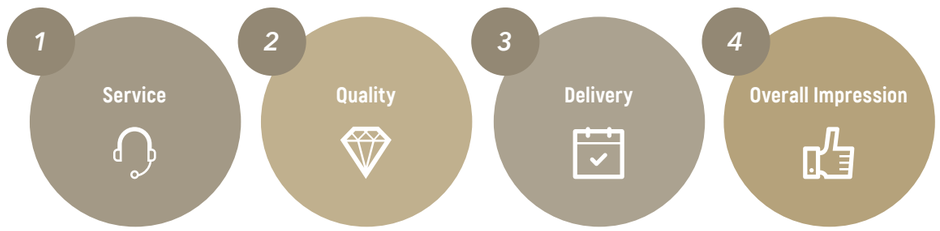


II. Customer Satisfaction Surveys

CCPG values customer opinions and it performs a customer satisfaction survey every year. The customers surveyed are the top ten customers in terms of sales volumes or customers who have filed complaints in the current year. The questionnaires are collected before the fourth quarter of each year to inspect whether products and services meet customer expectations. They also collect opinions for continuous improvement. Customer satisfaction is the highest principle and we seek to maintain good relationship and communication channels with customers.

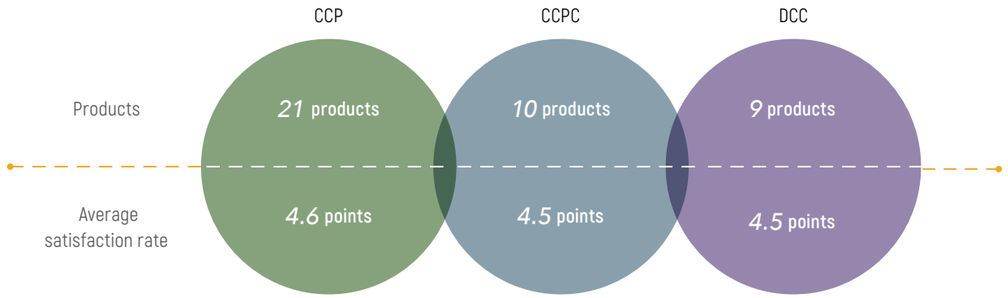
Customer Satisfaction Survey Model

Customer Satisfaction Questionnaire



Note: The overall average of each item is adopted and the top total score is 5 points.

2016 CCPG Customer Satisfaction Survey



CCPG strictly controls customer information. Please refer to 1.4.3 Risk Management for related practices.

2.2 Responsible Chemistry

Responsible care is the voluntary commitment of the global chemical industry for continuous improvement of its performance in environmental protection, health, and safety. CCPG identifies with and supports responsible care. It also actively internalizes the chemistry spirit into the Group. We implement ESH policies and process safety management (PSM) in the three companies of the Group and continues to make improvements toward the goal of zero-incidents. CCPG also hopes to expand the entire product cycle into CCPG's responsible care system.

2.2.1 Workplace Safety

Safety has always been the core spirit of CCPG and a major issue that cannot be ignored in the chemicals industry. We use OHSAS 18001 to optimize processes, complete protection measures, advance pollution prevention and establish a management system that prevents workplace accidents. CCPG continues to review and improve implementation strategies to build a safe, healthy, and comfortable work environment.

Occupational Safety and Health Promotion System

To build a safe work environment, the safety and health management systems of CCPG's factories are implemented in accordance with TOSHMS (Taiwan Occupational Health and Safety System) and OHSAS 18001 management system and they have been certified by third parties.

Occupational Safety and Health Promotion Organization

CCPG values workplace safety and promotes a culture and system of safety through committees of different levels, meetings, and employee engagement that allow the safety policies of the Group to be implemented in the work of every employee and optimize the safety system based on feedback from employees.

1. Workplace Safety and Health Committee

CCPG has established and implemented the "Regulations on the Operations of the Workplace Safety and Health Committee" and established Workplace Safety and Health Committees of the Group and various factories. The Committees of CCPG companies are chaired by the Presidents and the Committees of factories are chaired by the Factory Managers. The Committees are responsible for formulating and approving safety and health policies and annual goals. The supervisors of the Safety and Health Department are also assigned as safety and health management representatives. The members of the Safety and Health Committee include occupational safety and health personnel, supervisors of business units, supervision personnel, occupational safety and health related engineering personnel, medical personnel performing labor health services, and labor representatives. The Regulations expressly provides that labor representatives shall take up at least 1/3 of all committee members. CCPG companies and the Safety and Health Committees of each factory shall be responsible for drafting, coordinating, and supervising affairs related to the environment, safety, sanitation, and health in the factories. They shall also organize meetings of the Workplace Safety and Health Committee every 2 months.

2. Other safety and health meetings

In addition to the legally required workplace safety and health committee, the production units of the Group also organize safety and health meetings chaired by supervisors. The meetings are held twice each month to promptly review occupational safety incidents and improvement plans. The monthly department meetings also include occupational safety topics so that each CCPG employee is able to incorporate the values of the culture of safety into daily work. (CCPG HSE Division holds a meeting for all safety and health supervisors each month for a full review.)

3. Employees engagement

In addition to a comprehensive safety system, employee engagement is also required to implement workplace safety so that the culture of safety can be impressed upon each CCPG employee. CCPG uses proposals of employees for improvement plans and allows employees to provide feedback on related safety, health and environment issues related to day-to-day work, processes, and even quality. The opinions of employees continue to improve our safety management mechanisms. A total of 1,744 safety and health incidents were filed in 2016 and they have all been included for management and references as the basis for optimization and improvements.

CCPG Employee Injury Statistics from 2015 To 2016

Year	2015			2016		
Gender	Male	Female	Total	Male	Female	Total
Number of occupational injury incidents	23	2	25	29	0	29
GRI Injury Rate (IR)	0.49	0.60	0.50	0.59	0.00	0.55
GRI Occupational Disease Rate(ODR)	0	0	0	0	0	0
GRI Absentee Rate (AR)	37.07	98.88	41.13	77.16	58.46	75.92
GRI Lost Day Rate (LDR)	17.33	8.01	16.72	34.36	9.07	32.69
Deaths	1	0	1	0	0	0

Note: The 2015 CCPC Miaoli Factory death and occupational injury hours are deducted to demonstrate the comparison of occupational injury statistics between 2015 and 2016

2016 CCPG Occupational Injury Statistics - by Company

Year	CCP			CCPC			DCC		
Gender	Male	Female	Total	Male	Female	Total	Male	Female	Total
Number of occupational injury incidents	13	0	13	10	0	10	6	0	6
GRI Injury Rate (IR)	0.67	0.00	0.61	0.48	0.00	0.45	0.67	0.00	0.63
GRI Occupational Disease Rate(ODR)	0	0	0	0	0	0	0	0	0
GRI Absentee Rate (AR)	69.02	44.43	66.79	79.78	98.16	80.63	88.48	32.43	85.39
GRI Lost Day Rate (LDR)	30.84	0.00	28.04	32.90	30.75	32.80	45.31	0.00	42.81
Deaths	0	0	0	0	0	0	0	0	0

Note: The number of occupational injury incidents is the number reported to labor inspection agencies
GRI Injury Rate (IR) = number of occupational injury incidents/(work hours + overtime hours)*200,000
GRI Occupational Disease Rate (ODR) = total occupational diseases/total work hours *200,000
GRI Absentee Rate (AR) = (number of occupational injury leave hours + number of sick leave hours)/(work hours + overtime hours)*25,000
GRI Lost Day Rate (LDR) = number of occupational injury leave hours/(work hours + overtime hours)*25,000

After the occupational injury incident that resulted in a death at the CCPC Miaoli Factory in 2015, the Company immediately investigated root cause and implemented PDCA procedures in accordance with the safety and health system. It also provided education and training programs for employees of the Group and no occupational injury-related deaths occurred in the Group in 2016.

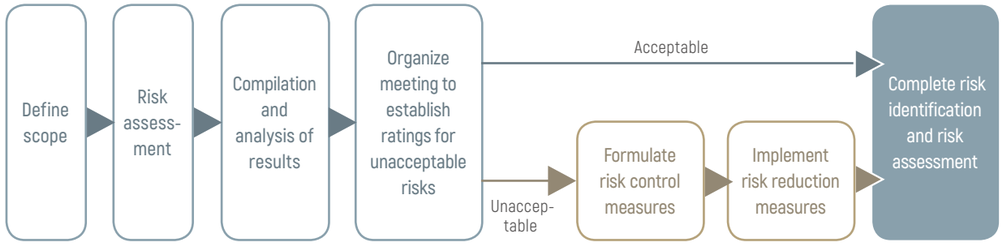
The reasons for occupational injuries in CCPG factories include the more common reason of traffic accidents outside factories and injuries and burns caused by mechanical operations inside the factories. For traffic accidents, the companies educate employees on traffic safety on the way to and from the workplace in the department safety and health meetings. The companies call attention to the accidents and encourage employees to carpool or take shuttle buses instead of riding motorcycles so as to prevent traffic accidents from reoccurring. To prevent personnel from inside the factories from injuries due to operations of machinery and equipment, the improvement measures include education on standard operating procedures for employees and modifications to the operating equipment in order to satisfy requirements for intrinsic safety.

Regarding the flashover burn accident in the DCC Dafa Factory, please refer to occupational accident prevention in 2.2.1 Workplace Safety and Health for detailed descriptions for the related processing status and improvement measures.

Workplace Disaster Prevention And Processing

We use statistics to analyze the cause of accidents and results of investigations and formulate prevention plans for accidents that have already occurred in various workplace safety meetings. We then use safety and health hazard identification and risk assessment methods to uncover potential harm and implement control in order to protect the safety and health of employees.

Operating Procedures of Safety and Health Hazard Identification and Risk Assessment



Any accident in the Group, even near misses that do not lead to occupational incidents, shall be processed in accordance with regulations on incident management and investigations. Each accident shall become a supplement that makes the Group safer.

Regulations on Accident Management and Investigations

A major workplace accident occurred in 2016 when the balance pipeline of seal water pot at DDC Dafa Factory broke and a small flashover occurred at the equipment, causing injury to an operator onsite. The Group subsequently conducted intensive investigations and conducted an inter-departmental review on the root cause of the incident. Improvements on equipment and management were made for all possible reasons of the accident to prevent the accident from reoccurring. Improvement measures adopted by CCPG are as follows:

1. Add a dedicated scrubber for comprehensive safety and environmental protection functions to prevent accidents from reoccurring.
2. Strengthen the management of change (MOC) system and corrected the hazard and operability study (HAZOP) assessment table so that the MOC for equipment and engineering improvements must be subject to the management hazard assessments. In the past, only 10%-20% of cases require the control of MOC hazard assessment but it has been increased to 90%. The measure has reduced risks that may be caused by equipment and engineering improvements.
3. Notify other factories of the Group with similar production processes for carry out improvement at the same time in order to prevent similar accidents from happening.

Contractor Safety Management

Before we deliver the contracted work, we inform the contractor of the hazardous factors of the work environment and operations such as elevated operations, repetitive moving tasks that may cause musculoskeletal disorders. We also supervise contractors in performing physical examination for their employees in accordance with the risks of operations and provide health management measures. In addition to providing safety and health management for CCPG employees, we have also began planning and assisting contractors in performing safe and health management in 2016 and the measures were implemented starting in 2017.

2.2.2 Process Safety

In addition to providing process safety reports in accordance with the Occupational Safety and Health Act, we also fully implemented the process safety management (PSM) system to prevent fires, explosions, leaks, and other severe accidents caused by errors in the production process. We have established related safety management standards for production processes in factories and implemented systematic and effective management to prevent accidents.

CCPG began introducing process safety management to all factories in 2014 and adopted 14 management elements in the three major structures for occupational safety, process safety, and mechanical integrity for the advancement of the internal management system. CCPG also developed the process safety management platform and included the overall PSM performance indicators, PSM audits, PSM management meetings, and related PSM technologies of all factories into the management system. With the commitment of senior management and full participation from employees, the factories have completed the implementation of the system and full-scale risk management. They have also adopted PDCA procedures for continuous improvements.

Installation of following mechanisms and systems have been completed and they are described below:

1. Establishment of a P&ID (piping and instrumentation diagram) management system: The Group has been founded for 68 years and the sources of technology have been highly diverse. The Group has adopted independently developed technologies that have been continuously improved and are competitive on the market and it has also introduced state-of-the-art technologies from foreign countries. However, certain gaps remain in PSI (process safety information) management on all levels. As such, the Group is committed to the establishment of the P&ID (piping and instrumentation diagram) management system and the Group's P&ID is currently categorized and inventoried. The aim is to make P&ID management meet principles for promptness, accuracy, and confidentiality as it is the keystone to process safety.

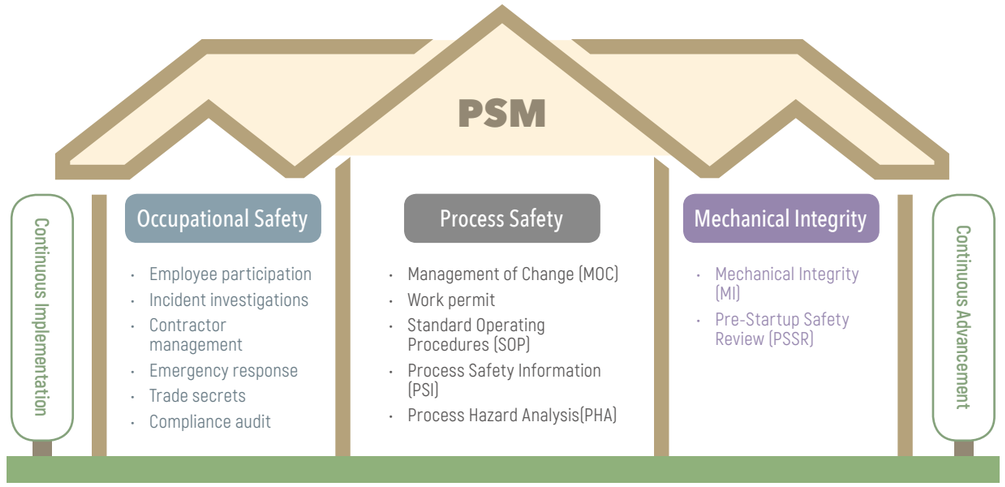
2. The integration and establishment of CMMS (Computerized Maintenance Management System): The system integrates procurement, inventories, equipment, financial management, and safety management. The mechanisms facilitate the improvement and progression of corporate governance. Most importantly, we have established a comprehensive history and valuable information related to technologies which are the accumulation of knowledge management. We implement comprehensive control over repairs documents and the efficiency of various derived operations in order to increase operational efficiency and performance. Most importantly, once we take control of the comprehensive information of the equipment and integrate RBI (risk-based inspection), RCM (reliability centered maintenance), and SIS (safety instrumented system), we could effectively control and improve static, dynamic, and instrumental reliability and build the most effective line of defense with the PSM system that is able to prevent fires, explosions, and poisoning caused by massive leaks.

3. Establishment of the process safety management platform: The system provides comprehensive records and monitoring of the advancement of PHA (e.g., HAZOP, JSA, etc.) in PSM that includes the production of valuable improvement recommendations from the assessment process. Appropriate follow-up shall also be provided for the recommendations to demonstrate a good PDCA cycle in the entire process. The Group has more than 3,500 tanks of various types whose hazardous levels are also classified on the platform. The management of engineering improvements can also effectively reduce the number of tank-related accidents that continue to occur in foreign countries and in Taiwan. The factories have fully implemented and advanced plans in accordance with the results of the classification. Investment provided in the first year is estimated to exceed NT$1 billion.

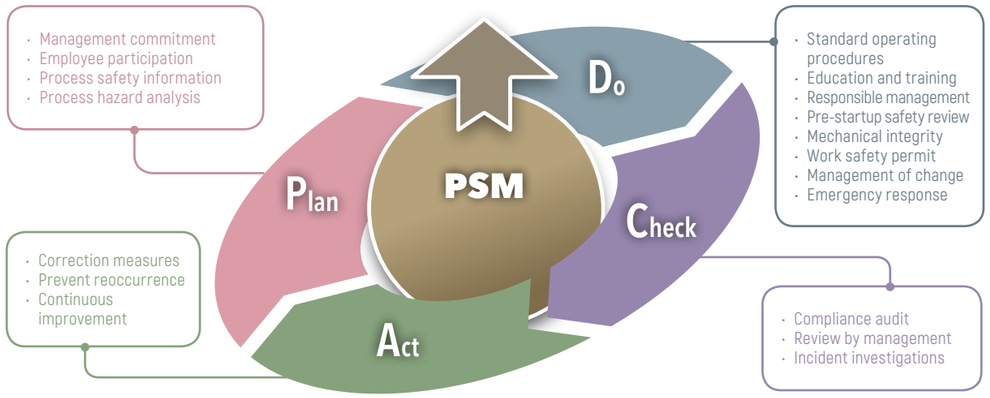
4. Integration of the accident notification system of the Group: Information on accidents, PSM incidents, medical incidents, environmental pollution incidents, traffic accidents, and near misses experienced by the Group shall be transferred and investigated through this platform. Once an incident occurs, the factories shall issue reports on the system in accordance with the specified schedule. They shall also follow up with investigations on the case and prevent them from reoccurring. Therefore, the Company's decision makers, factory supervisors, and safety and health supervisors shall be notified at the same time so as to allow a horizontal expansion of self-review and investigations on whether there are risks in order to prevent the possibility of the occurrence of such accidents. The system helps CCPG's transparent management and prevents accidents from reoccurring. It is an example of the effective use of information and knowledge management to improve safety management.

5. Occupational safety mechanisms: Occupational safety is an important structure in PSM activities. Please refer to 2.2.1 Workplace Safety and Health for detailed descriptions on related occupational safety and health management systems and the actual implementation results.

