2020

CORPORATE SOCIAL RESPONSIBILITY REPORT

CSC

50 ANNIVERSARY

CSC

2020 Corporate Social Responsibility Report

0.1 About This Report

Starting with the 2002 Environmental Report, China Steel Corporation (CSC) has widened the scope of non-financial reporting to all aspects of corporate social responsibility (CSR) and sustainability. This year, the report is renamed the CSR Report due to the current regulations. Since 2010, CSC has been publishing annual Sustainability Reports in accordance with the Global Reporting Initiative (GRI) guidance, as an important channel to disclose non-financial related information and improve sustainability performance. In 2012, the CSC CSR website was launched for more accessible, transparent, timely, complete, and interactive reporting. CSR Reports and the CSR website are important communication channels as well as CSC's integral approaches to continual improvement of sustainable operations.

Standards

The 2020 CSC Corporate Social Responsibility Report has been prepared in accordance with the GRI Standards: Core options and "Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports" by TWSE Listed Companies. It also refers to the OECD Guidelines for Multinational Enterprises, the Earth Charter, the UN Global Compact (UNGC), the UN Sustainable Development Goals (SDGs), ISO 26000 Guidance on Social Responsibility, Sustainability Accounting Standards Board (SASB), and non-financial disclosure of the steel industry.

Scope

This report covers CSC's operational systems and practices in the 2020 calendar year with a special focus on CSC's management approach and performances on material topics.

CSC CSR Website

Report on Management Methods and Quality

Data and information presented in this report were supplied by CSC departments with the approval of respective Directors. The initial draft, compiled by the Environmental Protection Dept., was reviewed by the CSR Core Working Group. It was confirmed through a rigorous administrative procedure before being finalized and was approved by the Chairman for publication. This report was assured by BSI, in adherence to AA1000 v3 Assurance Standard as conducted in accordance with Type 1 moderate level of assurance while part of the data complies with Type 2 high level of assurance as well as the GRI Standards: Core options. Financial information was extracted from financial reports audited by CPA, and the chapters on "Green Process" and "Occupational Health and Safety" were based on related international management systems (ISO 50001 Energy Management System, ISO 14001 Environmental Management System, and CNS 45001/ISO 45001 Occupational Health and Safety Management System, etc.) and externally reviewed.

CSR Core

Working Group members include the Human Resources Dept., Public Affairs Dept., Marketing Administration Dept., Finance Dept., Secretariat Dept., Industrial Safety and Hygiene Dept., Environmental Protection Dept., Utilities Dept., Iron & Steel R&D Dept., Labor Union of CSC, and CSC Group Education Foundation.

For any comments or questions regarding this report, please contact us at

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0.2 About CSC

0.2.1 Chronicle

CSC was founded on December 3, 1971. Over the past half century, CSC has overcome many tough challenges. After going through four phases of expansion along with Dragon Steel Corporation's stage II construction, CSC built a magnificent steel plant from scratch, providing the foundation for Taiwan's industrial development and acting as an important promoter of Taiwan's economic miracle.

Locations

1975 Head Office

Linhai Industrial Park, Hsiaokang District, Kaohsiung City
Production Plant

1981 Quarry Processing Yard

Port of Hualien, Taiwan
Transport of flux to CSC

1983 Osaka Office

Osaka, Japan

1995 Taipei Liaison Office

Taipei
1995 (Taipei Branch)
2005 (Changed to Taipei Liaison Office)

2013 China Steel Building

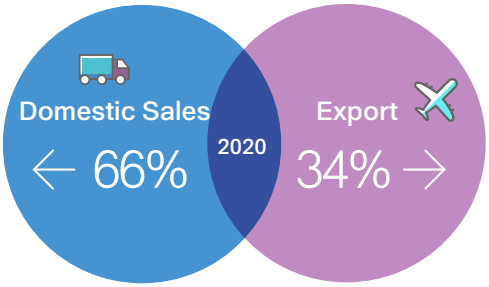
Kaohsiung, Taiwan
Administration, commerce, finance

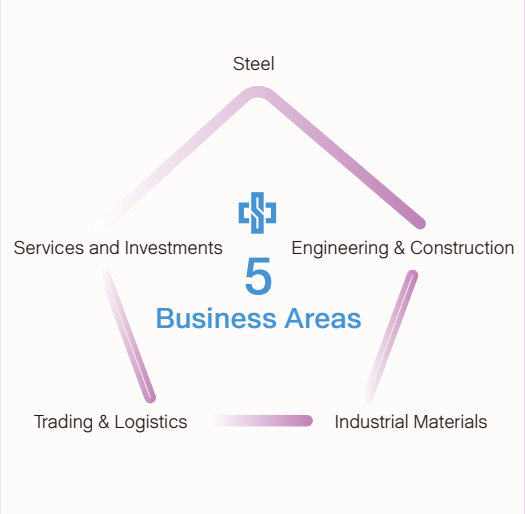
0.2.2 Business and Scale

CSC is a world-class steel corporation with an annual production capacity (in terms of crude steel) around 10 million tonnes. According to the report published by World Steel Association (worldsteel), the crude steel production of CSC was ranked 23nd among all Worldsteel members in 2019. Moreover, CSC's competitiveness was ranked 22nd, based on its pricing and cost-saving abilities, among 35 steel corporations by World Steel Dynamics (WSD) in October 2020.

The major products of CSC are steel plates, steel bars, wire rods, hot-rolled and cold-rolled coils, electrogalvanized coils, electrical steel coils, and hot-dip galvanized steel coils, and so on. In 2020, 66% of products were sold domestically and 34% were sold overseas. The main products accounted for more than 50% of the domestic market and CSC is currently the largest steel company in Taiwan. The main export targets are China (including Hong Kong), Japan, and Southeast Asia.

In order to enhance its operational synergy, CSC has diversified its businesses into five business areas: Steel, Engineering & construction, Industrial materials, Trading & Logistics, and Services and investments.





Chronology of Major Event

Mt: Million tonnes

1970

Dec	3,	1971	China Steel Corporation is officially registered, with head office located in Taipei.
Sep	16,	1972	Kaohsiung Plant Site Office is established.
Sep	1,	1974	Phase I construction commences.
Dec	26,	1974	CSC stock is listed on Taiwan Stock Exchange Corporation.
Sep	15,	1975	Head office relocates to Kaohsiung. Plant Site Office closes.
Jul	1,	1977	CSC becomes a state enterprise.
Dec	16,	1977	Phase I is completed, with capacity of 1.5 Mt (in terms of crude steel) per year.
Jul	1,	1978	Phase II construction commences.

1980

Jun	30,	1982	Phase II is completed. Capacity reaches 3.25 Mt per year.
Jul	1,	1984	Phase III construction commences.
Apr	30,	1988	Phase III is completed. Capacity reaches 5.652 Mt per year.

1990

Jul	15,	1993	Phase IV construction commences.
Apr	12,	1995	CSC is privatized.
May	31,	1997	Phase IV is completed. Capacity reaches 8.054 Mt per year.
Jun	2,	1998	CSC Group's corporate identity system is formally introduced to the public.

2000

Apr	15,	2006	Annual production capacity is officially raised to 9.86 Mt owing to success in equipment renovations and improvements carried out over the years.
Nov	22,	2006	Groundbreaking for the China Steel Building takes place.
Oct	6,	2008	Dragon Steel Corporation (DSC) becomes a wholly owned subsidiary of CSC.