Construct a PSM-based Safety Management System



Upgrade Process Safety Management



We continue to invest resources to implement the process safety system not only because of our persistence for safety but also for our goal of zero occupational injuries. The Group's process safety plans and resource investment in the next 3 years are as follows:

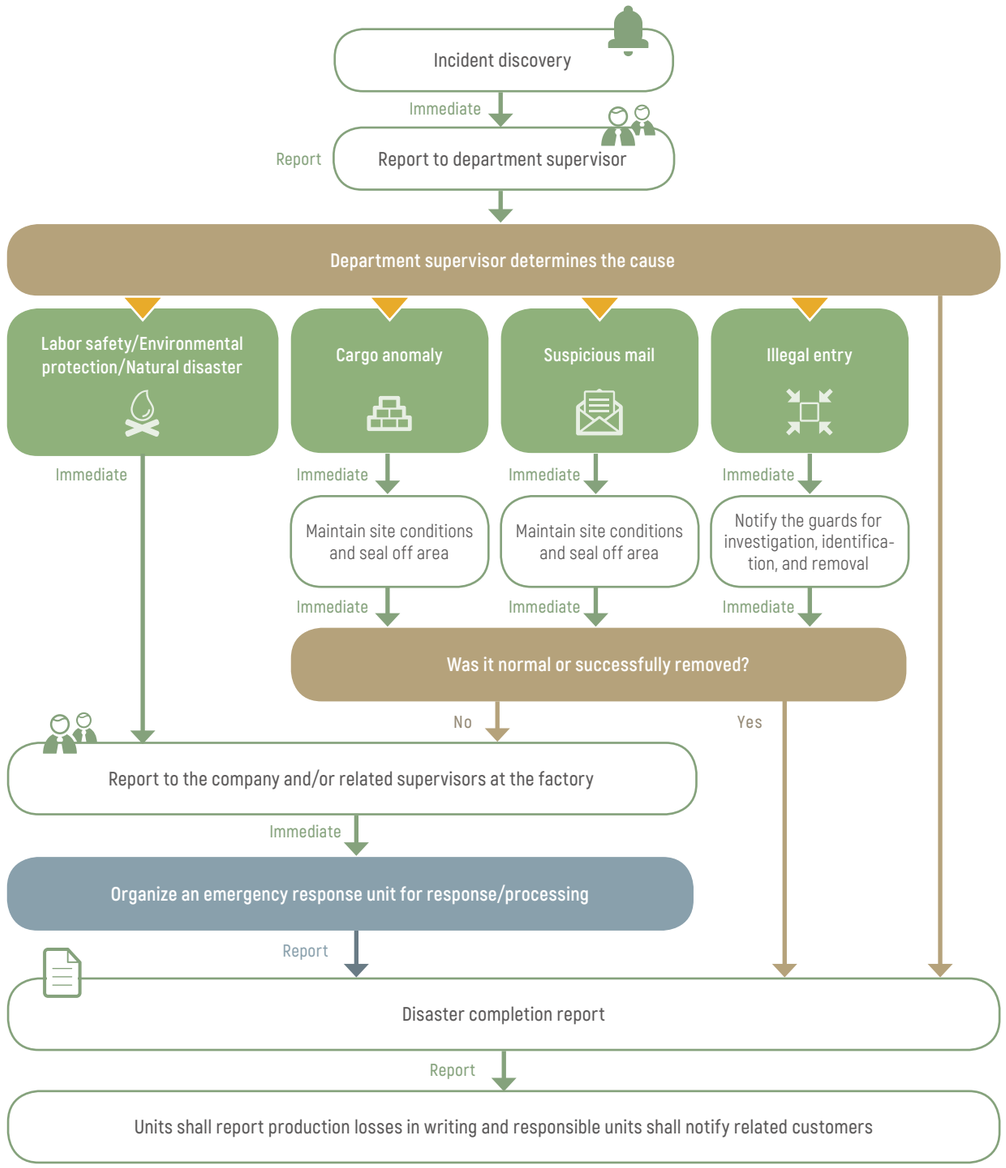
Item	Short-term Goals	Expected Benefits
Cultivate process safety management (PSM) related professional personnel	100% increase in professional licenses such as the American Petroleum Institute (API)'s API510, API570, and API653 and increase of related PSM professionals from 19 to 38	Professional technical skills required for the implementation of mechanical integrity
Implement dedicated full-time personnel	CCPG officially established the position of PSM Engineer in 2017; All 32 PSM Engineers of the Group shall be recruited before 2018	Implement and continuously improve process safety management
Introduce foreign technologies and resources	Since 2013, CCPG has begun strategic cooperation with Kaohsiung First University of Science and Technology, Yunlin University of Science and Technology, and domestic experts in the industry through education, training, and professional consultation	Effectively improved CCPG employees' knowledge and expertise in PSM

2.2.3 Material Incident Management & Response

CCPG's emergency preparation and response plans for are planned in advance to prevent accidents caused by all kinds of disasters at the workplace and to prevent and reduce losses to personnel, equipment, and properties.

Fires, explosions, poisoning, and other accidents may occur in the work environment due to leaks of chemicals. Major accidents may also occur for the aforementioned reasons that are caused by natural disasters. In response to illegal entry, anomalies in shipments, suspicious mail, the departments and factories must implement all existing organizations, manpower, command system of the workplace for the units in the workplace to implement response measures in order to reduce damage, reduce harm to personnel, and restore normal conditions as quickly as possible.

Emergency Contingency Plan Procedures



2016 Emergency Response Drills Plan

Factory	Drill time, items and content	
Taipei Office	2016/5/3 Fire safety and earthquake evacuation drill	
CCP Hsinchu Factory	2016/5/11 Formaldehyde transportation accident emergency response personnel and equipment readiness drill	
CCPC Mailiao Factory	2016/6/13 Fire safety organization drill	
CCP Changpin Factory	2016/5/10 Live fire safety drill	
DCC Mailiao Factory	2016/6/29 Illegal entry drill	
CCP Kaohsiung Factory	2016/10/3 Toxic substance leakage drill	
DCC Kaohsiung Factory	2016/10/28 Chemical leak emergency response drill	
CCP Dafa Factory	2016/6/14 Chemical leak emergency response drill	

CCPG Pipeline Transmission Disaster Emergency Response

CCPG planned the construction of a phenol factory in the Dafa Industrial Park in Kaohsiung in 2003. Considering the safety and convenience of the transportation of materials and to save cost to improve competitiveness, CCPG formulated plans for underground industrial pipelines along the flood-prevention roads of the Linyuan Daliao main drainage pipeline to connect Linyuan Industrial Park to Dafa Industrial Park. The construction had been approved by related competent authorities. The Company began independent maintenance and management of the underground industrial pipelines after their completion and inauguration in 2004. The Company performed periodic monitoring, inspections, and maintenance to maintain the safety of the underground industrial pipelines.

▲ Regional defense organization of underground-piping group 5 - Underground industrial pipeline leak, September 6, 2016

On July 31, 2014, a gas explosion from an underground industrial propene pipeline occurred in Kaohsiung and caused serious casualties of civilians, fire fighters, and environmental protection personnel. The incident underscored the importance of the safe operation and independent maintenance and management of underground industrial pipelines.

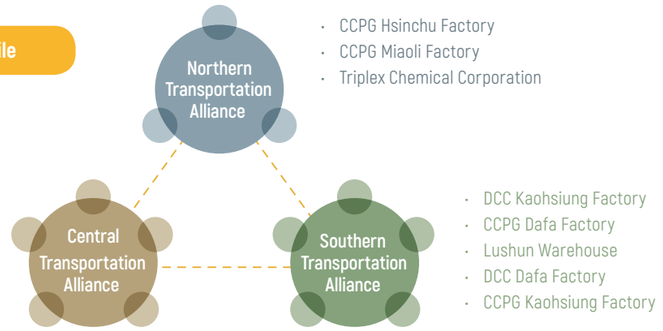
After the gas explosion, the Company continued to improve its independent maintenance and management of the underground industrial pipelines, abide by the regulations of related competent authorities and referenced international standards and regulations to implement a comprehensive evaluation on the safety of pipelines. Pipeline maintenance and operations plans were established and implemented each year. The Company also implemented comprehensive management with electronic onsite pipeline inspections, monitoring and management of input and output ends, corrosion potential and closed-interval potential of regular inspections, periodic smart pig inspections for assessing the integrity of pipelines, etc., to prevent pipeline damage and leaks and ensure the normal and safe transmission of material fluids. It also uses the regional defense organization of underground-piping group 5 and 6 to build public safety awareness and public relations for underground industrial pipelines, establish emergency response mechanisms for leak incidents, and continue to maintain effective management of the integrity of underground industrial pipelines.

CCPG Road Transportation Disaster Emergency Response

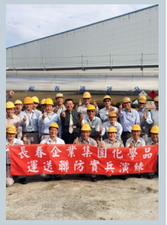
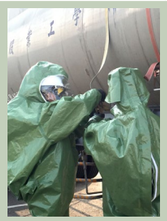
The allyl alcohol, hexamethylene oxide, formaldehyde, methanol, and numerous other materials and products produced by CCPG are transported via land transport to midstream and downstream factories for use. The transportation area encompasses counties and cities in the northern, central and southern regions as well as Yilan and Taitung County on the east. However, chemicals may leak in the transportation process due to natural disasters or negligence in personnel operations that cause the transportation vehicles to be overturned or collisions. The incidents could harm other individuals on the road and damage the environment.

To ensure that leaks of chemicals transported by CCPG can be controlled in the event of overturns or leaks on the road within the most opportune period and the affected scope can be effectively reduced and controlled, the CCPG transportation defense organization is formulated by integrating the Group's response capabilities in the northern, central, and southern production factories. In the event of an accident involving chemicals transported by the Group, response personnel in nearby production factories can be immediately sent to provide support, perform collaborated rescue, reduce losses from disasters, and prevent secondary pollution.

Defense Organization Profile



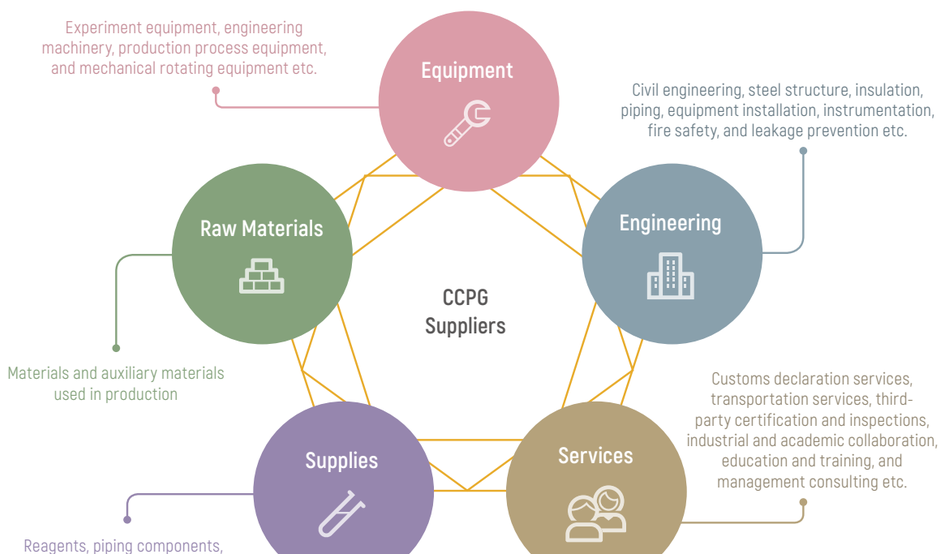
2016 Transportation Alliance Drills

		Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
		Initiate Allied Defense Assemble Personnel And Equipment	Hazard Identification Personal Protection	Area Control Leak Prevention	Hot Zone Operations Seal Off Leakage	Restoration After Disaster Resolve Incident
2016/11/29 Northern Region Formaldehyde Incident Exercise	Allied Factory (Miaoli)					
	Backup Factory (Sanyi)					
	Shipping Factory (Hsinchu)					
2016/11/08 Central Region Tetramethy-lammonium Hydroxide Incident Exercise	Allied Factory (Changpin)					
	Backup Factory (Mailiao)					
	Shipping Factory (Miaoli)					
2016/11/14 Southern Region Allyl Alcohol Incident Exercise	Allied Factory (Dafa)					
	Backup Factory (Kaohsiung)					
	Shipping Factory (Mailiao)					

2.3 Supplier Management

CCPG believes that only by integrating the expertise of different types of suppliers can it cooperate and grow with suppliers and encourage suppliers to continuously improve the quality of products and services in order to bring forth greater value for the entire supply chain. Based on the nature of products provided by supplier partners, CCPG suppliers can be categorized into equipment, engineering, services, materials etc. and the specific categorization is specified in the figure below:

Figure CCPG Supplier Types



CCPG integrates the demand of all factories for the CCPG Executive Board to lead the procurement of specific bulk raw materials. This reduces the waste of resources while improving procurement efficiency. CCPG prioritizes local suppliers when evaluating new raw materials and equipment while taking into account quality, resources, and procurement efficiency. At the same time, CCPG also upholds the value of working with local companies for common growth and development in expansion or annual overhaul project contracting and tries to support or prioritize domestic companies in Taiwan for procurement projects. From 2014 to 2016, at least 75% of the total value of CCPG projects were procured from domestic companies in Taiwan.

Supply Chain Corporate Social Responsibilities Education

To increase the awareness of corporate social responsibilities of supply chain partners, CCPG educates all suppliers and partners on corporate social responsibility issues and advocates the importance of labor health, work environment, and equal employment opportunities on the B2B management platform for suppliers. The content includes:

(1) Labor rights: Suppliers shall fully abide by local regulations, safeguard labor health, provide a safe work environment, and provide immigrants with fair employment opportunities.

(2) Human rights issues: Suppliers (A) may not sell/purchase products produced by forced, slave, or criminal labor; (B) may not hire individuals younger than the minimum working age specified in national manufacturing industry laws (child labor), violate standards for minimum wage, working hours, and overtime.

(3) Supplier shall not pay, promise to pay or authorize the payment of any money or anything of monetary value to any person or entity for the purpose of obtaining or maintaining business or gaining any advantage related to sales and purchase contracts through illegal means or inappropriate interference.

(4) Refer to Section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act in the United States and the 2010 (US) Consumer Protection Act. Suppliers that use tantalum or tungsten alloys (conflict minerals) in their products may not purchase of such minerals originated in the Democratic Republic of the Congo or an adjoining country (Democratic Republic of the Congo).

The aforementioned articles were also established in official documents between suppliers and the singing procedures were completed. More than 400 suppliers in Taiwan have signed the agreement in 2016.

2.3.1 Product Transport

In addition to producing high quality products, CCPG also regard logistics as part of product quality. In response to the characteristics and customer requirements for different products, the management of transportation services include land transport and sea transport.

1. Obtained AEO Certification and Incorporated Transportation Service Providers into the Business Partner Safety Management System

CCPG passed the "safety certification quality enterprise" certification in March 2016 and obtained the AEO certification to incorporate land transportation and sea transportation service providers into the business partner safety management system. It adopted periodic or on-demand (refer to occurrence of anomalies) to review the safety operating procedures and facilities of business partners, ensure the safety standards comply with requirements, take necessary precautions against any threat and safety related incidents, and continue to maintain and improve applications of policies, procedures, and technologies to reduce the likelihood of transportation risks. In addition, the CCPG has established related management procedures to evaluate transportation service providers each year and use the ratings to formulate the annual auditing plans. The auditing plans are used in concert with the AEO auditing and inspection tables to audit business partners. The Group audited 12 transportation service providers in 2016 and all of them passed the audit.

2. Transportation Service Provider Quality Management System

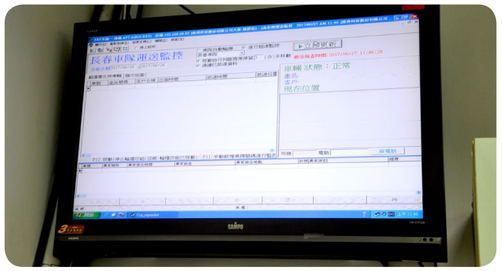
CCPG requires land transportation service providers to obtain ISO 9000 certification and it also encourages transportation service providers to adopt energy conservation and environmental protection as the goal and replace machines at appropriate times to reduce fuel consumption. They should also purchase new low-pollutant transportation vehicles and perform scheduled or unscheduled inspections to maintain their transportation service standards. Regarding the transportation of dangerous goods or toxic chemicals, the transportation service providers must have qualified licenses and abide by related transportation regulations specified by the government.

3. Establish Related Procedures for Transportation in Order to Regulate Related Operations.

(1) CCPG adheres to the "Atmospheric Pressure Liquid Tanker Tank Filling Inspection and Management" and "Road Transportation Safety Regulations" of the Ministry of Transportation and Communications to manage the transportation of materials and products of the Group. For the safety of transportation as well as loading and unloading operations, it established transportation management operating procedures, tanker loading and unloading operating procedures, stipulated various transportation safety regulations, performed vehicle safety inspections, management of contracted drivers, transportation vehicle monitoring, and implemented transportation emergency response measures to improve the safety of transportation and implement transportation management.

(2) CCPG cooperates with land-based transportation service providers and works with the EPA to update the vehicle-mounted real-time tracking system for toxic chemical substance transportation vehicles. The instantaneous GPS connection between the transportation vehicle, transportation service provider, and CCPG factories provides the location and status of vehicles in transit in order to facilitate cooperation with transportation contractors and process all kinds of emergencies.

Figure Transportation Vehicle GPS System and CCPG Monitoring System



4. Transportation Service Provider —Environmental Protection Policy Advancement

CCPG encourages and assists transportation service providers in developing new customers in locations of invalid mileage within their jurisdiction so that dispatch personnel are able to arrange vehicle routes. Examples include collection of empty tanks for new purchase orders after delivery of filled tanks for export. Coordinate deliveries to customers in the same region at the same time when possible to make full use of the storage area on vehicles. Request transportation service providers to purchase vehicles that meet environmental protection and fuel economy requirements when they replace their vehicles in order to decrease petrol/diesel consumption each year. Encourage the use of "urea" in new vehicles to reduce the nitrogen oxides produced in the combustion in the engine.

Learn About Urea

Selective Catalytic Reduction (SCR) optimizes the combustion efficiency in engines and produces less black smoke. However, relatively high amounts of nitrogen oxides (NOx) are formed. Adblue (main ingredient being urea) is injected into the exhaust manifold for the exhaust and urea to undergo an oxidation-reduction reaction in the exhaust pipe, thereby converting NOx into nitrogen and water that are harmless to the environment.

2.3.2 Raw Material Management

CCPG's main materials consist of ethylene, propylene, benzene and methanol and there are hundreds of CCPG products and derived downstream products. Therefore, CCPG has always focused on the quality of products provided by suppliers and the stability of supplies in order to provide customers with better product quality.

1. Raw Material Supplier Quality Management System

CCPG carefully assesses new materials suppliers before making purchases. In addition, CCPG also evaluates current suppliers in accordance with the delivery conditions in the previous year. The key points in evaluations are compiled as follows:

New suppliers

- Whether the product quality and environmental sanitation of the supplier satisfy requirements and meet government regulations.
- Evaluate the supplier's quality system and prioritize suppliers that obtained ISO 9001 certification.
- When related departments conclude that onsite evaluations are required, an inspection team shall be formed with mainly personnel qualified for ISO internal/external auditing training from the quality assurance, production, environmental engineering, factory affairs, and procurement departments to perform onsite inspection and evaluation of the new supplier. Procurement can officially begin after the evaluation report is submitted through the tiers and approved by the procurement supervisor.

Existing suppliers

- CCPG compiles the delivery records of products from the supplier in the previous year and evaluates suppliers based on the quality, environment, services, and integrity of delivery documents.
- Suppliers with higher ratings will see changes in the frequency of CCPG's purchases in the current year. Higher ratings mean procurements would be more frequent and priority would be higher. No purchases shall be made from disqualified suppliers in the current year.

After the aforementioned evaluations, CCPG listed more than 270 new raw materials suppliers as qualified suppliers in 2016 and completed evaluations for 1,902 existing raw materials suppliers who were all qualified.

2.3.3 Contractor Management

CCPG values the protection of the life and safety of personnel of supply chain partners. For suppliers that are required to enter factories for construction, CCPG requests the supplier to submit an entry application form, labor insurance certificate, and provide at least NT$3 million in group accident insurance certification in order to protect the rights of laborers performing construction onsite. In addition, with regard to safety, CCPG provides labor safety and health education courses for each worker that enters the factory for construction and administers tests. Only individuals who have passed the test are permitted to work onsite. The validity period of the test is only six months. If the individual needs to enter the factory again, he shall be required to take the training course and the test. The purpose of such actions is to effectively promote safety awareness for the operators of suppliers and to lower the risks of accidents. CCPG provided 9,805 instances of training and tests for contractors in 2016.

CCPG's Training Hours Statistics for Contractors and Their Employees from 2014 To 2016

Year		2014			2015			2016		
Gender		Male	Female	Total	Male	Female	Total	Male	Female	Total
Safety And Health Training	Training hours	13,907	1,260	15,167	27,897	1,702	29,599	8,099	801	8,900
	Number of instances at the end of the year	11,875	1,399	13,274	18,641	1,635	20,276	8,600	1205	9,805
	Average hours	1.17	0.90	1.14	1.50	1.04	1.46	0.94	0.66	0.91

Note: Previous contractors only require refresher training which consists of fewer training hours, therefore the average training hours are lowered

CCPG's Training Hours Statistics for Contractors and Their Employees in 2016 - by Company

Year		CCP			CCPC			DCC		
Gender		Male	Female	Total	Male	Female	Total	Male	Female	Total
Safety And Health Training	Training hours	3,822	413	4,235	1,176	185	1,361	3,101	203	3,304
	Number of instances at the end of the year	4,396	411	4,807	1,103	591	1,694	3,101	203	3,304
	Average hours	0.87	1.00	0.88	1.07	0.31	0.80	1.00	1.00	1.00

The promotion of corporate social responsibility issues has gradually become an indispensable part in the development of the corporate supply chain and it has become one of the key factors for success for sustainable corporate development. Due to the changes in the market environment, regulatory changes, and changes in the nature of products or services in recent years, different types of suppliers are subject to different risks in supply. CCPG shall include related corporate social responsibility issues more comprehensively into the supplier evaluation system and gradually use suppliers' self-assessments, onsite visits, or third-party auditing to provide different levels of risk assessments of suppliers and provide response strategies in order to lower the social responsibility risks of the entire supply chain.

3

A Sustainable Producer that Prospers with the Environment

Among all the industries, the chemicals industry has always been regarded as an energy-intensive industry with high environmental risks. It is our basic mission goal as a sustainable producer to minimize the environmental impact of CCPG's daily operations and process. CCPG will continue to improve the cost analyses of products and prepare for the future carbon pricing trends through environmental cost accounting that integrates products and finances.

3.1 Environmental Management and Investment

CCPG deeply understands that enterprises should not only pursue profits but also perform their corporate social responsibilities. CCPG has therefore listed "environmental protection" as our top priority and we firmly believe that the implementation of a sound management system will be able to improve the environment and contribute to people's wellbeing.

CCPG's management goals is to adopt standards that are consistent with or superior to regulations and implement related environmental protection measures. To achieve this goal, the factories shall continue to improve waste recycle and production efficiency in order to reduce the level of pollution generated in the production process. It shall also invest in pollution prevention and process improvement equipment in order to implement optimal feasible measures for equipment maintenance, repairs, replacement, and installation and achieve sustainable development goals.

3.1.1 Environmental Management

CCPG's Environmental Safety and Health Policy

CCPG understands that caring for society and protecting the Earth are top priorities for companies' sustainable development. In order to fulfill our responsibilities to the environment and implement the ideals of a circular economy, we pledge to complete pollutant prevention and continuous improvement tasks in our business activities in order to reduce the impact on the environment. We have also established the following environmental safety and health policy statement based on our corporate governance ideals as follows:

- Abide by the government's safety, health, and environmental protection regulations.
- Control hazardous risks, prevent the occurrence of accidents, and establish effective emergency response plan.
- Improve the production process to reduce pollution, conserve energy, and fully implement waste reduction, resource recycling and reuse.
- Improve employees' and contractors' safety, health, and environmental protection knowledge.
- Strengthen safety, health, and environmental protection management and continue to review and improve management.
- Implement effective technical and management systems to protect the safety and health of employees and lower the impact on the environment.
- Provide appropriate channels to maintain the communication of safety, health, and environmental protection information.

CCPG's factories have all introduced environmental management systems (ISO 14001) to ensure that the emissions and waste disposal in the factories' production process comply with legal requirements and provide management and responses on major environmental issues. The Group has also introduced the ISO 9001 quality management system, Taiwan Occupational Safety and Health Management System (TOSHMS), and OHSAS 18001. Through these systems, we expect to achieve optimum management covering all three dimensions of environment, employee safety and health and product quality.

Overview of Key Environmental Statistics of CCPG in 2016

Unit: GJ

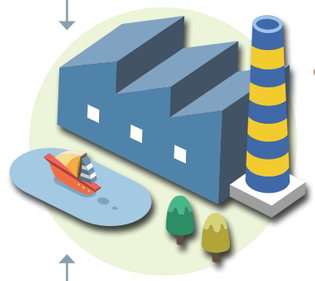
Energy	62,186,737
Externally purchased electrical power	4,508,347
Diesel	39,749
Natural gas	1,491,727
Heavy oil/fuel oil	784,723
Coal	33,413,108
Externally purchased steam	15,911,951
Steam sold to external parties	4,630,043
Electrical power sold to external parties	1,407,088

Unit: kt-CO_2e

CO_2 GHG	5,841
Scope 1	3,049
Scope 2	2,792

Unit: metric tons

Other air pollutant	5,267
NOx	3,567
SOx	766
VOC	648
PM	286



Water intake	27,179
Running water	11,713
Water from rivers and reservoirs	15,466
Rainwater	0.041
Recycled water	17,192
Ratio of recycled water and total water usage	63.25%
Water release volume	6,728

Unit: thousand kiloliters

Unit: metric tons

Waste	271,221
General industrial waste	260,747
Hazardous industrial waste	10,473

3.1.2 Environmental Protection Related Expenditures

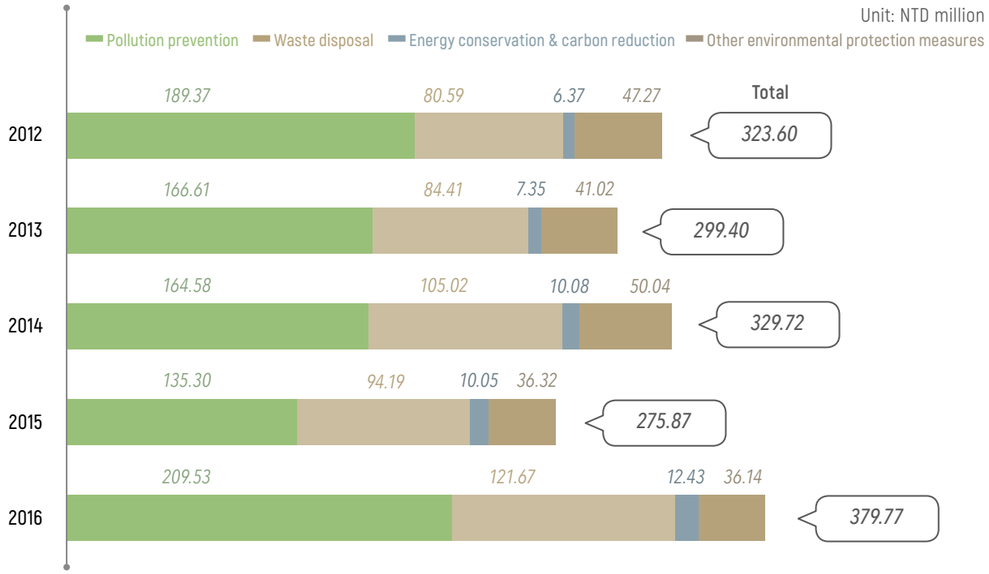
CCPG voluntarily increases environmental protection expenditures and improves resource productivity in order to fulfill its sustainable development ideals and reduce the impact of the production process on the environment. The cost of environment expenditures in 2016 was approximately NT$380 million and it was an increase of NT$150 million from 2015. Major environmental protection expenditures in 2016 included the pollution prevention expenses (approximately 55%) and waste processing expenses (approximately 32%).

To clarify the environmental protection expenditures of companies of the Group, we continue to promote the following green accounting measures:

August, 2006	CCPG started receiving guidance from Environmental Management Accounting Network-Taiwan (EMAN-TW) starting with CCP's Kaohsiung Factory and gradually promoted the guidance to the entire Group.
April, 2009	In April 2009, CCPG official launched measures to match accounts with environmental coding for purchase applicants or accountants to enter the environmental code of the environmental protection expenditure to the system to generate various environmental protection expenditure statements.
In 2017	In 2017, CCPG simplified the environmental protection codes and made them more practical. The accounts are automatically numbered with the environmental codes by the account system.

In response to trends in environmental protection regulations, we have conducted internal assessments on the cost of carbon to facilitate overall carbon asset management for the future. At the same time, we have also evaluated investments on pollutant prevention equipment and other capital expenditures to reduce the impact of products or processes on the environment and improve the management of environmental costs.

CCPG's Related Environmental Protection Expenditures from 2012 to 2016



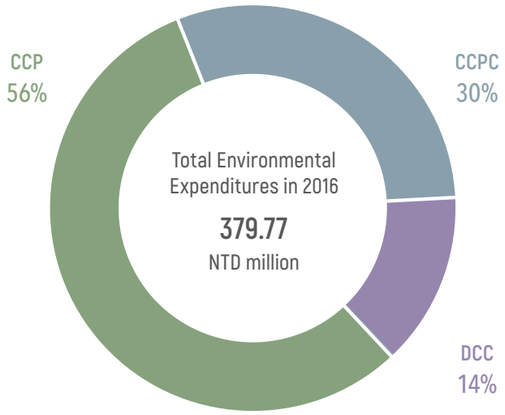
Note: As DCC adopts different expenditure categories, related energy conservation and carbon emissions reduction expenses are filed under other expenses. The aforementioned table is the sum of related expenses of CCP and CCPC.

CCPG's Related Environmental Protection Expenditures in 2016 - by Company

Unit: NTD million

Item	CCP	CCPC	DCC
Pollution prevention	111.32	56.06	42.15
Waste disposal	89.51	22.68	9.49
Energy conservation & carbon reduction	10.41	2.02	N/A
Other environmental protection measures	2.61	31.15	2.38
Total	213.85	111.91	54.01

Note: As DCC adopts different expenditure categories, related energy conservation and carbon emissions reduction expenses are filed under other expenses.



3.2 Climate Change and Energy Conservation

CCPG adopts active management and active engagement attitudes on climate change as well as energy conservation issues and risks. With regard to the management plan, the CCPG HSE Division periodically obtains information, tracks changes in related regulations, and provide response measures. It also conducts an inventory of greenhouse gases each year to verify the energy conservation and carbon emissions reduction effects of the current year and submit the plan for the next year for implementation.

3.2.1 Energy Management and Conservation

Energy and greenhouse gas management are important topics in CCPG's day-to-day operations. We continue to advance energy conservation and carbon emissions reduction measures, improve energy efficiency, and implement energy and greenhouse gas management to reduce impact on climate change. We also lower the risks associated with fluctuations in energy prices and energy supply. The equipment in the factories have been converted to highly efficient energy conservation equipment and cogeneration power will be continuously added to increase self-supplied power and the fuel conversion to natural gas also began in 2013. CCPG began installing solar power generation equipment in factories in 2017 in hopes of increasing the usage of green power.

Energy Management Committee

The "Energy Management Committee" of CCPG Miaoli Factory and Dafa Factory included energy management representatives and energy managers responsible for the energy review and management performance indicators of the factory. They also organize periodic meetings to review the state of energy usage, establish the implementation strategy for energy conservation, and continue to track the performance of energy conservation projects. In addition, the Energy Management Committee also organizes energy conservation technology seminars to develop energy improvement opportunities and introduce energy conservation technologies in order to reduce energy consumption.

Energy Conservation Implementation Strategy

- ▶▶▶ Uncover opportunities for improving energy conservation and continue to improve energy efficiency.
- ▶▶▶ Gradually replace old process equipment, improve the operating efficiency of high-energy consumption equipment, and improve the energy management system.

Introduce The ISO 50001 Energy Management System To Factories

The Group introduced the ISO 50001 Energy Management System to the Miaoli Factory and Dafa Factory to improve energy management efficiency and to reduce energy consumption. They also obtained third-party certification. The Group is now planning to introduce ISO 50001 to other factories.

CCPG Energy Consumption from 2012 to 2016

Unit: Gigajoules (GJ)

Energy Type	2012	2013	2014	2015	2016
Externally purchased electrical power	3,855,337	3,882,116	4,439,245	4,082,274	4,508,347
Diesel	25,254	26,289	33,672	51,156	39,749
Natural gas	412,702	658,595	933,658	1,196,375	1,491,727
Heavy oil/fuel oil	2,585,917	2,012,314	1,521,790	765,424	784,723
Coal	33,756,376	30,329,562	30,661,678	31,580,096	33,413,108
Externally purchased steam	14,361,847	14,729,640	17,143,438	15,509,181	15,911,951
Steam sold to external parties	6,815,347	6,708,364	5,325,660	4,299,919	4,630,043
Electrical power sold to external parties	1,165,640	1,292,766	1,421,025	1,459,108	1,407,088
Total (GJ)	62,978,420	59,639,646	61,480,167	58,943,533	62,186,737

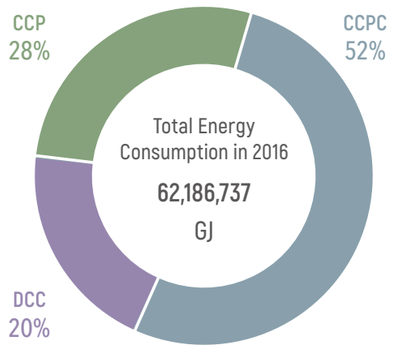
CCPG Energy Consumption in 2016 - by Company

Energy Type	CCP	CCPC	DCC
Externally purchased electrical power	1,140,016	1,027,227	2,341,104
Diesel	17,997	18,485	3,266
Natural gas	689,677	10,461	791,589
Heavy oil/fuel oil	173,309	309,959	301,455
Coal	9,391,784	24,021,324	-
Externally purchased steam	4,416,868	2,170,831	9,324,252
Steam sold to external parties	1,236,716	3,393,327	-
Electrical power sold to external parties	301,179	1,105,909	-
Total (GJ)	17,367,546	32,057,524	12,761,667

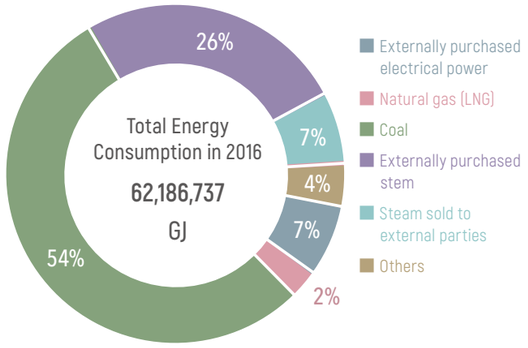
Note: 1. The Group does not use biodiesel or liquefied petroleum gas

2. The externally purchased electrical power, electrical power sold to external parties, externally purchased steam, steam sold to external parties that include sales and purchases within the Group and they have not been deducted.

Energy Consumption in 2016 - by Company



Energy Consumption in 2016 - by Energy Type



CCPG uses solid R&D, process technologies, process design, and engineering capabilities to use all kinds of methods for comprehensive factory energy conservation. The energy conservation strategies are listed as follows. Please refer to Creative Innovations under 2.1.1 Green Process and Products.

3.2.2 Greenhouse Gas Emissions

CCPG has established greenhouse gas management regulations in response to climate change and policy adjustments for global warming. Members of the energy management teams of various factories discuss with related units in the factories and formulates related policies for the comprehensive advancement of various greenhouse gas emissions inventory and verification tasks. The Group has established short, medium, and long-term greenhouse gas action plans in accordance with Taiwan's greenhouse gas reduction goals. It follows up on the energy consumption and greenhouse gas emissions of various factories, benefits of reduction, and periodically review related management policies. The detailed goals and action plans can be referenced in 1.3.1 CSR Governance and Management Organization.

Changpin Factory began production in 2015 and obtained the greenhouse gas inventory certificate for the first time in 2016. Since 2014, all factories in Taiwan have fully passed the ISO 14064-1 Greenhouse Gas Inventory Certification.