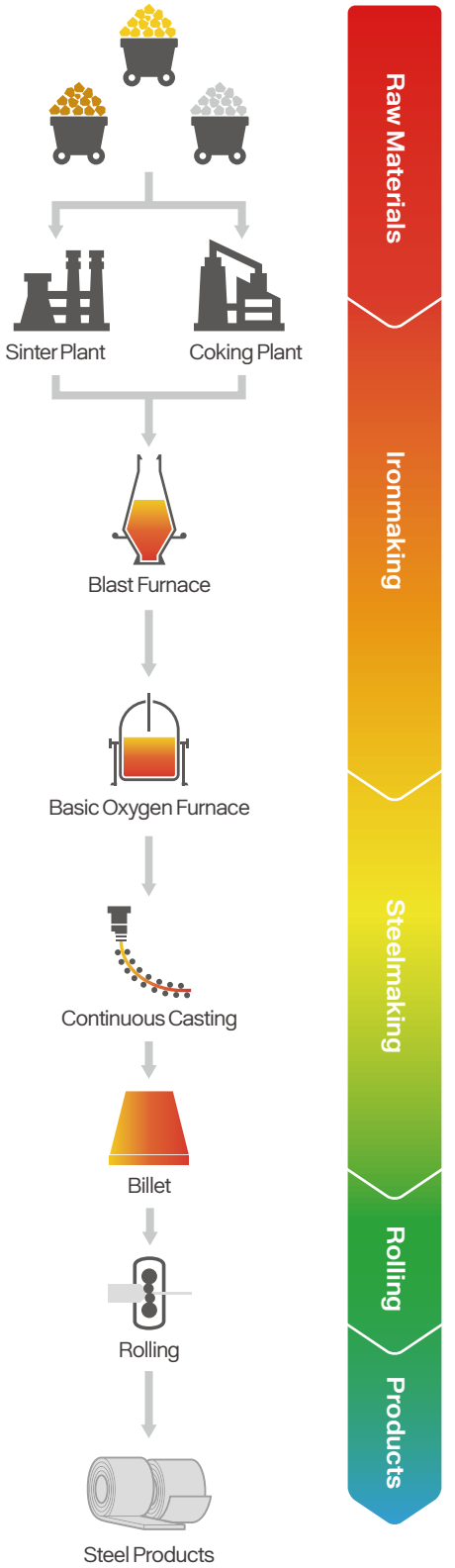
2010

Jun	30,	2010	DSC's stage II phase 1 expansion project is completed. CSC Group's capacity reaches 13.36 million tonnes per year.
Mar	5,	2013	DSC's stage II phase 2 expansion project is completed. CSC Group's capacity reaches 15.86 Mt per year.
Oct	22,	2013	China Steel Building is inaugurated.
Dec	20,	2017	The Board of Directors approves the initiation of the revamp of the coke ovens (phases I and II).
Dec	31,	2018	CSC Group's operating revenues in 2018 sets the record of exceeding 400 billion TWD for the first time.

2020

Jan	16,	2020	CSC positions itself as a steel mill that produces premium products with high value and devotes itself to the development of the green energy industry as the operational and developmental cores in enhancing its competitiveness for the next 50 years.
Feb	21,	2020	CSC sets a new milestone in its pricing system by offering monthly and quarterly pricing simultaneously for the first time.
Jul	1,	2020	To promote the utilization of BOF Slag, CSC and TIPC jointly submit the Environmental Impact Difference Analysis Report for utilizing BOF Slag as an alternative land reclamation material in Taipei Port, approved by the Environmental Impact Assessment and Review Committee of Taiwan EPA
Nov	11,	2020	The first truck of BOF aggregate is successfully utilized as land reclamation material in Taipei Port, which marks a new milestone in BOF aggregate application.

Production Work Flow



Sintering

Iron ore, flux, and coke breeze are mixed, granulated, and then charged into the sintering machine, where coke breeze is ignited. The hot sinter clumps go through crushing, cooling, and screening processed. They are then sent to Blast Furnace as the main material for ironmaking.

Coking

Coking coals are mixed, crushed, and then charged into the coke oven, Carbonization in oven produces hot coke and crude coke oven gas.

Blast Furnace

Iron ores, cokes, and fluxes are charged into BF from the top to react with the hot air flow introduced from tuyeres. Molten hot metal and slag are produced.

Basic Oxygen Furnace

Hot metal is sent to a pretreatment station for de-S / de-P and then sent to BOF for oxygen blowing. According to the characteristics of steel and quality demand of each order, it is sent for secondary refining for composition adjustment and then sent for continuous casting.

Continuous Casting

A ladle filled with liquid steel is transferred to turret from upstream plant by crane, charged into a tundish, and distributed into molds. It then cools down, solidifies, and comes to complete solidification through secondary cooling. It is then straightened and, according to each order, cut into blooms (with a square cross section) or slabs (with a rectangular cross section). The semi-finished products are conditioned if necessary and then sent for rolling.

Rolling

Semi-finished products are inspected and grinded / scarfed to remove surface defects. They are then rolled into bars, wire rods, plates, coils, and sheets.

0.3 Sustainability Performance

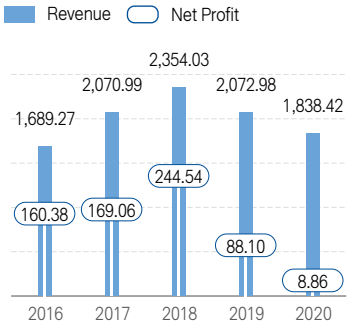
0.3.1 Sustainability Performance Overview

Note : For better quality of our report, there were several data revised, denoted with *, due to the calculation or coverage scale revised.

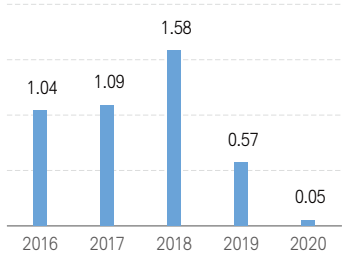
t: tonne; tCS: tonne Crude Steel

Economic Aspect | Environmental Aspect | Social Aspect

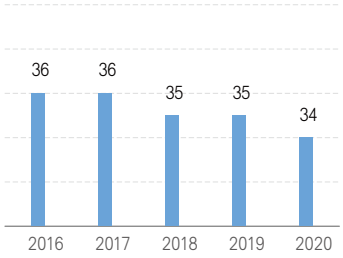
Revenue & Net Profit
Unit : 100 Million TWD



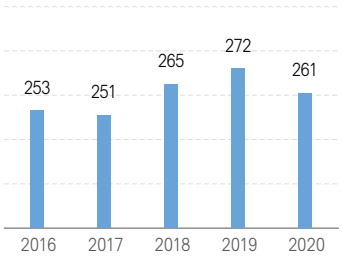
EPS
Unit : TWD



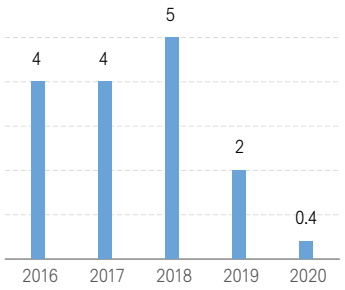
Liabilities to Assets Ratio
Unit : %



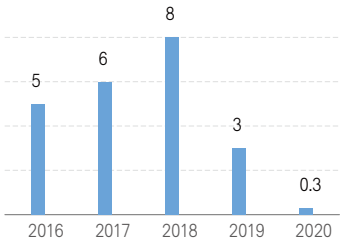
Long-term Capital to Fixed Assets Ratio
Unit : %



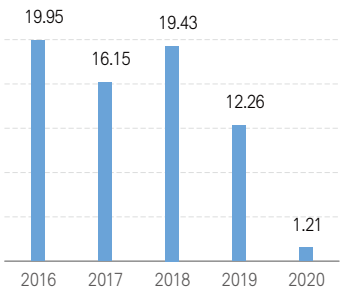
Return of Assets
Unit : %



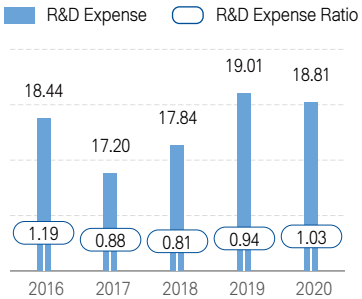
Return on Equity
Unit : %



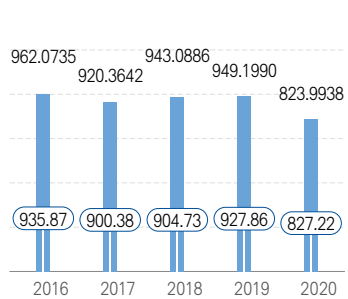
Income Tax
Unit : 100 Million TWD



R&D Expense & R&D Expense Ratio
Unit : 100 Million TWD ; %

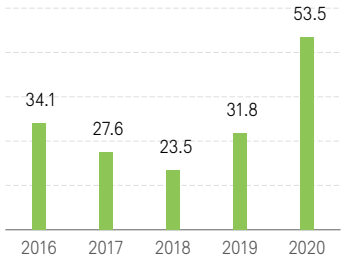


Production & Productivity*
Unit : 10,000 tCS ; tCS/person-year



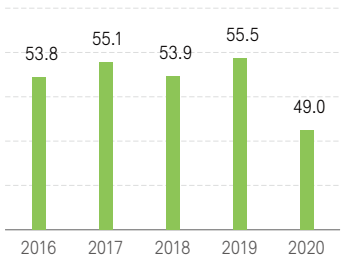
Investment on Energy and Environment

Unit : 100 Million TWD



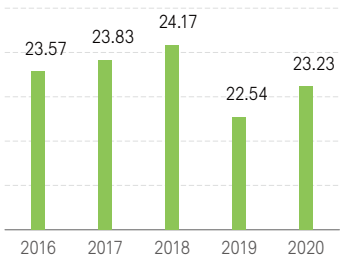
Self-generated Electricity

Unit : %



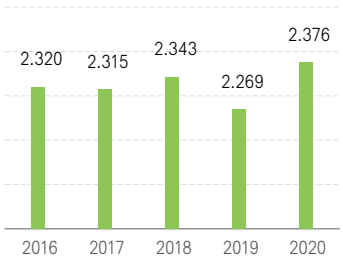
Energy Intensity

Unit : GJ/tCS



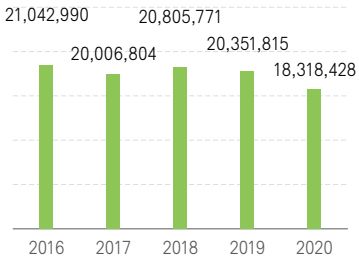
GHG Intensity*

Unit : tCO_2e / tCS



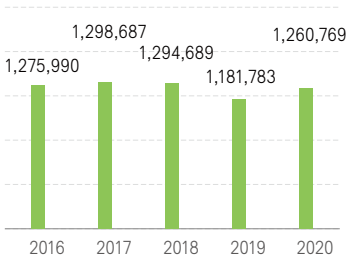
GHG Emissions-Scope 1

Unit : tCO_2e



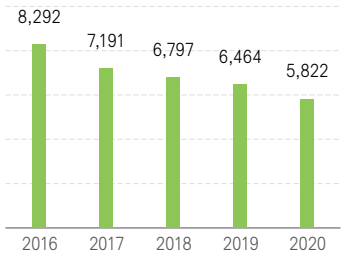
GHG Emissions-Scope 2*

Unit : tCO_2e



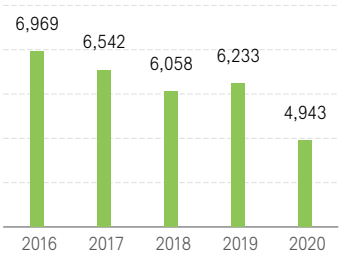
NOx Emissions

Unit : t



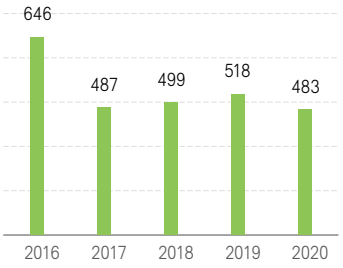
SOx Emissions

Unit : t



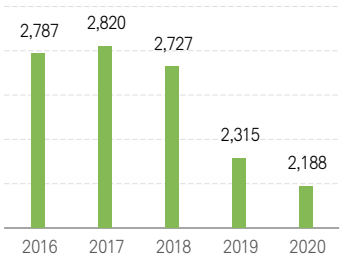
VOCs Emissions

Unit : t



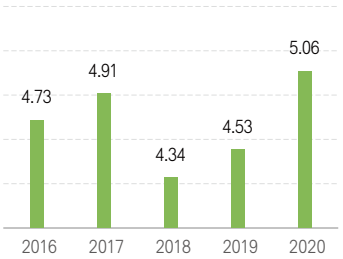
Particulate Emissions

Unit : t



Water Intensity

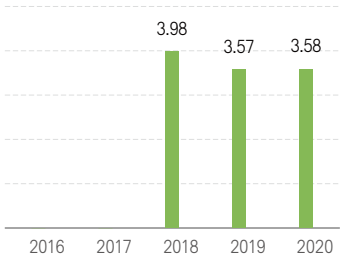
Unit : t / tCS



New Water Intensity

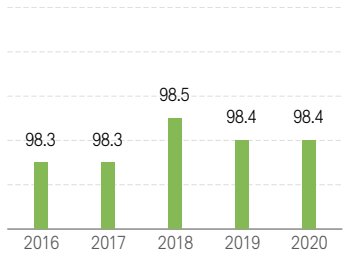
Unit : t / tCS

Note : The data of new water intensity is collected after reclaimed water introduced in 2018.



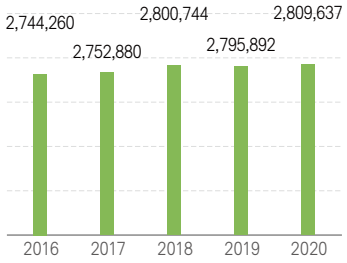
Processing Water Recycling Rate

Unit : %



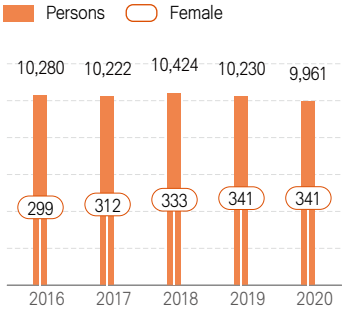
Production Process Water Recirculation

Unit : Million liters



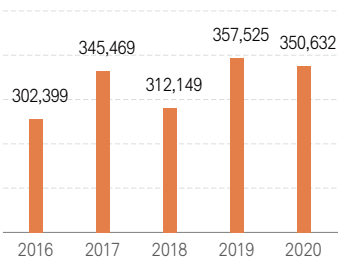
Number of Employees

Unit : Persons



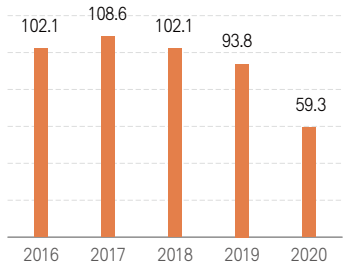
Training Hours

Unit : Hour



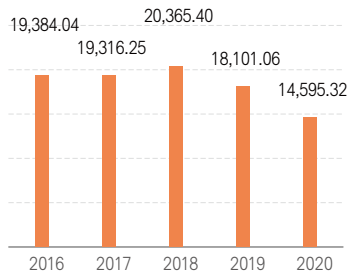
Training Expense

Unit : Million TWD



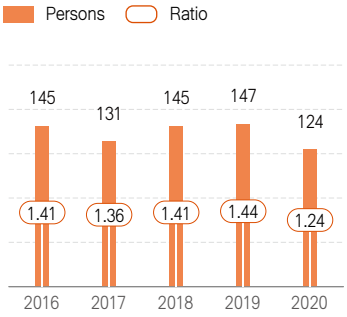
Salaries and Welfare

Unit : Million TWD



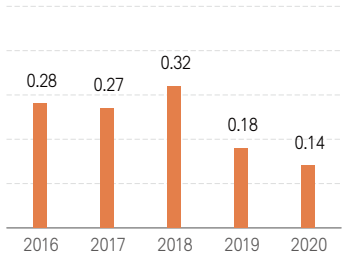
Disabled Hires

Unit : Persons/ %

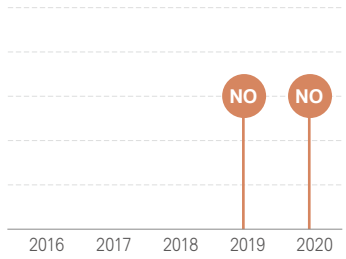


Disability Frequency

Unit : Incident (include death) / MM working hours

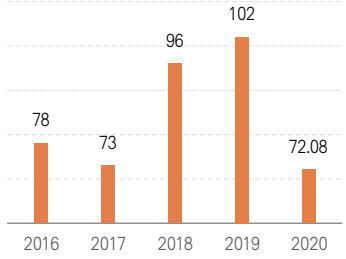


Labor Aspect: Any breach of the regulation that causes fines or administrative sanctions



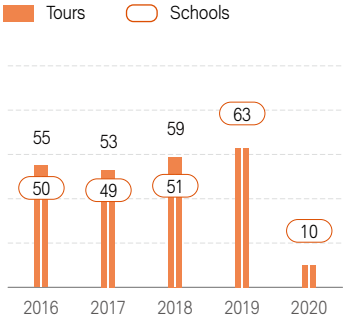
Social Expense (Including Donation)

Unit : Million TWD



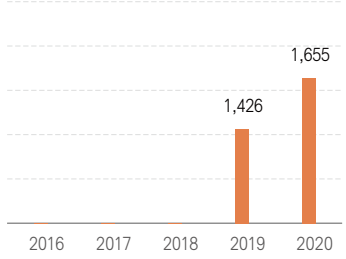
Environmental Education Bus

Unit : Tours; Schools



CSC Volunteer Hours

Unit : Hour



0.3.2 Awards and Recognitions

Sustainability Performance Overview

- CSC was listed in the 50 best Sustainably Managed Companies 2020 by Wall Street Journal, becoming one of the five Taiwanese listed companies being ranked on the list.
- Dow Jones Sustainability Indices (DJSI) Industry member in DJSI-Emerging Markets 2020.
- Management level (B) for CDP Climate Change.
- Management level (B) for CDP Water.
- Climate Change Action program member accredited by World Steel Association.
- CSC won 9 prizes: “Top 10 Corporate Sustainability Awards (Manufacturing)”, “Corporate Sustainability Report Awards - Traditional Manufacturing”, English Report Awards, “Climate Leadership Awards”, “Circular Economy Leadership Awards”, “Sustainable Water Management Awards”, “Supply Chain Management Awards”, “Growth through Innovation Awards”, “People Development Awards” of “Taiwan Corporate Sustainability Awards”.
- “Sustainable Navigator Award” from BSI.
- “2020 Corporate Citizen Award” from Common Wealth Magazine, ranked top 20 among the top 50 big businesses.