CCPG Greenhouse Gas Emissions from 2012 to 2016

Unit: kt-CO_2e

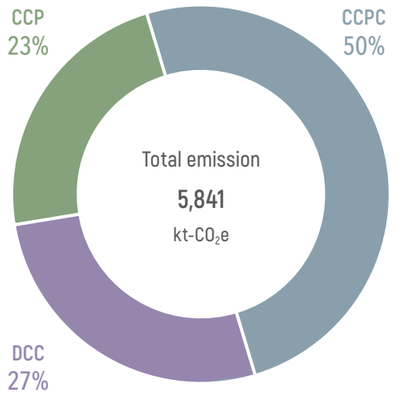
	2012	2013	2014	2015	2016
Direct greenhouse gas emissions (Scope 1)	1,445	2,593	2,951	2,904	3,049
Carbon dioxide (CO_2) emissions	1,424	2,562	2,901	2,859	2,997
Methane (CH_4) emissions (including CH_4 emissions from the use of biofuel)	13	15	27	20	26
Nitrous oxide (N_2O) emissions (including N_2O emissions from the use of biofuel)	5	11	12	12	12
Hydrofluorocarbons (HFCs) emissions	3	6	11	12	13
CO_2 emissions from the use of biofuel	0.01	1.2	0.9	1.0	1.2
Indirect greenhouse gas emissions (Scope 2)	2,274	2,403	3,412	3,332	2,792
Carbon dioxide (CO_2) emissions	2,266	2,396	3,405	3,326	2,788
Methane (CH_4) emissions (including CH_4 emissions from the use of biofuel)	0.3	0.3	0.3	0.3	0.2
Nitrous oxide (N_2O) emissions (including N_2O emissions from the use of biofuel)	7	6	6	6	4

CCPG Greenhouse Gas Emissions in 2016 - by Company

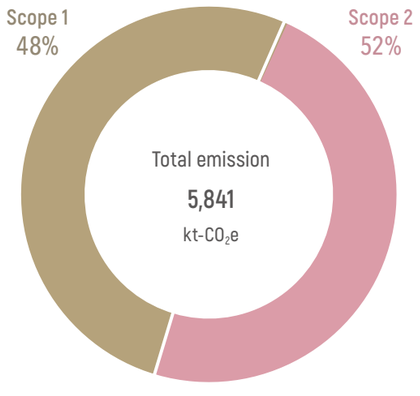
	CCP	CCPC	DCC
Direct greenhouse gas emissions (Scope 1)	872	1,924	253
Carbon dioxide (CO_2) emissions	860	1,889	247
Methane (CH_4) emissions (including CH_4 emissions from the use of biofuel)	5	21	0.12
Nitrous oxide (N_2O) emissions (including N_2O emissions from the use of biofuel)	4	8	0.08
Perfluorocarbons (PFCs) emissions	0	0	0
Hydrofluorocarbons (HFCs) emissions	3	5	5
CO_2 emissions from the use of biofuel	0	1	0
Indirect greenhouse gas emissions (Scope 2)	483	1,002	1,307
Carbon dioxide (CO_2) emissions	482	1,002	1,303
Methane (CH_4) emissions (including CH_4 emissions from the use of biofuel)	0.02	0	0.18
Nitrous oxide (N_2O) emissions (including N_2O emissions from the use of biofuel)	0.37	0	3

Note: The inventory of greenhouse gases at CCPG factories currently include inventory of Scope 1 and Scope 2 statistics which are reported to the Environmental Protection Administration and greenhouse gases under Scope 3 are not inventories.
PFCs and SF6 under Scope 1 were not produced and PFCs and HFCs under Scope 2 were not produced.

Greenhouse Gas Emissions in 2016 – by company



Greenhouse Gas Emissions in 2016 - by scope



Cogeneration Power Systems Reduce Greenhouse Gas Emissions

CCPG has installed 8 sets of cogeneration systems in 7 factories in Taiwan with an investment amount of NT$12.78 billion and it plans to add another set in Miaoli Factory in 2018. The total thermal efficiency of CCPG's cogeneration power plants exceed 80% which is superior to the total thermal efficiency of 44.9% in current thermal power plants. The steam and electricity that are efficient generated are used for production to optimize the usage efficiency of fuel, electricity and water and substantially reduce greenhouse gas emissions.

CCPG's cogeneration power plants have adopted the Best Available Control Technology (BACT) announced by the Environmental Protection Administration and adopted the most advanced Mitsubishi Gas Gas Heater (MGGH) and Wet Electrostatic Precipitator (Wet ESP) from overseas. The MGGH recovers remaining heat and reduces the visual pollution from white vapor rising from chimneys. The Wet ESP removes the low amounts of SO3 and PM 2.5 particles that are difficult to remove from emissions. The Group's Dafa Factory and Miaoli Factory each completed the installation of a set of MGGH and Wet ESP in July 2017 and actual tests showed that particles in emissions contained less than 8mg/Nm3 which was far lower than the air pollutant emissions standard of new electric power equipment that was implemented by the EPA on December 1, 2014.

The Group has continued to invest and improve the Air Quality Control System (AQCS) of the cogeneration power plants in recent years. It shall improve the quality of air pollutant emissions of the cogeneration power plants from 2017 to 2020 to levels superior to the natural gas emissions specified in regulations.

3.2.3 Climate Change Adaptation

CCPG actively responds to the risks brought forth by climate change and turns risks into opportunities while developing new business opportunities. The factories have increased their water recycling rates and reuse rates in response to insufficient water resources. They have also optimized the production process, and adopted energy conservation facilities to resolve the instability of power supply. They stored appropriate reserve materials and optimized production schedules to reduce impact on the production process. They also advanced energy conservation plans to reduce carbon emissions in response to the requirements in the Greenhouse Gas Reduction and Management Act and advances the carbon footprint and energy conservation measures in response to the impact of future carbon taxes.

In addition, CCPG also established early warning measures and standard operating procedures for natural disasters in response to torrential rains, typhoons, and water shortages generated by extreme weather. The establishment of procedures and control of all sorts of updated information effectively integrates execution in factories and decision making in the CCPG Executive Board in Taipei for full control of internal and external conditions. All levels of the Group are therefore able to make the most suitable decision and actions at the most appropriate times and implement them effectively to reduce the impact on the Group.

Factories' Response Strategies for Climate Change

	Incident	Response
Extreme weather	Water shortage and reduction of output	· Increase water storage by increasing the water level of city water tank, connecting temporary pipelines to the basement, and using silos (storage tank for solid objects) to store water · Increase the reutilization rate of water resources · Increase rainwater recovery rate · Reduce water consumption · Add water recycling equipment · Adjust the operating efficiency of the waste water treatment facilities · Adjust the concentration level of the cooling tower to reduce water release volume
	Flooding caused by rain	· Build rainstorm collection pools · Increase the building elevation of factories · Perform periodic inspections and clear the drainage system; open up other water channels to divert water flow during torrential rains
	Power blackouts	· Increase the ratio of cogeneration power · Adopt solar power generation
	Natural disasters	· Strengthen response measures for typhoons · Implement patrols and replacement of old pipelines to ensure that the production process can be maintained during natural disasters and ensure the stable supply of water, electricity, and steam through public pipelines · Improve earthquake evacuation drills · Increase the wind-proof level of buildings · Purchase related insurance to ensure compensation after disasters

3.3 Water Resources Management

The shortage of water supplies is a common risk across the world and the depletion of water resources will cause tremendous challenge to corporate operations. CCPG pays attention to water resource management issues and continuously improves the efficiency of the use of water resources in day-to-day operations. The factories perform monthly evaluations to review the water consumption status and water conservation performance and they also formulate improvement plans to improve the management of water resources.

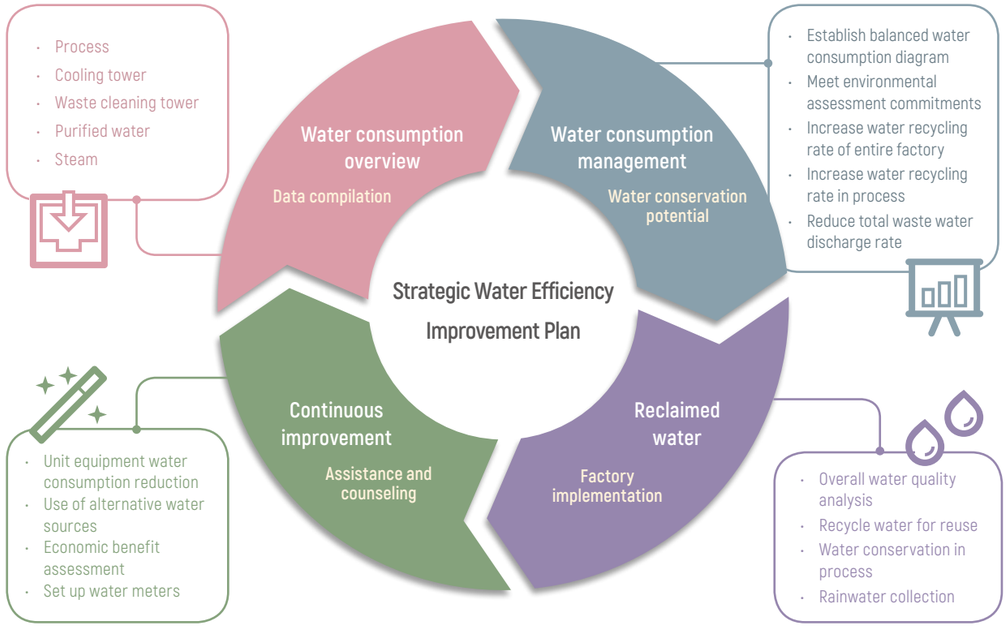
3.3.1 Water Management

CCPG considers the development of the Group and changes in the industry when it sets plans for water resources and it also takes nearby residents' requirements for land use into consideration. CCPG complies with the nature of the supply of water resources in terms of surface water availability and groundwater safe yield to provide reasonable and effective management, dispatch, and distribution of the use of water resources. For the purpose of pursuing sustainable and balanced development of the overall environment and the Group's interest, the water intake volume and intake method for the use of water sources by various production sites including running water, river water, water from reservoirs, and rainwater shall not cause any significant impact on the ecology of water sources and nearby residents.

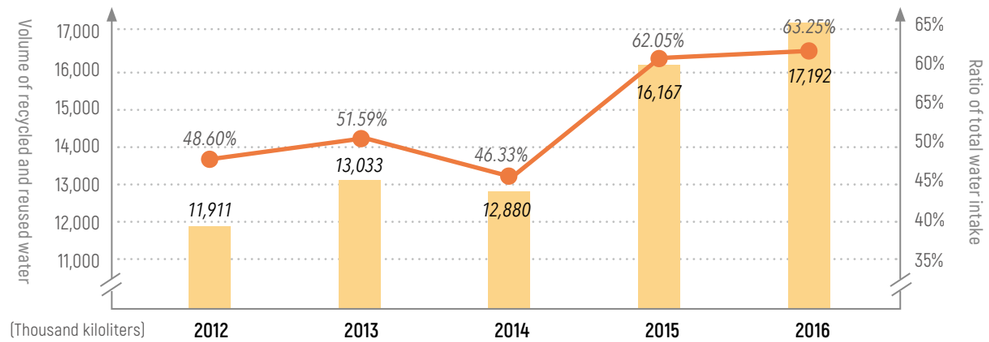
In response to the shortage of water resources, CCPG has established short and mid to long-term goals for the management of water resources in order to implement the Group's water usage efficiency improvement measures and continue to optimize the efficiency in the use of water resources:

2016-2019 short-term goals	2019-2029 mid to long-term goals
Advance the water usage efficiency advancement measures in Mailiao Factory, Miaoli Factory, and Dafa Factory	Conserve 5~10% of water in the production process

CCPG's Strategic Water Efficiency Improvement Plan



Total Volume of Recycled and Reused Water, and Ratio of Total Water Intake in 2012-2016



CCPG Water Resources Statistics from 2012 to 2016

Unit: thousand kiloliters

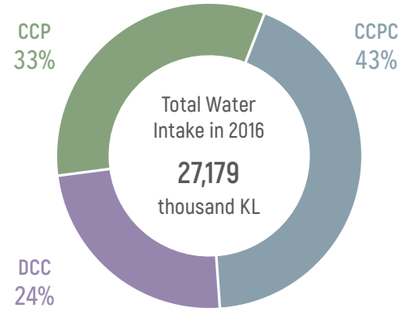
Environment indicator	2012	2013	2014	2015	2016
Running water consumption	9,844	10,381	12,049	11,184	11,713
Reservoir water consumption	3,358	3,267	3,038	3,165	3,491
River water consumption	11,307	11,613	12,715	11,704	11,975
Rainwater consumption	0.084	0.046	0.048	0.052	0.041
Volume of reused waste water from other organizations	N/A	N/A	N/A	N/A	N/A
Total volume of recycled and reused water	11,911	13,033	12,880	16,167	17,192
Total water intake	24,509	25,261	27,802	26,053	27,179

CCPG Water Resources Statistics in 2016 - by Company

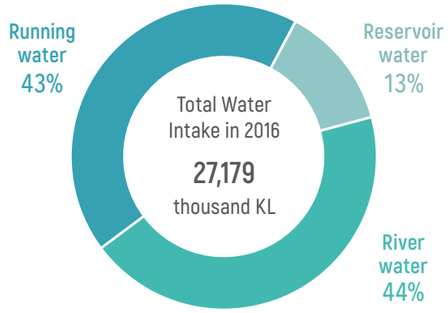
Environment indicator	CCP	CCPC	DCC
Running water consumption	8,833	88	2,792
Reservoir water consumption	N/A	3,491	N/A
River water consumption	235	8,165	3,575
Rainwater consumption	N/A	N/A	0.04
Volume of reused waste water from other organizations	N/A	N/A	N/A
Total volume of recycled and reused water	1,172	14,451	1,569
Total water intake	9,068	11,744	6,367

Note: 1. There were no waste water from other organizations. 2. Only CCPC used reservoir water. 3. Only DCC adopted rainwater recycling.

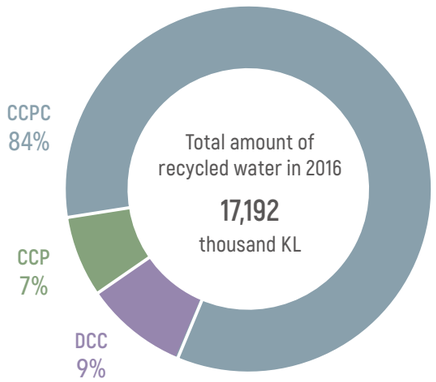
Total Water Intake in 2016 - by Company



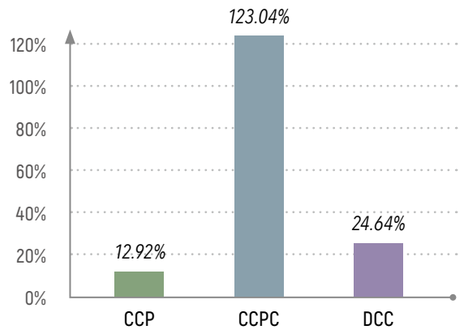
Total Water Intake in 2016 - by Source



Total Amount of Recycled Water in 2016 - by Company



Percentage of Recycled Water Accounting for Total Water Usage in 2016 - by Company



Note: CCPC's ratio was 123.04%, meaning that each drop of water was reused 1.23 times.

3.3.2 Wastewater Treatment

CCPG has established comprehensive regulations and operating procedures for waste water treatment. All discharged water has undergone waste water treatment procedures and periodic inspections to ensure that the water quality meet government regulations. The industrial waste discharge permits have also been obtained in accordance with regulations before waste water is discharged into legal water bodies. To strengthen waste water monitoring and control and implement active management, the Group has installed automatic monitoring systems at each discharge point for instantaneous notifications. Irregular data are processed through tiered electronic notification procedures to effectively control the water quality of waste water discharge points.

CCPG Waste Water Statistics from 2012 to 2016

Unit: thousand kiloliters

Environment indicator	2012	2013	2014	2015	2016
Total discharge volume	6,383	6,675	7,324	6,708	6,728

CCPG Waste Water Statistics in 2016 - by Company

Environment indicator	CCP	CCPC	DCC
Total discharge volume	2,369	3,379	980

Note: The waste water of Hsinchu Factory, Changpin Factory, Dafa Factory, DCC Kaohsiung Factory is discharged to the waste water treatment plant of the industrial zone. Miaoli Factory discharges waste water into Houlong River, Mailiao Factory discharge waste water into the sea, and CCP Kaohsiung Factory discharge waste water into Houjin River.

To further protect and stabilize water supply, reduce water intake and reduce the total discharge volume of the factories, CCPG actively invest in recycling waste and sewage water for reuse as alternative water sources. The installation of recycling facilities for discharged water has been completed in the Mailiao Waste Water Treatment Plant in 2016. The system adopted ultrafiltration (UF) and reverse osmosis (RO) to improve the removal of pollutants, extend the service life of the treatment system, and ensure the quantity and quality of recycled water. The system began operations in 2017 and it processes approximately 1,600 tons of water each day, which meets the 60% recycling rate of industrial water consumption standards. Miaoli Factory also began the use of the cooling tower blowdown recycling system in 2017 to reduce the water intake for industrial water consumption.

	Designed water volume	Processing water volume	Source of discharge	Recycling method	Recovery rate
Mailiao Factory	2,700 CMD	1,620 CMD	Effluent of secondary sedimentation tank	Sedimentation UF + RO	60%
Mailiao Factory	2,400 CMD	1,632 CMD	Cooling tower blowdown	Coagulation sedimentation + UF + RO (DOW)	68%

Note: CMD = Cubic Meter per Day

3.4 Waste Management

CCPG follows the "Corporate Social Responsibility Policies" and adopts pollution prevention measures to prioritize the environmental risks in various production procedures and reduce pollution from the process. In addition to truthfully reporting the level of air pollutant emissions and quantity of waste, it is also pays attention to the processing of waste in order to effectively reduce impacts on the environment and ensure compliance to environmental protection regulations.

3.4.1 Emission of Air Pollutants

CCPG uses pollution prevention facilities to reduce pollution from the production process and it continues to review areas in existing facilities and production processes that can be improved. CCPG has established online air quality monitoring in all factories and installed corresponding air pollution prevention equipment in accordance with the nature of the production processes in different factories in order to reduce and prevent leaks and emissions of nitrogen oxides, sulfur oxides, suspended particles, and other hazardous substances and reduce the impact on air quality and human health.