Society

- Ranked 6th in the Top 100 Most Desirable Corporations and is the only representative of traditional manufacturing in the TOP 20 by Cheers Magazine in 2020.
- Awarded “2020 Welfare Enterprise Gold Award-Sexual Equality” recognized by the Labor Affairs Bureau of Kaohsiung City Government.
- Ranked 3rd in “the most desirable company for office workers to enter” in the traditional industry by the job searching website yes123.
- CSC and Labor Union of CSC were rewarded by the Labor Affairs Bureau of Kaohsiung City Government and Minister Ming-Chun Hsu from MOL (She issued a reward of 250,000 TWD) for signing the Collective Agreement in 2019.

Economy

- Constituent of “TWSE Corporate Governance 100 Index”.
- Constituent of “FTSE4Good Emerging Index".
- Top 20% listed companies in “Corporate Governance Evaluation” by TWSE, and top 5% for the fourth time in 2020.
- “Authorized Economic Operator (AEO)” by Customs Administration, Ministry of Finance.
- “2020 Golden Vessel Awards” by Taiwan International Ports Corporation, Ltd.
- “2020 Award for International Trade” by Bureau of Foreign Trade.
- 11th place of “2020 Intellectual Property Office Top 100 patent applicants,” 9th place for patent granted, 7 years in a row being in top 10, and 1st place in traditional industries.
- The patent of “Manufacturing Method of Rotary Magnet” won the Silver Medal of “2020 National Invention and Creation Award” by the Intellectual Property Office.

Environment

- Rolling Mill Dept. I achieved outstanding energy-saving performance and won the Gold Award of the “2020 Energy Saving Leadership Award” of the Ministry of Economic Affairs, R.O.C. Its energy-saving projects are diverse and comprehensive. The main project is transforming the heating furnace of Plate Mill to reduce fuel consumption.
- CSC promoted BS 8001 circular economy standard verification for “BOF (Basic Oxygen Furnace) Slag Used as Aggregate in Asphalt Pavement”, passed the conformity check by BSI and achieved the highest level (Optimizing).
- The “Basic Oxygen Furnaces Application in Asphalt Concrete” project won the Outstanding Award in the category of “Innovative Technology Award” of the 2020 Taiwan Circular Economy Award organized by the Center for Green Economy, Chung-Hwa Institution For Economic Research.
- CSC “W53 Coking Wastewater COD Removal Tank Project” was awarded the Excellent Construction Owner of the “2020 Excellent Construction Site” by the Kaohsiung City Environmental Protection Bureau, and China Ecotek Corporation was awarded the Excellent Contractor.
- Honored as one of the best performers in all industrial voluntary GHG reductions in 2020 by IDB, MOEA.
- The GHG Offset project for “Transportation Mode Change at the quarry in Hualien” was approved by EPA and earned a reduction credit of 2,273 tCO_2e.
- The GHG Offset project for “Hot-charge rolling energy-saving” was reviewed and approved by EPA.
- “Outstanding Green Procurement Unit” from EPA.
- “Outstanding Private Enterprise Green Procurement Unit” from KSEPB.
- “2020 Water Environment Patrol Team Evaluation” Enterprise Guardianship Award by KSEPB.

Feature

Combating COVID-19 with CSC and the Steel Industry

COVID-19 impacted international economy, consumer demands and global manufacture supply chain, which led to the unprecedented recession in recent days. CSC not only dealt well in interior epidemic prevention under safety and health control measures, but also cooperated with stakeholders to fight the epidemic when lacking of supplies.

Social Aspect

Disease Control for Overseas and Domestic Employees

Before the 2020 lunar new year, CSC had prepared disease control resources like alcohol, masks, and forehead thermometer. As the disease spread, CSC formed a company-level "COVID-19 Disease Control Team", which prioritizes employees' health. A meeting is held every day to closely track the pandemic domestically and globally. Countermeasures were formulated. In March, the level of the team was raised. The deputy commander (the Assistant Vice President of the Production Div.) led the team. For employees working overseas, CSC offered necessary support to their family members; health emergency care is included in the group insurance.

Feedback from Employees-Employees Stationed Abroad at CSC India Branch

India faced a severe outbreak of COVID-19. Other than establishing disease prevention guidelines inside and outside the plants, CSC India branch also prepared cloth masks and disinfectants for employees. When the flights were available, exclusive planes were arranged to evacuate Taiwanese employees to return to Taiwan to report on their work or to work in Taiwan. All the measures demonstrated CSC's care and assistance to employees stationed abroad.

Environmental Aspect

Early Implementation of 10 Billion TWD Improvement Project, Increasing the Domestic Needs of Steel

In March 2020, the Board of Directors approved the investment proposal: 1st phase of coke oven and CDQ construction, equivalent to 9.4287 billion TWD.

The 1st phase of coke oven and CDQ construction started in April 2020 and is due to be completed in February 2025. 73 tonnes/y of VOCs emissions and 41 tonnes/y of particulate emissions are expected to be reduced. Since CSC carried out the project procurement process earlier, the public bidding targets were the downstream suppliers in the steel industry. The companies who got the contracts will assign the works to other companies. This mitigates the impacts of COVID-19 on the industry.

Independent Quarantine Area at Siaogang Hospital

In May 2020, CSC, cooperating with United Steel Engineering & Construction Corp., spent only 12 days building an independent quarantine area at Siaogang Hospital using prefabricated houses. This guaranteed the safety of the public, patients, and medical staff at Siaogang Hospital.

Social Aspect

Feedback from Hospital-Infection Room Medical Staff at Siaogang Hospital

The quarantine area has capacious space with the new design. This allows medical staff to treat patients quickly. For people with suspected COVID-19 and people who just arrived from the airport, the area is well-organized to offer them testing, enhancing the disease prevention level. Taking tests in the quarantine area generate great benefits, and this project was completed with good results. While the ambiance in the hospital was intensive, CSC's support really helped the hospital a lot.

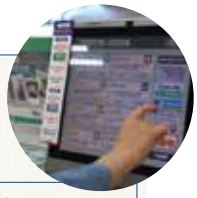
Economic Aspect

Organize an " Industrial Care Group " to Care for the Downstream Customers

CSC established the "Industrial Care Group" in March 2020 to respond to the sudden pandemic crisis. With the effort of more than 60 employees from sales, financial, and production departments, CSC provided customized support and service. CSC also assisted more than 170 clients. In addition, in March, when supplies were scarce in Taiwan, CSC provided 500 sets of anti-epidemic items to long-term cooperation major customers, presented to express the meaning of mutual help and care.

Get Shareholders' Meeting Souvenirs from the Convenience Stores

As a company with millions of shareholders, CSC considered that delivering souvenirs may cause the risk of COVID-19 infection. After more than one month of discussion and planning with relevant units internally and externally, CSC cooperated with 7-Eleven to deliver shareholders' souvenirs. SOP was built to ensure personnel at 7-Eleven are familiar with the process. During the implementation, CSC was responsible for all the cost arose.



Economic Aspect

Client Feedback-Global Tek

Impacted by the COVID-19, the automobile industry was encountered unprecedented challenges. As one of the suppliers in the industry chain, CSC had the responsibility to make the changes. Global Tek is grateful for CSC's supports in stably supplying materials and delivering products. Global Tek appreciates CSC's assistance in exploring vehicle safety components, which sustain our global competitiveness.

Economic Aspect

Shareholders' Feedback

Shareholders are able to claim their souvenirs at the nearby 24/7 7-Eleven. They can claim the souvenirs whenever they want within the designated period of time. This is more convenient and time-saving for shareholders, let alone avoiding the risk of infection. It is hoped that this method can carry on in the future, and the process can be more simplified.