CCPG's Other Pollutant Emissions from 2012 to 2016

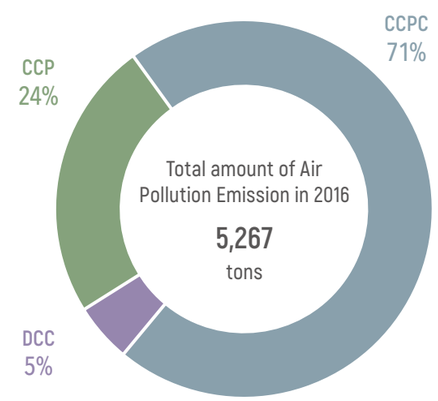
Unit: metric tons

Type	2012	2013	2014	2015	2016
Nitrogen oxides (NOx)	3,840	3,867	3,702	3,427	3,567
Sulfur oxides (SOx)	1,073	1,010	944	754	766
Volatile organic compounds (VOCs)	630	594	615	659	648
Suspended particles (PM)	425	378	378	325	286
Total air pollutant emissions	5,969	5,849	5,639	5,165	5,267

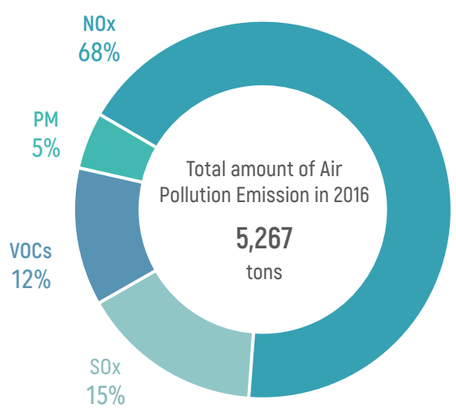
CCPG's Other Pollutant Emissions in 2016 - by Company

Type	CCP	CCPC	DCC
Nitrogen oxides (NOx)	794	2,696	77
Sulfur oxides (SOx)	238	519	8
Volatile organic compounds (VOCs)	198	303	147
Suspended particles (PM)	53	229	5
Total air pollutant emissions	1,283	3,747	237

Total Amount of Air Pollution Emission in 2016 - by Company



Total Amount of Air Pollution Emission in 2016 - by Type



3.4.2 Waste Disposal

To prevent impact on the environment caused by leaks of pollutants in factories, CCPG has introduced environmental management systems (ISO 14001) to all factories to ensure that waste disposal, reporting, and clearance in the factories' production process comply with legal requirements and provide management and responses on major environmental issues. CCPG continues to advance recycling and reduction of waste and the effects have been significant. The total quantity of general industrial waste processed through incineration in 2016 was higher than levels in 2012 due to the expansion of production capacity in Miaoli Factory which increased the quantity of waste oil and waste liquids.

CCPG Waste Disposal Statistics from 2012 to 2016

Unit: metric tons

Environment indicator	2012	2013	2014	2015	2016
Total general industrial waste	210,263	245,525	241,477	249,999	260,747
Total recycled general industrial waste	165,580	204,656	200,348	213,136	210,287
Total incinerated general industrial waste	25,516	22,118	20,843	19,664	35,641
Total buried general industrial waste	9,787	10,507	14,679	13,001	11,046
Total general industrial waste processed through other methods	9,380	6,922	5,608	4,197	3,773
Total hazardous industrial waste	9,311	10,327	9,463	8,872	10,473
Total recycled hazardous industrial waste	3,831	4,412	4,369	3,746	5,548
Total incinerated hazardous industrial waste	5,480	5,915	5,094	5,126	4,925
Total waste quantity	219,574	255,852	250,940	258,871	271,221

CCPG Waste Disposal Statistics in 2016 - by Company

Environment indicator	CCP	CCPC	DCC
Total general industrial waste	62,165	196,852	1,730
Total recycled general industrial waste	53,866	156,156	265
Total incinerated general industrial waste	2,395	32,718	528
Total buried general industrial waste	3,670	6,439	937
Total general industrial waste processed through other methods	2,234	1,539	0
Total hazardous industrial waste	94	10,380	0
Total recycled hazardous industrial waste	0	5,548	0
Total incinerated hazardous industrial waste	94	4,832	0
Total waste quantity	62,259	207,232	1,730

Note: CCPG did not use burial to process hazardous industrial waste.

Total Amount of Waste in 2016 - by Company

Total Amount of Waste in 2016 - by Type

CCPG has installed sludge driers in all factories since 2015. The sludge driers not only reduced the stench of sludge but also reduced the moisture content of waste sludge from 85% to 35% and reduced the final disposal quantity (burial or incineration) of sludge. After the installation, the total sludge of the factories in each month was lowered from 749.2 tons to 292.4 tons which was a reduction of 61% from levels before the installation of the driers. The production of sludge in operations was significantly improved and it reduced the quantities required for outsourced processing and reduced the impact on the environment.

On the other hand, Hsinchu Factory and Miaoli Factory also implemented the reduction and improvement of waste from molding materials, improvement on the processed volume of toxic substances, and the improvement on the production of waste aluminium oxide produced in the production of hydrogen peroxide. The Group's waste levels were lowered overall.

Unit: tons/year

Waste		Before improvements	After improvements	Reduction
Hsinchu Factory	Molding material waste reduction	152.1	118.3	33.8
Hsinchu Factory	Reduced 20% of the processing volume of toxic waste fluid	1.080	0.852	0.228
Mailiao Factory	Waste aluminium oxide	240	120	120

3.4.3 Packaging Material Reduction and Environmental Protection

CCPG advances the packaging materials recycling management system to extend the life cycle of materials and achieve the goal of sustainable recycling and reuse of resources. CCPG avoids over-packaging in the product transportation process wherever possible and implements packaging recycling for its own consumption and domestic customers. Packaging recycling management reduces consumption of materials, lowers costs, and reduces the production of waste.

CCPG Packaging Materials Recycling Ratio in 2016

	CCP	CCPC	DCC	Grand total
Plastic barrels	63%	55%	0%	31%
Iron barrels	0.1%	0.2%	0.1%	0.1%
Bulk bags	0%	8%	0%	1%

Note: The table only displays the ratio of the Group's internal recycled packaging materials and does not include statistics on the customer end.

Although CCPG is dedicated to the advancement of reduction of packaging materials, customers have yet to fully accept second-hand packaging. The effects of CCPG's packaging recycling was less than ideal. We have adopted specific measures to actively increase the partners' acceptance of recycled packaging materials and teamed up with partners in the supply chain to work with customers on this endeavor:

Packaging Recycling Initiatives

Inside the Company	· Recycle iron barrels with small openings that are in good conditions and convert them to reusable second-hand barrels with large openings · Use recyclable packaging materials for specific materials such as acrylic or cold glue products
Suppliers	· Request supplies to provide packaging that could be reused in the factory
Suppliers	· Convert the original cartons to recyclable plastic barrels and help customers with recycling · Develop specific purification process to recycle materials based on customers' recyclable purchase conditions

4

An Enterprise that Undertakes Responsibility and Creates Social Values

Enterprises cannot operate independently without the society's support, therefore, as a corporate citizen, it is CCPG's basic responsibility to establish solid human capitals and stable relationships with its stakeholders, as they are the basic foundation for CCPG to create shared values. Through close care and interaction between employees and communities, CCPG not only ensures internal organizational cohesion, but also achieves coexistence and mutual prosperity with the society and the local.

4.1 Stakeholder Communications

In order to pursue sustainable development, CCPG must categorize stakeholders, establish communication channels to effectively collect information from stakeholders, and clarify stakeholders' needs and expectations for our group, so they may be used as important references for the Board of Directors while formulating social responsibility policies and operations.

4.1.1 Stakeholder Engagement

CCPG values stakeholders' needs and expectations, and considers the communications and interactions with stakeholders an important part of the Group's business operations. During the compilation period of this Report, CCPG identified the Group's important stakeholders through questionnaire feedback from all business units. The communication channels / frequencies in 2016 are as follows.

Stakeholders	Communication Channel	Communication Frequency in 2016
Customers	· Phone, letter, fax, webpage · Visits by customers, visiting the customers · Exhibitions and Trade Fairs · Customer Satisfaction Survey · Customer's evaluation of factories · Establish customer grievance channels	· Customer Satisfaction Survey (once a year) · Large-scale exhibitions 3 times · Irregular telephone, email, fax and webpage communications · Irregular visits by customers
Suppliers/ Contractors	· Phone, letter, fax, webpage · Mutual visits with suppliers/contractors · Training and education for suppliers/ contractors · Supplier evaluation	· Irregular mutual visits with suppliers/contractors · Training and education for suppliers/ contractors many times a year, and the total number of training hours in 2016 reached 9,805 hours · Supplier evaluation at least once a year · Irregular telephone and email communications
Community residents surrounding factories	· All factories provide grievance telephone, mailbox, security guard booths · Participate in/sponsor community activities · Environment/public facility adoption and maintenance	· Irregular visits to community residents · Participate in community activities, many times a year · Actively sponsor local activities and public facility adoption and maintenance
Shareholders/ Joint Ventures	· Board of Directors	· Board of Directors' Meetings four times a year
Employees/ Labor Unions	· Various work meetings (Quality/ Environment/Safety/Production, etc.) · Various employee benefit meetings · Internal meetings or seminars · Annual performance evaluation · Training and education · Grievance mailbox, E-bulletin board, questionnaire surveys, interviews	· Work meetings (Weekly/Monthly/Quarterly/Annualy) · Employee benefit meeting once every three months · Various irregular meetings · Irregular communications, including grievance mailbox, E-bulletin board, questionnaire surveys, interviews, etc. · Performance evaluation once a year
Governments/ Competent Authorities	· Coordinate with central and local competent authority operations, including relevant advocacy and briefing sessions, reviews, audits and meetings, etc. · Visits by government officials · Joint fire drills · Official correspondences	· Declaration, reviews and factory on-site inspections · Official correspondences and telephone communications · Irregular visits by government officials · Irregular participation in meetings (review meetings/business conferences/briefing sessions/seminars/forums) various times a year
Trade associations	· Participate in meetings held by trade associations	· Participate in meetings irregularly

CCPG establishes multiple communication channels to address different types of issues: For internal labor and human rights related issues, employees may bring forth their opinions or appeals through labor-management conference platform and labor union organizations. Communication channels are kept clear with residents living around the factories, and feedback on environmental issues that the residents care the most are also actively provided through different platforms. As for whether the enterprise operations are in line with the principle of good faith, they are supervised by permanent internal audit and internal control units; CCPG also has a smooth censure and reporting system, and investigates related incidents independently.

Aspect	Grievance Channel	Process	Result
Compliance and Anti-Corruption	In the event that any department, factory or individual discovers illegal incidents, the Legal Department shall be notified for investigations. The illegal incidents may be reported by way of telephone, fax, letters, emails (CCPGLG@ccp.com.tw).	As for the illegal incidents reported, the Legal Department should conduct investigations or engage in joint investigations with auditing department and compile reports. The parties involved in illegal incidents shall be corrected and punished, and the recurrence of illegal incidents shall be prevented.	In 2016, there was no corruption incident or internal/external grievance cases
Environmental	Each factory's Environmental Health and Safety Department Each factory's security guard booth Each factory provides grievance telephone and mailbox	After grievance cases are received, relevant units at the factory are notified to handle, and then report processing status and follow-up results to each company's management levels.	In 2016, there were a total of 12 over NT$100,000 fine cases filed.
Human rights and Labor Conditions	Once any department, factory or individual discovers any cases violating human rights and labor conditions, it shall be reported through labor-management platforms, labor union organizations, telephone, fax, letters, or email (achiang@ccp.com.tw).	When factory directors or the company's human resources department are notified of grievance cases, they shall actively investigate and process the cases. If the grievance cases are proven to be true, the violating parties shall be held accountable according to work rules and relevant laws and regulations. In the case of false accusations and frame-ups, the complainants shall be punished according to the work rules.	In 2016, there was no human rights or labor related grievance

As of 2016, there has been no illegal incidents in the aspects of social, labor practices and human rights, products and services, etc. at CCPG; in 2016, in terms of environment aspect, there were a total of 12 deficiency cases at three of the Group's companies, and they were mainly related to air pollution, particularly the test values of equipment component and discharge pipes exceeding concentration value permitted by law and regulations. In addition to improving pollution prevention and control for process equipment, we also strengthen our internal audit frequencies as well as commissioning third-party inspection agencies to confirm the test results. CCPG has reviewed each deficiency case and completed improvements for all cases. Starting from 2017, CCPG has established a regulatory inquiry system and notification platform. In the future, CCPG will identify laws and regulations related to each process, and conduct unified management reviews, with the expectation to achieve the ultimate goal of "zero fines", truly undertaking the responsibilities for community residents and surrounding environment.

CCPG's Environmental Violation Cases and Fine Statistics in 2016 - by Company

Unit: case, NTD 10,000

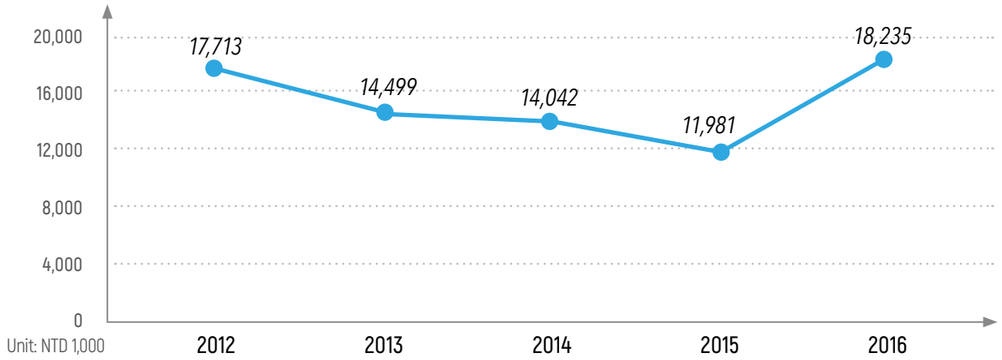
	CCP		CCPC		DCC		CCPG (Total)	
	No. of cases	Amount	No. of cases	Amount	No. of cases	Amount	No. of cases	Amount
Air pollution	4	50	5	100	2	20	11	170
Water pollution	0	0	1	25.2	0	0	1	25.2
Waste pollution	0	0	0	0	0	0	0	0
Toxic chemical substances	0	0	0	0	0	0	0	0
Soil and groundwater	0	0	0	0	0	0	0	0
Subtotal	**4**	**50**	**6**	**125.2**	**2**	**20**	**12**	**195.2**

Note: The incidents disclosed here are mainly deficiency cases over NT$100,000

4.1.2 Social Involvement

In order to implement CCPG's pragmatic and law-abiding spirit of "Giving Back What One Takes from the Society to the Society", CCPG has continuously invested in the field of social welfare, and has also long rooted in the local communities through the efforts of the Group's factories. The ways in which CCPG carries out social involvement can be categorized into education promotion, community activity involvement, and community resource sponsorship, such as industry-university cooperative projects, student internships, participation in community environmental protection, arts activities, donations and care for disadvantaged groups, adoption of public facilities, etc. In 2016, CCPG's social investment related expenditures amounted to NT$18 million, with the hopes to give back to the society through various resources.

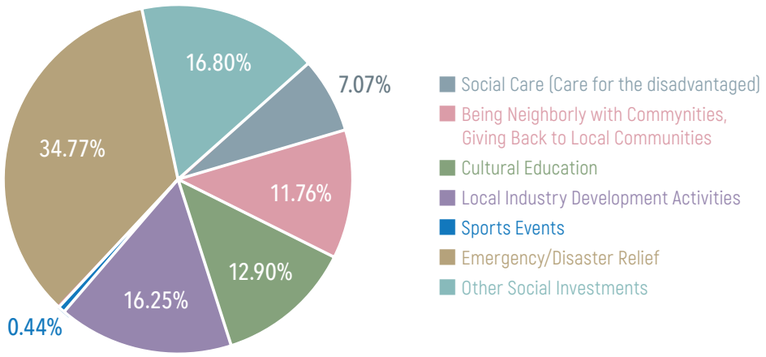
CCPG's Social Investment Related Expenditures (2012-2016)



CCPG's Social Investment Related Expenditures in 2016 - by Company Unit: NTD 1,000

	CCP	CCPC	DCC
Social Care (Care for the disadvantaged)	48	1,002	240
Being Neighborly with Communities & Giving Back to Local Communities	195	1,576	373
Cultural Education	303	2,015	35
Local Industry Development Activities	36	2,761	167
Sports Events	19	48	13
Emergency/Disaster Relief	21	3,320	3,000
Other Social Investments	121	442	2,500
Total	**743**	**11,164**	**6,328**

CCPG's Social Investment Related Expenditures in 2016 - Percentages of Expenditures per Category



CCPG strengthens the neighborhood relationship with the districts wherein it locates by proactively interacts with organizations of the communities by means of injecting its financial/material/human resources into local communities, which thereby creating more working opportunities, as well as improving local economic development either directly or indirectly. In addition to supporting community organizations, CCPG also mutually supports and exchanges with vendor organization in the industrial parks where CCPG's factories are located by sharing response equipment and industrial safety resources, and establishes mutual efforts for industrial safety and health and contingency response within the industrial parks, in order to achieve the objective to reduce occupational accident occurrences.

I. Education Promotion

To coordinate with the government's policy to enhance chemical industry's high value, in addition to gradually increasing the proportion and amount of R & D investments for its own business year by year, CCPG has also conducted a series of industry-university exchange activities, with the support from the High Value Petrochemical Industry Promotion Office (PIPO) under the Ministry of Economic Affairs. According to PIPO's analysis, the graduates in Taiwan's chemical engineering field is capable of supporting the needs of high-value cultivation; however, they need practical enterprise experiences to serve as the catalyst, so that the talents may enhance their practical experiences and inject new blood into the industry. In 2016, CCPG devoted itself to various activities, including disaster prevention and advocacy, workplace internships, scholarship provisions, etc. for students of different age groups, from elementary schools, middle schools, high schools to universities, etc. to promote mutual understandings. The relevant information is summarized as follows.

Category	Location	Activity
Education Promotion	CCPC Mailiao Factory	· Grant scholarship to Department of Safety, Health and Environmental Engineering, and Department of Chemical Engineering of National United University; Sponsor factory visits for their current students. · Provided workplace internships for National Miao-Li Agricultural & Industrial Vocational High School to help promote special education
	DCC Kaohsiung Factory	· Co-organized disaster prevention and advocacy for Jiacheng Elementary School, Guanyin Elementary School and Dashe Elementary School in the local community with Kaohsiung City Fire Bureau and manufacturers in Ren Da Industrial Park
	CCP, DCC Kaohsiung Factory	· Co-sponsored tour visits and scholarships to Ren-Wu Senior High School Industrial-University Special Classes with manufacturers in Ren Da Industrial Park

Since 2014, CCP and DCC have engaged in the development of industrial-university cooperations with Ren-Wu Senior High School and 12 other manufacturers in Dashe Industrial Park, so as to activate regional economy and local prosperity, and reduce emigration phenomenon. Through Industry-Government-University resources, the advantages, such as active teaching, shortening gaps between urban and rural areas, and employment protection, etc. are achieved, so that students can achieve adaptive development, creating a triple win for enterprise, school and local community. This activity continued to be promoted in 2016, and as of 2016, a total of 80 students were cultivated.

Since 2014, CCPG has continued to promote industry-university cooperations with the industry

II. Involvement in Community Activity and Giving Back to the Community

For a long time, CCPG has taken the initiative to actively establish good relations with organizations and residents in the neighboring communities, and actively organized or assisted community activities according to local needs, including sponsorship for local tourism activities, sponsorship for folk festivals, environmental protection and health advocacy, etc. CCPG's contributions in 2016 are summarized and shown in the Table below.

Category	Location	Activity
Community Activity Involvement	CCP Hsinchu Factory	· Organized blood donation activities in the factories; employees of Hsinchu Factory responded to the activities by donating a total of 73 bags of blood
	CCPC Mailiao Factory	· Sponsored various tourism activities organized by local government, such as Burst Dragon Hakka 10 Festival activities, Folk Activity Hakka Tung Blossom Festival, and International Kite Festival activities · Sponsored major community festival events in the neighboring villages (Mid-Autumn Festival and Dragon Boat Festival) · Provided assistances and sponsorships for annual activities of people's faith centers in the villages where CCPG is located
	CCPG Mailiao Factory	· Sponsored community's major festival events in the neighboring villages (Mid-Autumn Festival and Dragon Boat Festival) · Provided assistances and sponsorships for annual activities of people's faith centers in the villages where CCPG is located
	DCC Kaohsiung Factory	· Participated in and sponsored Environmental Sustainability - Cherishing Earth Charity Activities - "Love Flows by Houjin River: Calling for Thousands of People Cleaning Up the River & Hiking" activities organized by Nanzih District Office · Participated in Dashe community residents' Gala music feast · Participated in Seafood Festival activities organized by Kaohsiung Zihguan District Fishermen's Association · Co-sponsored Dashe District Qing-Yun Temple's pilgrimage activity and peace banquet with manufacturers in Ren Da Industrial Park · Co-organized 2016 Mother's Day Recognition and Thanksgiving party with Kaohsiung Zihguan District Office and manufacturers in Ren Da Industrial Park
	CCP Kaohsiung Factory	· Sponsored Master Qingshui's 980th Holy Birthday and Eternal Salvation and the Temple's 327th Anniversary of Global Peace Dharma-Assembly · Sponsored 2016 Renwu District Elderly Welfare Association members' Outdoor Fitness Networking activities · Sponsored Renwu District China Community Development Association to organize 2016 annual activity of "Celebrate Dragon Boat Festival with Aromatic Dumplings, Dragons Bring Environmental Happiness" · Sponsored Kaohsiung City Renwu Sports Association to organize Renwu District's 2016 "3-on-3" Basketball Tournament and Energy Conservation Advocacy Activity · Sponsored Kaohsiung City Renwu District Wuhe Community Development Association to organize "2016 Wandering in Renwu's Ponds ~ Feast of Autumn's Red Trapas" Activity" · Sponsored Kaohsiung Renwu Folk Dance and Talent Association to organize "2016 Merry Christmas Party" activity

In order to increase the opportunities for CCPG's employees to interact with residents surrounding the industrial park, CCPG participated in Kaohsiung Dashe's community concert to encourage employees to get outdoors and have two-way communications with nearby residents to get rid of their existing impressions of a petrochemical factory.

In order to take environmental protection into consideration, CCPG regularly participates in large-scale environmental protection activities organized by local governments and communities where the factories are located, such as annual beach cleaning up activities, river cleaning up and hiking activities. Through close cooperations with communities, CCPG achieves the goal of being neighborly and cohesion of environmental awareness within the company.

In addition to actively participating in various local community activities, CCPG also provides various resources to give back to communities, including subsidies for activities, care for disadvantaged group by donations, adoption of public facilities, provision of venues for events, etc. to share the Group's resources with local communities. CCPG's various social contribution programs in 2016 are described in the Table below.

Category	Location	Activity
Social Contribution	CCP Hsinchu Factory	· Sponsored funding for volunteer fire departments in Xinfeng and Hukou areas
	CCPC Mailiao Factory	· Provided sponsorship for street light adoption activities organized by Miaoli City District Office · Provided annual funding assistances for people's community patrol teams in the villages where the factories are located and neighboring villages to patrol jointly for community's safety and protection · Provided Chinese New Year red envelopes and emergency relief activities for 75-year-old and elder residents of the villages where the factories are located and neighboring villages
	CCPG Mailiao Factory	· Mai Liao factory's Love Society provided donations to support children adopted by "Taiwan Fund For Children and Families" and continued long-term adoptions for children of low-income families · Assisted annual funding for people's community patrol teams in the villages where the factories are located and neighboring villages to patrol jointly for community's safety and protection · Sponsored Chinese New Year emergency relief activities for neighboring villages
	CCP Changpin Factory	· Sponsored street light adoption activities organized by Changhua County Xianxi Township Office in 2016
	DCC Kaohsiung Factory	· Co-sponsored Dashe District Neighborly Contribution Funds with manufacturers in Ren Da Industrial Park
	CCP Dafa Factory	· Participated in "Love in Daliao - Sending Warmth in the Winter" organized by Daliao District Office and donated related funds and resources to care for the needs of the disadvantaged group

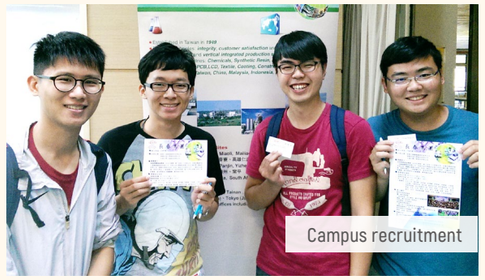
Providing care activities for local orphanages

4.2 Talent Gathering

The Group is named "Chang Chun", and its intention is that "three people make concerted efforts every day (Chun), so the company can sustain for a long, long (Chang) time". From that moment on, the corporate culture taking "people" as its most significant asset has gradually internalized and become CCPG's everlasting DNA.

In a period of over sixty years, CCPG's employees have grown from its initial 3 employees to nearly 5,000 domestic and as many as 10,000 employees across the world. Over the years, the key for CCPG's growth and excellence lies in:

- **"People"**—employees' passion, professional knowledge, honesty and integrity are CCPG's greatest assets and support. The optimization of policies and approaches for talent selection, cultivation, deployment and retention are our goals for continuous improvement.
- **"Talent Selection"**—the Group visits campuses and ITI (International Trade Institute) and offers competitive salaries and benefits to seek outstanding leaders.
- **"Talent Retention"**—in addition to the annual performance evaluation, we also implement regulations governing rewards for extraordinary contributions, periodic physical examination every year, holiday bonuses for the three important Chinese festivals, year-end bonus, dividends, and subsidies for weddings and funerals. Employees who have dedicated their services for more than 20 years are awarded with a certificate of merit and a 1oz gold coin by the top management of the Group.



Campus recruitment

ITI recruitment

Gold coin and certificate of merit

Senior employee awards

4.2.1 Employment Status

"Talent selection" systems and scientific interview tools are deployed to ensure both fairness and new hires' quality during recruitment process. "Talent deployment" requires both breadth and depth, and they are divided into two aspects: "taking root downwards" and "expanding horizontally"; and the former enhances employees' overall professional quality, through CCPG's rigorous and accurate work trainings, supported by mentor system; the latter provides young employees the opportunities for overseas training and helps employees develop international professional standards, management capabilities, and world-class vision.

In recent years, the Group's number of employees has been increased by an annual average of 3%, whereas employee turnover rate has stayed below an average of 1%, among which the most praised fact is that the Group's Taiwanese operations hire only local labors instead of foreign workers. Despite such act raises the personnel costs, the Group takes it as an overarching goal to increase domestic working opportunities and to benefit the local, communities, and the neighborhood.

CCPG's Employee Breakdown from 2014 to 2016

Year	2014		2015		2016	
	Male	Female	Male	Female	Male	Female
Fixed-Term Contract	40	31	42	35	36	31
Non-Fixed Term Contract	4,221	293	4,341	303	4,533	318
Subtotal	4,261	324	4,383	338	4,569	349
Total Number of Employees	4,585		4,721		4,918	

CCPG's Employee Breakdown from 2014 to 2016 - by Company

	CCP		CCPC		DCC	
	Male	Female	Male	Female	Male	Female
Fixed-Term Contract	6	9	29	20	1	2
Non-Fixed Term Contract	1,738	179	1,961	87	834	52
Total Number of Employees	1,744	188	1,990	107	835	54

Note: Fixed-term contracts include part-timers, contracted drivers, and consultants

CCPG has established a fair and precise recruitment process wherein the Knowledge, Skill, and Attitude required for a job is specifically put in words when reporting job vacancies from the start, and a selection committee is set up in the interview phase for evaluation and selection by using an interview method that is structural and competence-oriented.

The average age of CCPG's employees is about 40 years old, and the average years of service is about 14 years. The employees are in the life stage when they have rich experiences and full physical strength. As far as academic background is concerned, nearly 75% of the employees are college graduates and above, and nearly 15% of the employees have graduate degrees. The quality of manpower is high and relatively experienced, thus laying a good foundation for the Group's development.

CCPG's Employee Age Distribution from 2014 to 2016

		2014		2015		2016	
		Male	Female	Male	Female	Male	Female
Age	Under 30 years old	294	50	456	68	711	85
	30-50 years old	3,064	166	3,078	166	3,091	166
	Over 50 years old	903	108	849	104	767	98
Total		4,261	324	4,383	338	4,569	349
Average Age		42.2		41.3		40.0	
Average years of service		16.3		15.4		14.1	

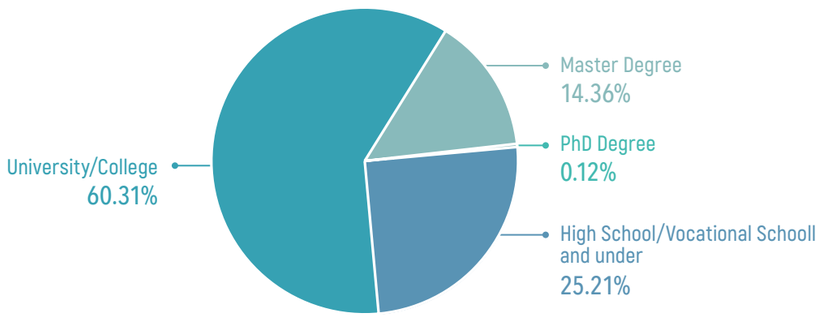
CCPG's Employee Age Distribution in 2016 - by Company

		CCP		CCPC		DCC	
		Male	Female	Male	Female	Male	Female
Age	Under 30 years old	229	31	357	46	125	8
	30-50 years old	1,150	79	1,333	49	608	38
	Over 50 years old	365	78	300	12	102	8
Total		1,744	188	1,990	107	835	54

CCPG 2016 Employee Education Distribution in 2016 - by Company

	CCP		CCPC		DCC	
	Male	Female	Male	Female	Male	Female
High School/Vocational School and under	529	80	474	7	143	7
University/College	887	92	1,317	82	545	43
Master Degree	326	16	195	18	147	4
PhD Degree	2	-	4	-	-	-
Total	1,744	188	1,990	107	835	54

CCPG Employee Education Distribution in 2016



All members of the management were once a junior staff in the past to either companies or factories of the Group. Cultivation of the management requires the Group's long-term investment in them by delegating tasks for them to work in factories, in overseas operations, or as inter-factory project managers, and by providing them with comprehensive management competence training, e.g., holding of the 2016 pioneer camp for top management, consensus camp, leadership camp, which together set a direction in which CCPG is heading.

Management training

CCPG Employee Job Rank Category from 2014 to 2016

	2014		2015		2016	
	Male	Female	Male	Female	Male	Female
President (inclusive) and above	8	3	8	3	7	3
Senior Executives (Factory General Manager, Vice President, Executive Vice President)	24	1	23	1	21	1
Mid-Level Managers (Department Manager, General Manager, Deputy Factory General Manager)	133	2	129	2	124	2
Junior Level Supervisors	736	111	710	108	669	99
General Employees	3,360	207	3,513	224	3,748	244
Total	4,261	324	4,383	338	4,569	349

CCPG Employee Job Rank Category from in 2016 - by Company

	CCP		CCPC		DCC	
	Male	Female	Male	Female	Male	Female
President (inclusive) and above	1	-	3	3	3	-
Senior Executives (Factory General Manager, Vice President, Executive Vice President)	4	-	8	1	9	-
Mid-Level Managers (Department Manager, General Manager, Deputy Factory General Manager)	54	-	42	1	28	1
Junior Level Supervisors	298	42	223	38	148	19
General Employees	1,387	146	1,714	64	647	34
Total	1,744	188	1,990	107	835	54

In order to implement CCPG's concept of "Giving Back What One Takes from the Society to the Society," when new employees are recruited, priorities are given to local residents, to promote local job opportunities. More than 90% of the employees at Group's CCPC Miaoli factory, DCC Kaohsiung factory and CCPG Dafa factory are local residents. Meanwhile, an opportunity to apply for a job in the Group is guaranteed to the employees' children, a reason why it's common to see father and son, and sometimes even grandson work for the Group at the same time.

Local Employee Percentages at CCPG Factories

Factory	Number of People Employed	Percentage of Local Employees	Remarks
CCP Hsinchu Factory	740	83.4%	Taoyuan Hsinchu Miaoli Region
CCPC Mailiao Factory	1640	90.9%	Miaoli Region
CCP Changpin Factory	122	69.9%	Taichung Changhua Region
CCPG Mailiao Factory	564	72.0%	Yunlin Region
CCPG Dafa Factory	895	87.0%	Kaohsiung Region
CCP Kaohsiung Factory	412	88.0%	Kaohsiung Region
DCC Kaohsiung Factory	219	90.0%	Kaohsiung Region

The number of female personnel appointed at CCPG is increasing year after year. For new employees' salary standards, conditions such as price indices, job scarcity, job applicants' major at school, relevance to job content, and nature of job difficulties, etc. are referred to, to make comprehensive consideration; if new hires had relevant work experiences in the past, or have relevant certifications or licenses, their salaries will be adjusted accordingly.

Meanwhile, CCPG states clearly in its various administration regulations, operating procedure manuals, and policy communication that there shall not be any discrimination in recruitment, selection, performance evaluation, pay raise, promotion, salary, retirement, dismissal, educational training, or welfare measures on account of sex, religion, political party, age, marriage, sexual orientation, or race. Meanwhile, CCPG has developed employees' opinion and grievance measures. Moreover, CCPG has an established employee's grievance redressal system, which, after the responsible unit receives such grievance, it shall assign an appropriate unit for redressal based on the content of such grievance, or it shall report to the upper management. In 2016, there was no labor complaint incident due to issues such as work, labor rights, discrimination, and human rights, etc.

4.2.2 Employee Benefits

"Talent Retention" can be achieved only when the hearts of employees can be retained. During the period of 70 years since CCPG was incorporated, its employee salaries have been outperforming the industrial average, coupled with the facts that salaries are adjusted annually, and considerable year-end bonus, dividends, and welfare system are envied by many. Meanwhile, in order to entice and retain excellent talents, the Group adjusts its compensations and benefits with reference to labor market conditions, price indices and individual performances, regardless of gender; the same salary structure (including supervisor allowances, dormitory allowances), retirement and benefit system apply to both senior-level executives and general employees. The Group also organizes various employee training and group recreational activities often. Compensation to new hires at the time of hiring is determined in accordance with the education and experience required for the job. After an employee is hired, compensation, annual pay raise, and promotion will be given to him/her in conformity with his/her working performance.

Pursuit of "Work-Life Balance" is a part of CCPG's vision, for only healthy employees could provide the Group with a healthy development. CCPG does not intend to be listed in the stock market or OTC because, in addition to maintaining the Group's decision-making autonomy, it is even more important that the Group implements its business philosophy by sharing its surplus with all of its hard-working employees.

Concerning employees' "Bonus Category" benefits, in addition to bonuses for three major festivals, red envelopes on the first day after Chinese New Year, year-end bonuses, and dividends, there are also employees' wedding and funeral monetary gifts, a month's salary as condolence gift, employee emergency interest-free 80-day salary advance, and NT$100,000 condolence for employee's family when an employee passes away; "Non-Bonus Category" benefits refer to establishment of Employee Welfare Committee, provision of employee group insurance, provision of annual physical examination, provision of employee uniform, subsidy for purchasing equipment for employee restaurants, subsidy for employee sports events, subsidy for employee holiday activities, holding of stress relief courses, subsidy for fellowship activities for retired employees, launch of CCPG Family Day, and free English/Japanese courses.

Among the Group's benefits systems, some are beyond the requirements set forth in the Labor Standards Act, such as calculation method for overtime allowance, and 2 days paid travel leave for employees to take on the precondition that factories can be normally operated. What makes CCPG the proudest of is its leave without pay system. Aside from 100% approval rate for application for a parental leave without pay applied for by employees, male and female alike, all of them are allowed to return to their original jobs after such leave so that they can take care of their babies without any worry.