1

Chapter

Sustainable Operation

Chairman
Chao-Tung Wong

President
Shyi-Chin Wang

1.1 Message from Top Management

2020 was a devastating year for the steel market and international trade due to the China-US trade war, economic recession, and the COVID-19 pandemic. CSC encountered the severest challenge ever. To mitigate the impact, the CSC management team has been adjusted and improved to deal with the difficulties.

I. New Pricing System

CSC adopted a new pricing system that is more flexible and more closely reflects the market condition. In February 2020, monthly pricing and quarterly pricing systems were implemented. In October, N+1 monthly pricing system was adopted (price will be offered one month earlier, e.g., price in November will be offered in October) to stay closer to the market condition and shorten the delivery. This new system has greatly enhanced the competitiveness of the whole industry chain.

II. Industrial Care Group

Navigating the pandemic impact on the steel industry and integrating the sales and technology resources, CSC formulated the Industrial Care Group to actively care for clients. Comprehensive and customized support has been provided with good industrial service team management and technical capability. Moreover, CSC collected and integrated the demands and suggestions from the downstream industries as the foundation for clients to improve their businesses and steel upgrades. CSC hopes to lay a solid basis once the economy recovers. CSC has been alongside clients, and now we will overcome the obstacles with clients.

III. The First Intelligent Blast Furnace

In response to the spread of COVID-19, CSC carried out the earlier implementation of the NO. 2 blast furnace renovation in July, which was scheduled to begin in October. This aims to adjust the production and sales volume while gaining sufficient productivity once the economy recovers. CSC was responsible for the overall and detailed design. Other than that, artificial intelligence (AI) was adopted and 27 Intelligent modules were built. On December 17, 2020, the first intelligent blast furnace was initiated, leading the steel industry in Taiwan to the new era of AI.

IV. Environmental Protection Engineering Projects That Worth Hundreds of Millions

CSC actively responds to the government's environmental protection policies by approving multiple major environmental protection projects such as “the 1st and 2nd phase of coke oven and CDQ construction”. “Once these projects are finished, it is expected that 73 tonnes of VOCs emissions can be reduced; 41 tonnes of particulate emissions can be reduced, and 214 million cal/tonnes of coke can be reduced. The energy generation is expected to increase by 273 million kW and carbon emissions are expected to decrease by 146 thousand tonnes. The amount of carbon emissions reduced is equivalent to the annual carbon absorption of 375 Daan parks.

V. Direct Hot Charge of Slab in Hot Strip Mill

To improve the energy efficiency and reduce carbon emissions in steel manufacturing process, CSC conducted DHCR (Directly Hot Charge Rolling) project and successfully rolled the hot/cold charged slabs with different grades and dimensions alternately. The key techniques to enhance the flexibility of hot strip mill in its operation is developed entirely by CSC The statistical data in 2020 shows this project has reduced 10,099 tonnes of carbon emissions per year, equivalent to the annual carbon absorption of 26 Daan Parks in Taipei City.

VI. Reutilization Of Basic Oxygen Furnace Slags

To promote the utilization of BOF Slag, CSC and Taiwan International Ports Corporation jointly submitted the Environmental Impact Difference Analysis Report for utilizing BOF Slag as an alternative land reclamation material in Taipei Port, and the report was approved by the Environmental Impact Assessment and Review Committee of Taiwan EPA in July 2020. On November 11, 2020, the first truck of BOF slag is successfully utilized as land reclamation material in Taipei Port, which marks a new milestone in BOF slag application.

VII. Respond to ESG with Real Actions

Based on CSC's vision of becoming “a trustworthy steel company of global distinction that pursues growth, environmental protection, energy saving, and value innovation”, CSC has been dedicated to production improvement, energy-saving adoption and resource recycling. Adhering to the “5G strategies” (Green process, Green product, Green business, Green partner, Green living), CSC fulfills the commitment of sustainability and meets the stakeholders' expectations. In the future, CSC will continue the endeavors of sustainable development through real actions, benefiting the environment, society, and economy as a whole.

Environment

To follow the Kaohsiung City Government's policy of energy-saving and carbon reduction, CSC originally planned to terminate three boilers at the end of 2021. One boiler was terminated earlier on March 1, 2021, and the others will be terminated on September 15, 2021, to further reduce air pollution and GHG emissions. From then on, CSC will no longer possess boilers that burn coals. In addition, CSC has carried out various water strategies. Reclaimed water has been utilized to ensure a stable supply of industrial water and mitigate the risks of cutting off/limiting water supply. This also provides higher flexibility in the domestic water supply.

Society

The outbreak of the COVID-19 has created a tremendous threat to human life. CSC immediately built the Epidemic Response Team to strictly implement epidemic prevention measures and provide supplies. Epidemic prevention control for overseas employees is applied likewise. Flights are arranged to assist Taiwanese employees to return to their homes. Employee's health is CSC's top priority. CSC assisted Kaohsiung Medical University and Siao Kang Hospital in establishing pre-fabricated housing as the Disease Inspection Area. Medical staff got to conduct the inspection outside the hospital, eliminating the infection risk in the hospital. These demonstrate CSC's commitment to corporate social responsibility.

Governance

CSC is honored to be ranked in the top 5% at the 7th Corporate Governance Evaluation for the 4th time in 2020. It is also the constituent of the “TWSE Corporate Governance 100 Index”, and the member of DJSI-Emerging Markets for 9 years in a row.

To expand the Company's works in ESG sustainability and implement actions in environmental protection and climate change, CSC established the CSC Energy Conservation, Carbon Reduction and Neutral Promotion unit under the Corporate Governance and Sustainability Committee in February 2021. Practical actions have been put in ESG aspects while mid and long-term carbon reduction plans have been made to consolidate resources and timely adjust goals. It is hoped that through real actions, CSC can grow sustainably and lead the industry, bringing positive impacts to the society.

2021 marks the 50th anniversary of CSC. To enhance the company competitiveness for the next five decades, CSC is striving to become a steel mill that provides premium products and services, and engage in developing green energy industry business. The 2021 policy management is listed as below:

2021

Management Policy

Become a leading-edge steel mill and create more advantages.

Discover more opportunities in the green industry.

Upgrade the company with intelligent technology and innovation.

Generate greater profit with high-quality products.

In the future, CSC will promote the upgrade and the growth of the domestic steel industry based on the existing foundation and core capabilities. Furthermore, CSC will put more efforts into corporate governance, social care, and environmental protection to become a sustainable steel company.

1.2 Operation Concepts

Based on CSC vision "We aspire to be a trustworthy steel company of global distinction that pursues growth, environmental protection, energy saving, and value innovation" and CSC values "Teamwork, Entrepreneurial approach, Down-to-earthiness, and Pursuit of innovation", CSC actively implements its operation concepts of "promotion of social well-being, result orientation, implementation of teamwork, and emphasis on employees' self-realization."

In order to strengthen long-term competitiveness and sustainable development, CSC is striving to become a steel mill that provides premium products and services, and engage in developing green energy industry business in the coming five decades. Meanwhile CSC roots its core steel businesses deeply by new technologies and management schemes, and adheres to integrity and fairness. CSC constantly endeavors to align with Group's vision as "Bases the foundation in Taiwan, develops in Asia and integrates diverse businesses of steels and materials, engineering and services, mines and resources with philosophies of environmental protection and energy saving, and value innovation".

1.3 Sustainability Directives

In the spirits of the World Steel Sustainable Development Charter, CSC developed the Corporate Social Responsibility Policy in 2012, and set the Corporate Social Responsibility Practice Principles. Through taking the responsibility as a corporate citizen and enhancing contribution to national economy, CSC improves the living quality of employees, the community, and society to promote its competitive advantages based on corporate social responsibility. In compliance with TWSE's newly amended Corporate Social Responsibility Best Practice Principles for TWSE/GTSM Listed Companies, CSC amended its principles accordingly in 2020 to align with the national development trend. The revised version was approved by the Board of Directors on December 28, 2020.

In 2015, the United Nations adopted 17 Sustainable Development Goals (SDGs) as the guiding principles for cross-border cooperation among member countries for the next 15 years. CSC refers to the SDG Selector tool and SDG Compass steps to review the directions and content of CSC's corporate social responsibility policy. Core SDGs contributed by CSC were identified. Furthermore, CSC took into consideration the sector and regional characteristics and referenced “Taiwan's SDGs (The following Taiwan's SDGs is represented by T-SDGs)” announced by the National Sustainable Development Network in July 2019 to summarize the benefits of CSC's core SDGs.