Analysis of CCPG's Parental Leave without Pay from 2015 to 2016

	2015		2016	
	Male	Female	Male	Female
Number of people eligible to apply for parental leave (A)	142	11	193	21
Number of people actually applied for parental leave in the current year (B)	9	3	6	2
Application rate (C = B/A)	6.34%	27.27%	3.11%	9.52%
Number of people reinstated from parental leave in the current year (C)	8	4	7	3
Actual number of people applied for reinstatement in the current year (E)	8	4	7	3
Reinstatement rate (F = E/D)	100%	100%	100%	100%

Analysis of CCPG's Parental Leave without Pay in 2016 - by Company

	CCP		CCPC		DCC	
	Male	Female	Male	Female	Male	Female
Number of people eligible to apply for parental leave (A)	58	7	102	5	33	9
Number of people actually applied for parental leave in the current year (B)	1	1	3	0	2	1
Application rate (C = B/A)	1.72%	14.29%	2.94%	0.00%	6.06%	11.11%
Number of people reinstated from parental leave in the current year (C)	1	2	3	0	3	1
Actual number of people applied for reinstatement in the current year (E)	1	2	3	0	3	1
Reinstatement rate (F = E/D)	100%	100 %	100%	-	100%	100%

Employee Family Day Activity–Parent-Child Fun

Employee Family Day Activity

Employee Overseas Travel Activity

Employee Softball Tournament Activity

“Pragmatic Law-abiding Spirit” is the business philosophy that Chang Chun Group insists on. Other than establishment of many internal welfare systems, the Group scrupulously abides by relevant laws and regulations respecting labor, environment and taxation, and takes care of both its employees and the public.

A peaceful retirement life is the embodiment of solid and long-term care for employees. All companies under the Group set up a “Supervisory Committee of Workers’ Retirement Fund” to supervise the use of employee pensions while contributing up to 15% of pension reserve monthly, and hiring a third party consulting firm to calculate the actuarial pension fund in order to ensure that companies are financially capable of paying employee pensions. It also satisfies requirements set forth in Paragraph 2, Article 56 of the Labor Standards Law as stipulated by the Ministry of Labor that, “the employer is required to make up the difference in one appropriation before the end of March the following year”, an act that shows the Group’s law-abiding spirit and makes the employees confident with the Group’s long-term operation. In addition, CCPG gives to each of its retired personnels an one-ounce pure gold coin, engraved with CCPG's CCP LOGO, as permanent memorial, so it can be handed down from generation to generation.

In July 2005, the Ministry of Labor updated a new labor pension system. All of the Group's companies consulted employees, according to law, and the employees agreed to convert to the new system; therefore, the new hires will set aside 6% of their total monthly salaries in their personal pension accounts, while the seniority in the old system shall be retained and pensions shall be paid at retirement in accordance with law. Furthermore, we also purchase labor insurances and health insurances for our employees, according to law, as well as protect employees' rights and interests by calculating average wages twice a year, adding up overtime pays, night shift snack allowances, duty allowances, meal allowances, dormitory allowances, etc. in order to adjust the insurance gradings for labor insurances, labor retirement and health insurances.

4.2.3 Labor-Management Relations and Communication

CCPG follows internationally recognized guidelines for sustainability and human rights, including the core labor standards of basic conventions in United Nations Global Compact and International Labour Organization. CCPG also complies with local applicable laws and regulations of the location where each factory is based in. In addition to developing and submitting employee work rules to local government for approval, CCPG also allows all of its employees to organize and join labor unions freely. Meanwhile, employees are also allowed to engage in collective bargaining in accordance with relevant legislative requirements, and they have also signed collective agreements with labor unions many years ago.

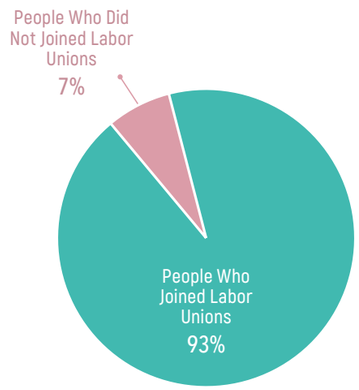
Miaoli Factory Enterprise Labor Union Representative Meeting

A total of seven enterprise labor unions are established in 7 of CCPG's factories, and they may conduct collective bargainings in accordance with relevant legislative requirements with the Group's companies. As early as 1971, a union was established in CCPG’s factories. At its peak, up to 99% of employees participated in the union. So far, the Group has entered 7 collective agreements with the various unions.

CCPG Labor Union Information from 2014 to 2016

Region	Factory/Founding Year		2014	2015	2016
Hsinchu	CCP Hsinchu Factory 1979	Years since Founding (years)	35	36	37
		Labor Union Members (people)	723	709	715
		Employee Ratio (%)	98.6%	97.9%	98.9%
Miaoli	CCPC Mailiao Factory 1971	Years since Founding (years)	43	44	45
		Labor Union Members (people)	1,376	1,466	1,507
		Employee Ratio (%)	96.9%	96.8%	95.4%
Mailiao	DCC Mailiao Factory 2006	Years since Founding (years)	8	9	10
		Labor Union Members (people)	182	169	172
		Employee Ratio (%)	70.8%	65.5%	66.9%
Kaohsiung	CCP Dafa Factory 1996	Years since Founding (years)	18	19	20
		Labor Union Members (people)	419	415	430
		Employee Ratio (%)	92.1%	92.4%	92.9%
	DCC Dafa Factory 1999	Years since Founding (years)	15	16	17
		Labor Union Members (people)	278	274	281
		Employee Ratio (%)	90.8%	91.0%	87.3%
	DCC Kaohsiung Factory 1985	Years since Founding (years)	29	30	31
		Labor Union Members (people)	185	179	185
		Employee Ratio (%)	92.0%	90.9%	84.9%
	CCP Kaohsiung Factory 1979	Years since Founding (years)	35	36	37
		Labor Union Members (people)	337	346	380
		Employee Ratio (%)	97.7%	98.3%	98.2%

Proportion of People Who Joined Labor Unions in 2016



To ensure a clear and smooth labor-management communication channel and effective proclamation of material events, Chang Chun Group sets up multiple communication channels through which labor-management disputes can be fully communicated and resolved. Besides annual labor-management meetings, informal communication channels with factory management and union officers are also available by means of hot line, e-mail, or face to face communication. Meanwhile, employees are allowed to provide companies of the Group with their opinions and suggestions through Employee Welfare Committee, employee grievance channels, employee satisfaction questionnaires, and other daily communication channels. Issues mainly comprise of expansion of parking space, suggestion on style and materials of employee uniform, additional set-up of restaurant equipment, adjustment for night shift allowance, renovation of personal protective equipment, increase of annual physical examination items, and suggestion on year-end bonus and pay raise magnitude, which all reach a conclusion that is satisfactory to both the labor and the management.

4.3 Talent Cultivation

Talent cultivation serves not only as the key element of the Group's Human Resource Development (HRD), but also as its solid strength to gain a foothold in an international competitive arena. Therefore, CCPG offers employees with a series of well-designed and high-quality training programs, of which courses are designed in a competence-oriented manner, so as to strengthen employees' working skills, to solidify teamwork, to encourage and provide employees with an opportunity to exercise their potential, thereby sustainably improving the overall performance of employees, departments, factories, companies, and the Group.

"Talent Cultivation" In addition to rigorous professional training, it is most special to run Happy Farm Courses to teach planting of flowers and vegetables on top floor of the Group's Taipei Head Office. In addition to greening the buildings, participants will be able to achieve the ideal situation of work-life balance.

4.3.1 Training and Education

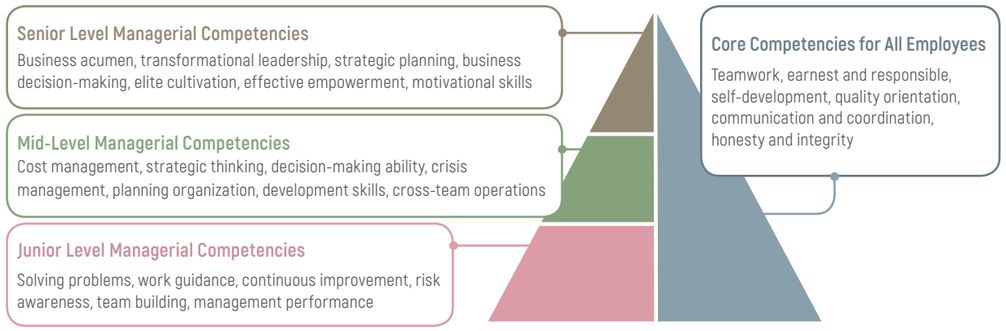
Regarding "Talent Cultivation", the Group designs a set of complete and up to date educational training, including defining the core competence for all members of the Group, and setting up training items and verification methods for management competence and professional competence for all levels of employees. In addition to professional and managerial function trainings, CCPG also pays attention to the cultivation of personal abilities and interests by organizing weekly English and Japanese courses, so employees may learn languages for free and improve their language abilities.

In 2016, CCPG held a total of 7,988 hours of employee training and education, and an actual attendance of 40,778 people. In addition to professional and functional training and education organized independently by factories, the Group also held additional mid-level supervisor Navigation Camps, senior-level executive Generals Camps, patent laws and regulations practical training for R&D personnel, and a series of managerial function oriented training and education courses. In the past, Dairen Chemical Corp under Chang Chun Group had an online attendance record whereas Chang Chun Plastics Co., Ltd. and Chang Chun Petrochemical Co., Ltd. had a paper attendance record which was kept in the various factories separately, a situation that made it difficult to collect, analyze, and integrate the education and training records of the Group. In consideration of such difficulty, the Group purchased e-Learning system in mid-2016 for all members of the Group to use. The Group also integrates the information on curriculums and lecturers in different factories, so as to use the system for education and training from 2017.

Based on different "Curriculum", "Common Scope", and "Trainee", the Group classifies its education and training into new hires training, core and management competence training, professional competence training, general courses, and language courses, each of which has a designated unit responsible for its implementation. The Group launches a key management review twice a year in order to conduct an internal audit on the implementation status of the annual educational training programs provided by the various departments and factories. No material violation were found for the year of 2016.

New personnel training provides basic training required for new employees, and the new personnel training is divided into Group-relevant (including professional functions), all units-relevant (including factories and subsidiaries) and all department-relevant (including the head office and all departments of the factories) three categories, according to the common scope.

Those assuming different management jobs are assigned corresponding training on management competence in order to gain common values and vision among the management, and to possess the required management capability to finish a task.



Professional competence training, which can help employees achieve their working objectives effectively, are sub-categorized in accordance with the common scope into Group-relevant common professional competence training, unit-relevant professional competence training, and department-relevant professional competence training (including Divisions and other departments of the factories).

Implementation of educational training reflects solidly on employees' working performance and career development. In 2016, CCPG had a total of 4,918 domestic employees, and except for those who were employed for less than three months, or on leave without pay, or serving as consultants whom performance evaluation did not apply, the number of people participated in performance evaluation was 4,825, accounting for about 98% of total employees. Among them, 13.6% received excellent ratings and 6.2% were promoted.

In addition, for employees who are about to retire, the Group provides them with e-Learning courses for self-learning and development of diversified hobbies and abilities. They are also allowed to take internal lecturer training so that they can be an internal lecturer for the Group after retirement.

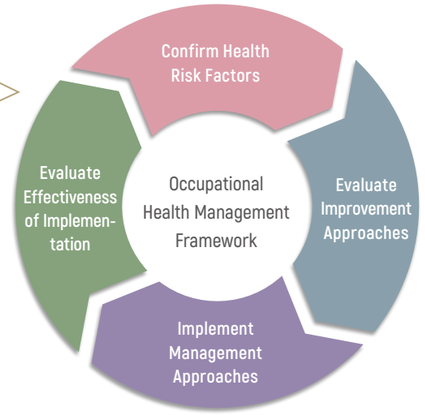
4.3.2 Healthy Workplace Environment

We know very well that only employees who are healthy, physically and mentally, are the important cornerstone for creation of the Group's productivity. The Group has established a healthy workplace strategy to protect employees with a positive attitude, maintain the physical and mental health of communities and business partners, comply with occupational safety and health laws and standards promulgated by domestic and foreign governments, adopt stringent safety and health control measures, and employ effective technologies and management systems for continuous progress.

In order to provide a healthy workplace, the Group's three companies provide healthy working environments for their employees through a systematic occupational health management framework and complete management and implementation practices, from identifying health risk factors, assessing ways for improvement, implementing management approaches, and assessing the effectiveness of implementation.

Regulations for CCPG's Health-Related Operations

- Regulations Governing Occupational Safety and Health Committee Operations and Implementation
- Employee Health Management Approach
- Regulations Governing Contractor Environment, Health and Safety (EHS) Management Operation
- Procedures Governing Hazardous Chemical Assessment & Control Banding Operations
- Regulations Governing Uses and Operations of Personal Protective Equipment
- Procedures Governing Hearing Conservation Program Implementation and Operations
- Procedures Governing Prevention of Musculoskeletal Disorders Induced by Repetitive Operations
- Procedures Governing Prevention of Ailments Induced by Exceptional Workload
- Procedures Governing Prevention of Wrongful Physical or Mental Harm Caused by the Actions of Others during the Execution of Job Duties
- Procedures Governing Maternal Health Protection for Female Workers



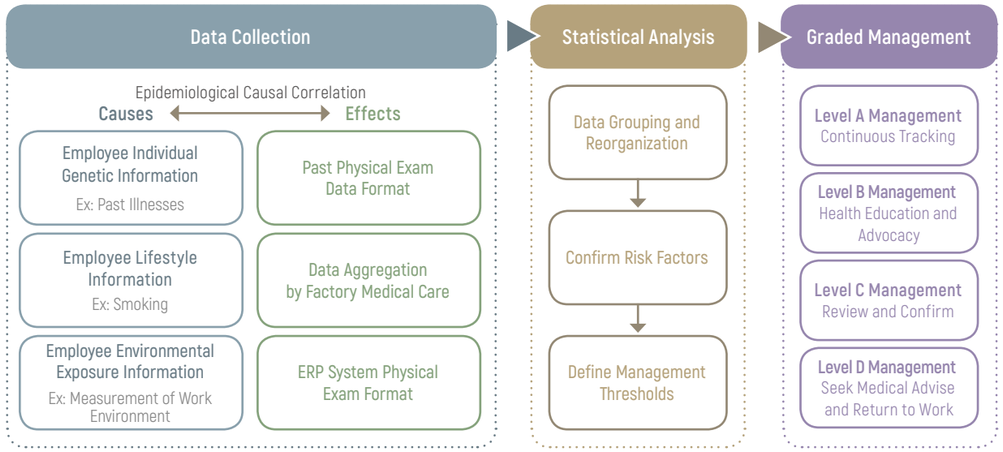
Employee Health Management

CCPG is concerned about employees' health, and develops "Regulations Governing Employee Occupational Health Management", which specify a variety of maintenance approaches to maintain employee health management. Among the approaches, some emerging occupational health diseases, such as musculoskeletal disorders, abnormal workload diseases, physical abuses during performance of duties, maternal protection for female employees, etc. are also included and managed in the Regulations. The Regulations also require employees to carry out general physical examinations "annually", which are superior to the statutory frequency. In addition to the examination items regulated by legislative requirements, Taiwan's top 10 causes of death announced by Ministry of Health and Welfare are also included in the examination items (such as: cancer screening, liver ultrasound). The examination results are aggregated for ranking management to assist employees carry on follow-up examinations or treatments as soon as possible.

Occupational Health Management Measures

We believe that most diseases are not developed merely due to one single factor, therefore, during annual physical examinations, we also provide questionnaires to inquire employees' past medical history, lifestyle habits (such as smoking, drinking alcohol, chewing betel nuts) and self-aware symptoms. Through data analysis and observation of trend changes, the factory medical (care) personnels would conduct health education reminder and health care practices in order to eliminate the risk factors that may possibly cause illness and thereby prevent diseases from developing.

Employee Physical Examination Data Analysis and Management Framework



Special Hazards Operations Management

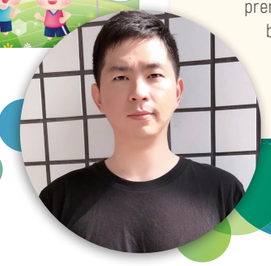
Each year, CCPG conducts regular special hazard physical examinations, in accordance with law, according to how its employees are exposed to different hazard workplaces, and records employees' actual daily working status, tested concentration and number of operations in chemical operations environment, and provide the afore-mentioned records to the physical exam doctors to use as the basis to determine whether there was occupational exposure and confirm whether the employees developed diseases due to occupational exposure. For the employees with abnormal test results, CCPG would refer to physicians' suggestions to carry out administrative measures, such as improving the nature of risk sources or transferring affected employees away from current workplace, etc. Based on statistics in 2016, there were a total of 11 special hazards physical examination items carried out on 794 people, with a coverage rate of 100%, and the examination results showed no special abnormalities.

Number of People Underwent Special Physical Examinations Performed by CCPG in 2016

The operations to be included in special physical examination item	CCP	CCPC	DCC	CCPG (Total)
Dimethyl formamide operations	29	-	-	29
Formaldehyde operations	123	-	-	123
Dust operations	14	51	-	65
Ionizing radiation operations	11	40	4	55
Noise work	143	189	79	411
Tetrachloroethane operations	4	-	-	4
N-hexane operations	1	-	-	1
Chromic acid operations	-	21	-	21
Benzene operations	43	-	-	43
Nickel operations	-	16	25	41
Chromium operations	-	-	1	1
Total	368	317	109	794

Employee Health Promotion Measures

In addition to one-on-one health education reminder and health care practices, health promotion activities targeted for all employees are also held corresponding to diseases or health issues which are identified to be abnormal in high proportions of employee's physical examination results. For example, in 2016, it was discovered that, in CCPG Mailiao Factory's physical exam results, that a high proportion of employees had abnormal testing values in abdominal ultrasound, body mass index (BMI) and triglyceride; thus health promotion programs and weight management activity of "Enjoy Eating and Exercising and Stay Lean" for all employees were promoted, so employee's physical health and fitness was advocated through various ways, including fun activities, health knowledge and competitions.



CCPC Mailiao Factory's Health Promotion Competition —Experience Sharing from 1st Prize in Individual Weight Loss Category

I started at 95kg, and after this health promotion activity, my weight was reduced to 79kg (-16kg). After the competition, I continued to exercise, and the key point is not only for myself but also for becoming more energetic.