For more details [Corporate Social Responsibility Practice Principles] https://www.csc.com.tw/csc/cg/pdf/10912CSR.pdf
For more details [SDGs detail] https://www.csc.com.tw/csc_e/hr/csr/sus/sus2.htm

SUSTAINABLE DEVELOPMENT GOALS

Core SDGs

CSR Policy	● Strengthen competitiveness and create shareholder profit to ensure corporate sustainability. ● Meet customer requirements and enhance service advantage to achieve co-prosperity. ● Persist in energy saving and emission reduction and adopt renewable resources to build a low-carbon society.	● Take care of employees welfare and create a premium environment to facilitate employees development. ● Enhance industrial safety practice to eliminate occupational hazards and practice environmental protection to improve pollution-reduction performances.	● Optimize the supply chain system and improve communication to share sustainable practices. ● Join professional organizations and provide a solid technology foundation for industry upgrade.	● Support government policies and engage in construction to improve overall effectiveness. ● Devote to social harmony and promote public welfare to benefit local communities.
Stakeholders	Shareholders Customers and traders	Employees and contractors	Suppliers Steel industry peers Academic researchers	Central and local governments Society

Core SDGs

Taiwan SDGs Targets	Performances and Highlights
8.1 Take innovation, employment and distribution as core values to maintain moderate economic growth.	● Orders of premium steel in 2020 reached 4.7717 million tonnes. ● In 2020, the starting salary of entry-level employees was 28,500 TWD, and 38,400 TWD for professional-level employees. The annual salary increase rate was 3%.
8.2 Increase the added value of the industry and promote the development of the Internet of Things and the digital economy.	● In 2020, 16 R&D alliances were launched with 66 companies and 8 academic institutes to jointly complete 13 science and technological projects.
8.5 Improve labor productivity.	● There were 406 new employees in 2020, mainly in the 18 to 32-year-old age group (Average age 25) coming from the southern region of Taiwan, which increased local youth employment opportunities.
8.6 Implement learning and training measures to strengthen the employability of the younger generation.	● CSC holds cooperative education programs with five universities including NCKU, Kaohsiung Municipal Chung-Cheng Industrial High School, Kaohsiung Municipal Kaohsiung Industrial High School, National Hualien Industrial High School, and National Kangshan Agricultural & Industrial Vocational Senior High School and had recruited 360 students as employees by 2020. ● CSC cooperates with top universities in Taiwan to provide Steel Introduction course and offers scholarships, with 154 students awarded. More than 80 teachers and students participated in “Circular economy - reutilization of blast furnace slag”.
8.7 Promote the safety of the work environment and protect the rights of female workers to participate in the Union.	● CSC's labor union covers 100% of its full-time employees. ● Zero major occupation accident. ● 248 sessions of occupational safety training with 8,919 trainees in total. ● CSC assisted subsidiaries and government units to organize industrial safety trainings, with 93 sessions and a total of 1,698 trainees.
8.10 Improve the efficiency of industrial and agricultural water usage through measures such as water conservation and recycling technology.	● The recycling rate of processed water reached 98.4%. ● CSC introduced the first demonstration project of urban sewage reclaimed water in the country. It recovered 12,226 million liters of reclaimed water in 2020. ● The intensity of new water is reduced by 37.5% in 2020, compared to the base year 2017 when reclaimed water wasn't introduced.
8.13 Develop green energy technology, enhance energy independence and diversity, and encourage the development of renewable energy.	● In 2019, CSC set 4 solar power bike charging stations for the electric bike with a total of 30kW. Energy generated in 2020 was 32,370 kWh, with accumulated energy reaching 48,866 kWh. All the energy was self-generated and used in the CSC. ● China Steel Power Coporation was established to build zone 29 offshore wind farm. In the meantime, it is expected to build a local component supply chain through wind turbine system supplier. ● As of 2020, the cumulative installed capacity of the solar photovoltaic system of the CSC Group had reached 84.8 MW, and the cumulative power generation had reached about 230 million kWh. In the future, CSC can contribute at least 100 million kWh of green electricity and 51,000 tonnes of CO_2 carbon reduction annually.

Core SDGs

Taiwan SDGs Targets	Performances and Highlights
11.2 Provide the public with a safe, affordable, and highly accessible transportation system that is consistent with sustainable development. This includes improving road safety, expanding public transportation, and meeting the needs of physically-challenged people, older people, infirm people, women, and children in transportation.	• Implementing turnkey projects such as “Danhai Light Rail Transit”, “Kaohsiung Circular Light Rail Transit”, and “Ankeng Light Rail Transit” in response to company strategies. • 4,241 employees of CSC Group applied for the monthly KMRT subsidy , and 65,870 employees took the free shuttle buses from Hsiao Kang Station to CSC.
11.6 Reduce the harmful effects caused by the urban environment. Including management of air quality, water, and other municipal waste.	• From 2020 to 2026, CSC invested in 8 air pollution improvement projects with a continuous investment of 44.714 billion TWD, which will reduce the annual emission of particulate matter by 177.9 tonnes, SOx by 957.6 tonnes, and NOx by 67.5 tonnes. • Through continuous improvement on the efficiency of the dust collection equipment, the annual output of dust collection ash in 2020 was 276,000 tonnes, and the output dust collection ash 90.2% was recycled by CSC, and 9.8% was sold as resources, eliminate risks in environmental pollution. • Through the completion of the COD removal tank and the transformation of the two nitrification tanks, the detection values of effluent water are far superior to the legal standards.
11.12 Improve the energy saving and carbon reduction benefits of buildings.	• 156 energy-saving projects were completed in 2020, saving a total of 1,063,000 GJ (about 253,780 million kcal). • The 2020 Energy Saving Action Plan (2016-2020) had reduce 6.25 million GJ, which is equivalent to a reduction of 445,000 tonnes of CO_2e emissions. • In response to national energy-saving targets and regulatory requirements, the current average annual power saving rate is 1.68% from 2015 to 2020. • To promote the CSC Group's energy-saving measures and build an energy-saving technology exchange platform, the group affiliates have taken turns holding energy-saving seminars since the third quarter of 2018. By the end of 2020, 9 seminars had been completed to maximize the benefits of the CSC Group. Note : Energy-saving measures include buildings and process equipment, etc.

Core SDGs

Taiwan SDGs Targets	Performances and Highlights
12.1 Implement the green factory system, promote the Cradle to Cradle (C2C) design concept, and encourage companies to produce green and low-carbon products.	• In 2020, 3.349 Mt green steel products were produced to help save energy and reduce carbon emissions to an estimated 6.205 Mt. • In 2020, 5.491 Mt of process by-products (wet base) were produced. The ratios of on-plant and off-plant recycling were 24.8% and 75.2% respectively.
12.2 Control the use of key materials, and include the sustainable management of the material life cycle to promote the sustainable use of raw materials.	• Introduce self-produced steel scrap in the production process to promote the sustainable use of raw materials. • Waste acid produced by CSC was fully recycled, reducing the costs of hydrochloric acid purchase, outsourced transportation and treatment.
12.4 Reduce waste generation through green production, improve waste recycling technology capabilities, promote recycling industry towards higher efficiency, and manage chemical substances and wastes in accordance with international regulations.	• Resources of industrial waste are properly recycled, with a recovery rate of 95%.
12.5 Promote the cross-industry cooperation chain, integrate energy resources for effective recycling, and promote the development of Taiwan's circular economy.	• In terms of promoting District Energy Integration to increase energy efficiency in LinHai Industrial Park, the steam sold in 2020 was 1.562 million tonnes, which could reduce CO_2e emissions by about 375,000 tonnes. • In 2020, CSC followed the “Industrial Resource Integration Plan” and 25 enterprises were involved in the Industrial Ecology Network with CSC as the center.
12.6 Encourage enterprises to adopt sustainable development measures and at the same time, disclose information on sustainable development and ensure the accuracy and quality of such information.	• CSR report has been published since 2007, and the CSR website has been established to improve the disclosure of non-financial information. • The greenhouse gas scope 3 emissions have been estimated annually from 2015, and a third-party verification agency is entrusted, depending on the information integrity, to verify the results.
12.7 Promote public and private sector to increase green procurement.	• The total amount of green product procurement reported in 2020 was about 175 million TWD, much higher than the threshold of recognition by EPA of the Executive Yuan (50 million TWD).

CSC Sustainability Goals

CSC takes economic growth, environmental protection and social benefits as the sustainable development commitments, in order to continuously improve the sustainable operation and management of the enterprise, fulfill the promise of sustainable development, and respond to the expectations of stakeholders. CSC made the environmental, social and governance (ESG) goals for the upcoming 2021 to 2030.

Stakeholders' opinions will be collected in various channels every year to timely adjust ESG goals of CSC.