I really needed to draw up a plan and implement it. Of course, the effect would be more evident if I was doing regular day shifts; however, it would be possible to implement my plan if I had to take night shifts, as long as the adjustment of work and rest is taken into account, even though it would need more perseverance.

Concerning weight loss, you should also take into account factors such as family and environment. It is better if you can exercise somewhere near your home, but the premise is that you need a venue and strong determination. Otherwise, you should be doing what I did by being more determined and forcing myself to make exercise into a habit. Losing weight is absolutely a good thing, if not through ways, such as taking random medicine or having surgery, which affects your health. Let's encourage one another.

Motherhood in Workplace

CCPG continues its commitment to establishing a high-quality motherhood friendly environment for female employees. We follow the laws and regulations, such as the Act of Gender Equality in Employment, the Labor Health Protection Rules, and Standards for Establishment and Administration of Public Breastfeeding (Collecting) Rooms, and plan to set up 10 breastfeeding rooms in all of the Group's factories; and they are expected to be completed by 2017. They will be available in all factories, and they will be managed by designated staff in accordance with the usage, cleaning and maintenance regulations, so that female employees, contractors or visitors, during their pregnancy and breastfeeding periods, will have a comfortable and private breastfeeding environment.

In addition to the establishment of breastfeeding rooms, during employee's pregnancy period, the department supervisor and factory medical care personnel of pregnant female employees should, in accordance with the "Operating Procedures for Female Employee's Maternity Health and Protection Implementation", take hazard assessment, control and rating management measures for the tasks which may be hazardous for maternity health. Especially for tasks which may have adverse impacts on embryo development and pregnancy or on mothers' and babies' health during breastfeeding period; suitability assessment recommendations from on-site service occupational physicians shall be followed and health protection measures, such as work adjustment or change of work location, etc. shall be taken.

GRI G4 Indicator Reference Table

General Standard Disclosures

Indicator	Indicator Description	Corresponding Chapter	Page No.	Materiality Issues
Strategy and Analysis				
G4-1	Provide a statement from the most senior decision-maker of the organization	CCPG Executive Board Chairman's Message Chairman's Message	4 5	Sustainable Development Strategy
G4-2	Provide a description of key impacts, risks, and opportunities.	CCPG Executive Board Chairman's Message Chairman's Message 1.3 Sustainable Management Strategy	4 5 24	Risks and Opportunities
Organizational Profile				
G4-3	Name of Organization	1.1 Chang Chun Group (CCPG) Introduction	14	
G4-4	Primary brands, products, and services.	1.1.1 Company Profile 1.1.3 Product Introduction and Location of Operation	14 15	
G4-5	Location of the organization's headquarters	1.1.1 Company Profile	14	
G4-6	The number of countries and and names of countries where the organization operates			
G4-7	The nature of ownership and legal form			
G4-8	The markets served by the organization	1.1.1 Company Profile 1.1.3 Product Introduction and Location of Operation	14 15	
G4-9	The scale of the organization,	4.2.1 Employment Status	80	
G4-10	The total number of employees			
G4-11	The percentage of total employees covered by collective bargaining agreements	4.2.3 Labor-Management Relations and Communications	86	
G4-12	Describe the organization's supply chain	2.3 Supplier Management	52	
G4-13	Report any significant changes during the reporting period regarding the organization's size, structure, ownership, or its supply chain	No material changes in 2016	-	
G4-14	Whether the precautionary approach or principle is addressed by the organization	1.3.2 External Participation 2.2 Responsible Chemistry	28 43	Sustainable Development Strategy
G4-15	Externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses	1.3.2 External Participation	28	
G4-16	Memberships of associations (such as industry associations) and national or international advocacy organizations in which the organization participates			
Identified Material Aspects and Boundaries				
G4-17	a. List all entities included in the organization's consolidated financial statements or equivalent documents b. Whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report.	About This Report 1.1.3 Product Introduction and Location of Operation	1 15	
G4-18	a. The process for defining the report content and the Aspect Boundaries b. How the organization has implemented "the Reporting Principles for Defining Report Content"	Identification of Material Issues	7	
G4-19	The material Aspects identified in the process for defining report content.			
G4-20	For each material Aspect, explain the Aspect Boundary within the organization	Identification of Material Issues	7	
G4-21	For each material Aspect, explain the Aspect Boundary outside the organization			
G4-22	The effect of any restatements of information provided in previous reports, and the reasons for such restatements			
G4-23	Significant changes from previous reporting periods in the Scope and Aspect Boundaries	About This Report	1	
Stakeholder Engagement				
G4-24	List stakeholder groups engaged by the organization	4.1.1 Stakeholder Engagement	74	
G4-25	Explain the basis for identification and selection of stakeholders with whom to engage.			
G4-26	The organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process			
G4-27	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns	Identification of Material Issues 4.1.1 Stakeholder Engagement	7 74	
Report Profile				
G4-28	Reporting period for information provided	About This Report	1	
G4-29	Date of most recent previous report			
G4-30	Reporting cycle			
G4-31	Provide the contact point for questions regarding the report or its contents			
G4-32	a. Explain the 'in accordance' option the organization has chosen b. Explain the GRI Content Index for the chosen option c. Please cite the reference to the External Assurance Report, if the report has been externally assured			
G4-33	Explain whether the highest governance body or senior executives are involved in seeking external assurance for the organization's sustainability report	None		
Governance				
G4-34	The governance structure of the organization, including committees of the highest governance body	1.2.2 Corporate Governance Framework 1.3.1 CSR Governance and Management Organization	23 24	Corporate Governance
G4-35	The process for delegating authority for economic, environmental and social topics from the highest governance body to senior executives and other employees	1.3.1 CSR Governance and Management Organization	24	
G4-36	Whether the organization has appointed an executive-level position or positions with responsibility for economic, environmental and social topics, and whether post holders report directly to the highest governance body			
G4-39	Whether the Chair of the highest governance body is also an executive officer			

Indicator	Indicator Description	Corresponding Chapter	Page No.	Materiality Issues
G4-45	a. Explain the highest governance body's role in the identification and management of economic, environmental and social impacts, risks, and opportunities b. Explain whether stakeholder consultation is used to support the highest governance body's identification and management of economic, environmental and social impacts, risks, and opportunities	1.3.1 CSR Governance and Management Organization	24	Corporate Governance
G4-47	The frequency of the highest governance body's review of economic, environmental and social impacts, risks, and opportunities			
G4-48	Explain the highest committee or position that formally reviews and approves the organization's sustainability report and ensures that all material Aspects are covered	About This Report	1	
Ethics and Integrity				
G4-56	Describe the organization's values, principles, standards and norms of behavior, such as codes of conduct and codes of ethics	1.4.1 Ethical Management	29	Corporate Governance, Business Ethics and Integrity
G4-57	The internal and external mechanisms for seeking advice on ethical and lawful behavior, and matters related to organizational integrity, such as helplines or advice lines	4.1.1 Stakeholder Engagement	74	
G4-58	The internal and external mechanisms for reporting concerns about unethical or unlawful behavior, and matters related to organizational integrity, such as escalation through line management, whistleblowing mechanisms or hotlines	1.4.1 Ethical Management	29	

Specific Standard Disclosures

Indicator	Indicator Description	Corresponding Chapter	Page No.	Materiality Issues
Economic				
Economic Performance				
DMA	Management approach	1.2.1 Financial Performance	21	Corporate Governance, Sustainable Development Strategy, Shareholders' Equity, Business Performance
G4-EC1	Direct economic value generated and distributed by the organization	1.2.1 Financial Performance 4.2.1 Employment Status	21 80	
G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	2.1.1 Green Process and Products	34	
G4-EC3	Coverage of the organization's defined benefit plan obligations	4.2.2 Employee Benefits	84	
Market Presence				
DMA	Management approach	4.2.1 Employment Status	80	Corporate Image
G4-EC6	Proportion of senior executives hired from the local community at significant locations of operation			
Indirect Economic Impacts				
DMA	Management approach	4.1.2 Community Engagement	76	Community Engagement and Social Investment
G4-EC7	Development and impact of infrastructure investments and services supported			
G4-EC8	Significant indirect economic impacts, including the extent of impacts			

Indicator	Indicator Description	Corresponding Chapter	Page No.	Materiality Issues
Procurement Practices				
DMA	Management approach	2.3 Supplier Management	52	Supplier Management
G4-EC9	Proportion of spending on local suppliers at significant locations of operation			
Environmental				
Materials				
DMA	Management approach	2.1 Product Kinetic Energy 3.4.3 Packaging Material Reduction and Environmental Protection	34 71	Chemical Management
G4-EN1	Materials used by weight or volume	2.1.1 Green Process and Products 3.4.3 Packaging Material Reduction and Environmental Protection	34 71	
G4-EN2	Percentage of materials used that are recycled input materials			
Energy				
DMA	Management approach	3.2.1 Energy Management and Conservation	61	Energy Management
G4-EN3	Energy consumption within the organization			
G4-EN4	Energy consumption outside of the organization			
G4-EN5	Energy intensity			
G4-EN6	Reduction of energy consumption			
G4-EN7	Reductions in energy requirements of products and services			
Water				
DMA	Management approach	3.3.1 Water Management	66	Water Resources Management
G4-EN8	Total water withdrawal by source			
G4-EN9	Water sources significantly affected by withdrawal of water			
G4-EN10	Percentage and total volume of water recycled and reused			
Emissions				
DMA	Management approach	3.2.2 Greenhouse Gas Emissions 3.4.1 Emission of Air Pollutants	63 69	Climate Change Mitigation and Adaptation of Air Emissions Management
G4-EN15	Direct GHG emissions (Scope 1)	3.2.2 Greenhouse Gas Emissions	63	
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)			
G4-EN18	Greenhouse gas (GHG) emissions intensity			
G4-EN19	Reduction of greenhouse gas (GHG) emissions			
G4-EN20	Emissions of ozone-depleting substances (ODS)	3.4.1 Emission of Air Pollutants	69	
G4-EN21	Nitrogen oxides, sulfur oxides, and other significant air emissions			
Effluents and Waste				
DMA	Management approach	3.3.2 Wastewater Treatment 3.4.1 Emission of Air Pollutants 3.4.2 Waste Disposal	68 69 70	Waste Management Water Resources Management
G4-EN22	Total water discharge by quality and destination	3.3.2 Wastewater Treatment	68	Waste Management
G4-EN23	Total weight of waste by type and disposal method	3.4.2 Waste Disposal	70	
G4-EN24	Total number and volume of significant spills	3.3.2 Wastewater Treatment 3.4.1 Emission of Air Pollutants 3.4.2 Waste Disposal	68 69 70	

Indicator	Indicator Description	Corresponding Chapter	Page No.	Materiality Issues
Products and Services				
DMA	Management approach	2.1.1 Green Process and Products 2.1.2 Chemical Management 3.4.3 Packaging Material Reduction and Environmental Protection	34 39 71	Product Transportation Safety Environmental Impact Management and Assessment Chemical Management Product Strategy and Research & Development Innovation
G4-EN27	Extent of impact mitigation of environmental impacts of products and services			
G4-EN28	Explain percentage of products sold and their packaging materials that are reclaimed by category	3.4.3 Packaging Material Reduction and Environmental Protection	71	
Compliance				
DMA	Description of management regulations governing environmental compliance	1.4.2 Compliance 4.1.1 Stakeholder Engagement	29 74	Compliance
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations			
Transport				
DMA	Description of transport management regulations	2.3.1 Product Transport	53	Product Transport Safety
G4-EN30	Significant environmental impacts of transporting products and other goods and materials for the organization's operations, and transporting members of the workforce			
Overall				
DMA	Description of overall management regulations	3.1.1 Environmental Management 3.1.2 Environmental Protection Related Expenditures	58 59	Environmental Impact Management and Assessment
G4-EN31	Total environmental protection expenditures and investments by type			
Supplier Environmental Assessment				
DMA	Management approach	2.3 Supplier Management	52	Supplier Management
G4-EN32	Percentage of new suppliers that were screened using environmental criteria			
G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken			
Environmental Grievance Mechanisms				
DMA	Description of management regulations governing environmental grievance mechanisms	4.1.1 Stakeholder Engagement	74	Community Engagement and Social Investment
G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms			
Social - Labor Practices and Decent Work				
Labor/Management Relations				
DMA	Management approach	4.2.1 Employment Status 4.2.2 Employee Benefits	80 84	Talent Enticements and Benefit System
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	4.2.1 Employment Status	80	
G4-LA2	The benefits provided only to full-time employees (excluding temporary or part-time employees), by significant locations of operation	4.2.2 Employee Benefits	84	
G4-LA3	Return to work and retention rates after parental leave, by gender			

Indicator	Indicator Description	Corresponding Chapter	Page No.	Materiality Issues
Labor/Management Relations Management				
DMA	Management approach	4.2.3 Labor-Management Relations and Communication	86	Labor/ Management Relations
G4-LA4	Whether minimum notice periods regarding significant operational changes are specified in collective bargaining			
Occupational Health and Safety				
DMA	Management approach	2.2.1 Workplace Safety 2.2.2 Process Safety 4.3.2 Healthy Workplace Environment	43 46 89	Occupational Health and Safety
G4-LA5	Percentage of total workforce represented in formal joint management–worker health and safety committees that help monitor and advise on occupational health and safety programs	2.2.1 Workplace Safety	43	
G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absentee rate, and total number of work-related fatalities, by region and by gender			
G4-LA7	Workers with high incidence or high risk of diseases related to their occupation	4.3.2 Healthy Workplace Environment	89	
G4-LA8	Health and safety related topics covered in formal agreements with labor unions	4.2.3 Labor-Management Relations and Communication	86	
Training and Education				
DMA	Management approach	4.3.1 Training and Education	88	Training and Education, and Talent Development
G4-LA9	Average hours of training per year per employee by gender, and by employee category			
G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings			
Diversity and Equal Opportunity				
DMA	Management approach	4.2.1 Employment Status	80	
G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity			
Supplier Assessment for Labor Practices				
DMA	Management approach	2.3 Supplier Management	52	Supplier Management
G4-LA14	Percentage of new suppliers that were screened using labor practices criteria			
G4-LA15	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken			
Labor Practices Grievance Mechanisms				
DMA	Management approach	4.2.3 Labor-Management Relations and Communication	86	Labor Policy and Rights Protection
G4-LA16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms	4.1.1 Stakeholder Engagement	74	
Social - Human Rights				
Non-Discrimination				
DMA	Management approach	4.2.1 Employment Status	80	Labor Policy and Rights Protection
G4-HR3	Total number of incidents of discrimination and corrective actions taken			

Indicator	Indicator Description	Corresponding Chapter	Page No.	Materiality Issues
Freedom of Association and Collective Bargaining				
DMA	Management approach	4.2.3 Labor-Management Relations and Communication	86	Labor/ Management Relations
G4-HR4	Locations of operation and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights			
Forced or Compulsory Labor				
DMA	Management approach	4.2.3 Labor-Management Relations and Communication	86	Labor Policy and Rights Protection
G4-HR6	Locations of operation and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor			
Supplier Human Rights Assessment				
DMA	Management approach	2.3 Supplier Management	52	Supplier Management
G4-HR10	Percentage of new suppliers that were screened using human rights criteria			
G4-HR11	Significant actual and potential negative human rights impacts in the supply chain and actions taken			
Human Rights Grievance Mechanisms				
DMA	Management approach	4.2.1 Employment Status	80	Labor Policy and Rights Protection
G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms			
Social - Society				
Local Communities				
DMA	Management approach	4.1.2 Community Engagement	76	Environmental Impact Management and Assessment Community Engagement and Social Investment
G4-SO1	Percentage of locations of operation with implemented local community engagement, impact assessments, and development programs			
G4-SO2	Locations of operation with significant actual or potential negative impacts on local communities			
Anti-corruption				
DMA	Management approach	1.4.1 Ethical Management	29	Corporate Image
G4-SO3	Total number and percentage of locations of operation assessed for risks related to corruption and the significant risks identified			
G4-SO4	Communication and training on anti-corruption policies and procedures			
G4-SO5	Confirmed incidents of corruption and actions taken			
Anti-competitive Behavior				
DMA	Management approach	1.4.1 Ethical Management	29	Corporate Image
G4-SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes			
Compliance				
DMA	Management approach	1.4.2 Compliance	29	Compliance
G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	1.4.2 Compliance 4.1.1 Stakeholder Engagement	29 74	

Indicator	Indicator Description	Corresponding Chapter	Page No.	Materiality Issues
Supplier Assessment for Impacts on Society				
DMA	Management approach	2.3 Supplier Management	52	Supplier Management
G4-SO9	Percentage of new suppliers that were screened using criteria for impacts on society			
G4-SO10	Significant actual and potential negative impacts on society in the supply chain and actions taken			
Grievance Mechanisms for Impacts on Society				
DMA	Management approach	4.1.1 Stakeholder Engagement	74	Community Engagement and Social Investment
G4-SO11	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms			
Social - Product Responsibility				
Customer Health and Safety				
DMA	Management approach	2.1.1 Green Process and Products 2.1.2 Chemical Management	34 39	Product Health and Safety Chemical Management
G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	1.4.2 Compliance	29	
Product and Service Labeling				
DMA	Management approach	2.1.2 Chemical Management 2.1.3 Customer Communication	39 41	Product Quality and Productivity Product Strategy and Research & Development Innovation
G4-PR3	Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements	2.1.2 Chemical Management	39	
G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	1.4.2 Compliance 2.1.2 Chemical Management	29 39	
G4-PR5	Results of surveys measuring customer satisfaction	2.1.3 Customer Communication	41	
Marketing Communications				
DMA	Management approach	1.4.2 Compliance 2.1.2 Chemical Management 2.1.3 Customer Communication	29 39 41	Customer Communications and Grievance Management
G4-PR6	Sale of banned or disputed products	1.4.2 Compliance 2.1.2 Chemical Management	29 39	
G4-PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications (including advertising, promotion, and sponsorship) by type of outcomes			
Customer Privacy				
DMA	Management approach	2.1.3 Customer Communication	41	Customer Communications and Grievance Management
G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data			
Compliance				
DMA	Management approach	1.4.2 Compliance 2.1.2 Chemical Management	29 39	Compliance
G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	1.4.2 Compliance 2.1.2 Chemical Management 4.1.1 Stakeholder Engagement	29 39 74	