Aspect	Issue	Short-term (2021)	Mid-term (2023-2025)	Long-term (2030)
Governance / Economy	Operational Finance	2030 goal: sales of advanced premium steel account for 20%.		
	Company Governance	1. The average attendance rate of the Board of Directors is over 80%, and relevant regulations should be updated in the Company's Corporate Governance Best-Practice Principles. 2. The "ESG Topic Participation" project will be added to the Board performance evaluation. 3. Announce annual financial reports within 60 days after the end of the fiscal year. 4. Obtain the verifications including Taiwan Intellectual Property Management System. 5. Encourage listed subsidiaries to establish ESG goals.	1. Continue to encourage listed subsidiaries to establish ESG goals. 2. Link the manager's performance appraisal and remuneration with the ESG annual goals (performance).	Group subsidiaries set ESG goals.
	Business Integrity	1. The instant identification rate of laws and regulations ≥95%. 2. The ratio of unfinished handling of revised laws and regulations ≤3%. 3. 0 major violations. 4. Ethical standards applicable to employees (including managers) and its pertaining legal compliance (including the protection of trade secrets) system established, promoted and achieved at the coverage rate of 75%. 5. 1,200 training hours every year and continue to disseminate business integrity in the training of new recruits.	1. The instant identification rate of laws and regulations ≥96%. 2. The ratio of unfinished handling of revised laws and regulations ≤3%. 3. 0 major violations. 4.Ethical standards applicable to employees (including managers) and its pertaining legal compliance (including the protection of trade secrets) system established and executed at the coverage rate of 100%. 5. Ethical standards applicable to the supply chain and its pertaining legal compliance (including the protection of trade secrets) system established and executed at the coverage rate of 60%. 6. 2,000 training hours every year and continue to disseminate business integrity in the training of new recruits.	1. The instant identification rate of laws and regulations ≥97%. 2. The ratio of unfinished handling of revised laws and regulations ≤2%. 3. 0 major violations. 4. Ethical standards applicable to the supply chain and its pertaining legal compliance (including the protection of trade secrets) system established and executed at the coverage rate of 100%. 5. 2,400 training hours every year and continue to disseminate business integrity in the training of new recruits.
	Information Security	1. Zero major information security incident. 2. Deployment rate of APT defense software reaches 100%. 3. Deployment rate of two-factor authentication for VPN reaches 100%. 4. SSL encryption/decryption works in 19 main networks. 5. The deployment rate of privileged account management is 100%.	1. Zero major information security incident. 2. Obtain ISO 27001 certification for information security management. 3. The deployment rate of WAF is 100%. 4. The log of information security equipment is 100% centralized. 5. 200 hours of personnel information security certification courses.	1. Zero major information security incident. 2. Establish independent information security and maintenance with the cloud solution.

Aspect	Issue	Short-term (2021)	Mid-term (2023-2025)	Long-term (2030)
Society	Talent Development	1. The management training for new supervisors, with the completion rate of the first year reaching 90%. 2. The core skills training for new mechanical and electrical maintenance personnel, with the completion rate of the first year reaching 85%	1. The management training for new supervisors, with the completion rate of the first year reaching 92%. 2. The core skills training for new mechanical and electrical maintenance personnel, with the completion rate of the first year reaching 90%.	1. The management training for new supervisors, with the completion rate of the first year reaching 95%. 2. The core skills training for new mechanical and electrical maintenance personnel, with the completion rate of the first year reaching 92%.
	Talent Retention	1. 4th-level directors (professional level) and technicians ratio≥60%. 2. Implement handover plan for third-level directors and above, with an implementation rate reaching 90% a year.	1. 4th-level directors (professional level) and technicians ratio≥63%. 2. Implement handover plan for third-level directors and above, with an implementation rate reaching 93% a year.	1. 4th-level directors (professional level) and technicians ratio≥65%. 2. Implement handover plan for third-level directors and above, with an implementation rate reaching 95% a year.
	Employee Care	1. Provide employees of CSC and its affiliates professional consultants stationed in factories. 2. Organize networking activities for unmarried employees with 204 people participating every year. 3. Hold two Evergreen LOHAS seminars for the elderly every year, with the number of participants reaching 160 a year.	1. Provide professional consultants stationed in factories that also allow employees' family members to use. 2. Organize networking activities for unmarried employees with 244 people participating every year. 3. Hold two Evergreen LOHAS seminars for the elderly every year, with the number of participants reaching 170 a year.	1. Provide professional consultants stationed in factories that also allow employees of suppliers to use. 2. Organize networking activities for unmarried employees with 284 people participating every year. 3. Hold two Evergreen LOHAS seminars for the elderly every year, with the number of participants reaching 180 a year.
	Social Participation	1. Hold at least 8 cultural and artistic activities every year. 2. Care for low-income households in Hsiao Kang district and engage in rural education, with more than 5,000 people being cared for a year. 3. Participate in education activities related to steel and environmental protection, with the number of beneficiaries reaching above 8,500 people a year. 4. Organize more than 2,640 people a year to participate in greening large-scale community parks and the environment around major arterial roads.	1. Hold at least 10 cultural and artistic activities every year. 2. Care for disadvantaged families and rural school children, with more than 5,500 people being cared for a year. 3. Hold educational activities on campus in cooperation with group companies and education foundation, with the number of beneficiaries reaching above 9,000 people a year. 4. Invite group companies to participate in community empowerment. (1) Organize more than 3,200 people a year to participate in cleaning and greening community environment. (2) Organize more than 2,200 people a year in water environment patrol team.	1. Hold at least 12 cultural and artistic activities every year. 2. Assist the local community in Hsiao Kang district to establish community care centers for providing the elderly care. The coverage rate of care is above 90%. Care for disadvantaged families, rural school children and the elderly, with more than 6,000 people being cared for a year. 3. Assist schools in developing specialty education, with the number of beneficiaries reaching more than 9,500 people a year. 4. Encourage local volunteers, suppliers, and clients to jointly participate in community empowerment. (1) Organize more than 4,500 people a year to participate in cleaning and greening community environment. (2) Organize more than 2,500 people a year in water environment patrol team.
	Occupational Security	1. Zero Fatality. 2. Employee Disabling Injury Frequency Rate (FR) ≤ 0.2. 3. Contractor Disabling Injury Frequency Rate (FR) ≤ 0.3.	1. Zero Fatality. 2. Employee Disabling Injury Frequency Rate (FR) ≤ 0.18. 3. Contractor Disabling Injury Frequency Rate (FR) ≤ 0.3	1. Zero Fatality. 2. Employee Disabling Injury Frequency Rate(FR) ≤ 0.16. 3. Contractor Disabling Injury Frequency Rate (FR) ≤ 0.3.
Environment	Air Pollution	1. Particulate reduction 120.2 tonnes. 2. SOx reduction 803.6 tonnes. 3. NOx reduction 11.5 tonnes. Note: Pollution reduction accumulated (since 2020).	1. Particulate reduction 177.9 tonnes. 2. SOx reduction 803.6 tonnes. 3. NOx reduction 11.5 tonnes. Note: Pollution reduction accumulated (since 2020).	1. Particulate reduction 177.9 tonnes. 2. SOx reduction 957.6 tonnes. 3. NOx reduction 67.5 tonnes. Note: Pollution reduction accumulated (since 2020).

Aspect	Issue	Short-term (2021)	Mid-term (2023-2025)	Long-term (2030)
Environment	Water Resource	Reduce new water consumption by 35%. Note: Based on 2017, when reclaimed water had not been introduced.	Planning for the introduction of reclaimed water, reducing the new water consumption by 51%. Note: Based on 2017, when reclaimed water had not been introduced.	Diversify water sources and continue to implement water-saving measures; Reducing the new water consumption by 60%. Note: Based on 2017, when reclaimed water had not been introduced.
	Energy Management	2015-2021 average annual power-saving rate > 1%.	2015-2025 average annual power-saving rate > 1.05%.	2015-2030 average annual power-saving rate > 1.1%.
	Resource Circulation Management	1. Waste recycling ratio reaches over 90%, and zero solidification landfill. 2. By-product resource circulation reaches 372,000 tonnes.	1. Waste recycling ratio reaches over 92% and zero solidification landfill. 2. By-product resource circulation reaches 412,000 tonnes.	1. Waste recycling ratio reaches over 94% and zero solidification landfill. 2. By-product resource circulation reaches 412,000 tonnes.

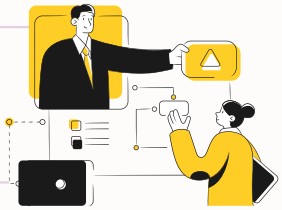
1.4 Stakeholder Engagement

CSC values the rights and opinions of its stakeholders and sets proper communication channels to promptly understand and address stakeholder expectations and demands. To appropriately respond to the relevant concerned issues of stakeholders, each department of the company divides the work to take responsibility for stakeholder communication. The “Corporate Governance and Sustainability Committee” reported the results of the annual stakeholder engagement to the Board of Directors in December 2020.

Besides the Annual Report and Operation Report, CSC also publishes the annual CSR Report and updates websites timely to disclose the information about corporate governance, energy and environment management or social involvement. CSC uses the websites not only to enhance information accessibility, transparency, timeliness, completeness, and interactivity status, but also to improve reader satisfaction by collecting feedbacks online.

Stakeholder Identification

For stakeholder identification, CSC refers to experiences of its departments and international steel industries and applies AA1000 Stakeholder Engagement Standard (AA1000SES). CSC's key stakeholders include employees and contractors, customers and traders, governmental authorities, suppliers, shareholders, steel industry peers, the society (including local communities, media press, and NGOs / NPOs), and academic researchers.



CSC Stakeholder

Group or personal which influences CSC or is affected by CSC.

Communication Channels and Effectiveness

CSC values the rights and opinions of its stakeholders and sets public, direct communication channels by providing related information of sustainable development in CSC, timely understanding and replying the concerned topics from stakeholders, and continually viewing and improving the achievement of corporate social responsibility.

Employees	Concerned Topics	① **Employee welfare and salary** ② **Labor / management relations** ③ **Talent recruitment and retention**
	Meaning for CSC	Employees are an important asset of the company and a partner for growth. Besides working together to create a safe work environment and ensure the employee's human rights, CSC also enhances the employee's skills through career development, education, training, and cultivate talent capital to strengthen the company's competitiveness.
	Communication Channels	» Board representation by Labor Union of CSC; collective bargaining. » Labor-management meeting (every month), regular departmental meeting (union representative present), Safety and Health Committee meeting (every 2 months). » Employees' Retirement Reserve Fund Supervisory Committee (every 3 months). » Seminar between the managerial departments and supervisors of the union, and the shareholding trust committee (every 6 months). » Human Resource Committee (every year).
	Engagement Highlights in 2020	◆ Salary raise for eight consecutive years. When CSC started to gain profit in August 2020, employees' salaries were raised 3% on average since September. 7% was raised for entry-level employees. CSC became the first steel company in Taiwan to offer salary raise.
Contractors	Concerned Topics	① **Labor/management** ② **Occupational safety and health** ③ **Employee welfare and salary**
	Meaning for CSC	Contractors represent an indispensable part in CSC's supply chain, and are considered as comrades who thrive with CSC. Therefore, CSC's management and care towards contractors are on the same level as its employees, and CSC collaborates with contractors to improve their working conditions.
	Communication Channels	» Contractor job safety meeting, Contractor environment, safety and health meeting, Contractor Safety and Health Committee meeting (monthly). » Joint-work negotiation meeting, outsourcing management meeting (annually). » Contractor training (irregular).
	Engagement Highlights in 2020	◆ Communicated and promoted safety and health issues in monthly Contractor Safety and Health Committee meetings and Scheduled Maintenance negotiation meetings. ◆ Ensured outsourcing unit price and amendments to common contract terms, held joint-work negotiation meetings, and communicated/promoted occupational safety and the management of collaborative partnerships. ◆ The maintenance units provided training courses and assessments for contractors based on the occupational safety and professional skills required by their job.
Customers and Traders	Concerned Topics	① **Customer services management** ② **Supply chain management** ③ **Codes of conduct/ethics**
	Meaning for CSC	Customers are the main source of CSC's operating income. "Pursuing customer satisfaction, implementing high quality service and protecting customer rights" is CSC's highest principle while dealing with customers and traders. CSC also exerts its strength to lead downstream customers to expand applications, promote close communication between customers, and maintain the integrity of the overall industry.
	Communication Channels	» Production-sales meetings (every 3 months). » Customer satisfaction surveys (annually). » Customer briefings, R&D alliances, professional training, technical seminars, high-level business management seminars, market surveys, Visits and customer interviews (irregular). » The Company presents quality feedback from the market to promote the advancement of in-plant quality. » Surveys on requirements for new products, and quality function deployment (irregular). » Material usage in different industry and quality trend survey (irregular). » Provide customer feedback to strengthen product quality, surveys on requirements for new products, and quality function deployment (irregular).
	Engagement Highlights in 2020	◆ Hold 40 production-sales meetings while abiding by the COVID-19 prevention policy. ◆ The overall satisfaction score of the customer satisfaction survey was "good" in 2020.
Governmental Authorities	Concerned Topics	① **Hazardous substance management of products** ② **Water management / air pollutants management** ③ **Occupational safety and health** ④ **Labor / management relations**
	Meaning for CSC	CSC operates in accordance with the policies and regulations stipulated by the governmental authorities, adheres to the environmental protection concept of circular economy, and fulfills corporate social responsibilities.
	Communication Channels	» Actively visit national and local legislators and the authorities to communicate about reasonable regulations and policies. » Participate in research discussions, forums, public hearings, training courses, and informal exchanges regarding a variety of policies and regulations (irregular). » Participate in symposiums, seminars, and assessments held by the competent authorities (irregular). » Cooperate with the competent authorities to organize investor-related activities (irregular).

Governmental Authorities	Engagement Highlights in 2020	◆ Participated in the seminars of the amendment of Regulations for Installation and Management of Facilities for Preventing Pollution of Groundwater Bodies and Monitoring Equipment in Underground Storage Tank System, held by the EPA. ◆ On April 6, 2020, the deputy director of EPA arrived at CSC to inspect the environment improvement project. ◆ On September 7, 2020, the mayor of Kaohsiung City arrived at CSC to inspect the environment improvement project. ◆ Southern Engineering Office, Railway Bureau, MOTC visited CSC. ◆ Participated in the Circular Economy Forum of Taiwan Sustainable Supply hosted by the IDB of the Ministry of Economic Affairs.
Suppliers	Concerned Topics	**① Air pollutants management ② Occupational safety and health ③ Employee welfare and salary ④ Operational financial performance**
	Meaning for CSC	Suppliers are an integral part of CSC's normal operations. They must comply with CSC's requirements and abide by relevant codes of conduct.
	Communication Channels	» Participate in workshops (averages 20 per month). » Organize forums (irregular). » Provide provisions of safety design specifications (irregular). » Meetings and Visits (irregular). » Localization cooperations (irregular). » Communication meetings, pricing meetings (every quarter).
	Engagement Highlights in 2020	◆ Discussed specifications, terms, and prices; paid visits to investigate production and quality. Discussed and exchanged market information. ◆ Assessed suppliers participating in the localization of spare parts at the end of the year and awarded them publicly with certificates in the first quarter of the coming year. ◆ Held 2 communication meetings on in-plant traffic in 2020 to discuss business operations, operation safety, and traffic safety. ◆ Held meeting every quarters on harbor joint operation and collaboration to enhance the occupational safety and health of shipping suppliers. ◆ Held 4 pricing meetings with China Steel Express Corporation in 2020. ◆ 6,945 occupational safety and health inspections were conducted in 2020, where epidemic prevention measures were also assessed and monitored in the inspection. ◆ Epidemic prevention measures were carried out across the board. All levels of units, including suppliers, should follow the guidelines and instructions for disease prevention. Special regulations were formed for external suppliers entering CSC's premise, and product delivery schedule was also adjusted accordingly. Some tasks were replaced by electronic process and automation operations to reduce unnecessary contacts.
Shareholders	Concerned Topics	**① Operational financial performance ② Corporate governance ③ Climate change ④ Risk management**
	Meaning for CSC	Shareholders provide the capital necessary for the long-term development of the company, which is an important foundation for CSC to move towards sustainable operation and look after the company's strategy for sustainable growth and future development. CSC should develop steadily and make profits for shareholders.
	Communication Channels	» Toll-free shareholder service hotline (0800-746-006) and email (f1000@mail.csc.com.tw). » Publicly disclose the earnings of the last month and pricing adjustment; proactively send the information to institutional shareholders (every month). » Publicly disclose the earnings and revenue of the last month on MOPS and company website (every month). » The shareholders meeting is convened in the second quarter annually and the resolutions are voted per item of the agenda. E-voting is adopted with full shareholder participation in the voting process. The results are announced on the open data platform and the CSC website (every year). » Visits by appointment, conference calls, video conferences, inviting domestic and foreign institutional shareholders, participation in domestic and international investor conferences held by brokers (irregular). » Publish digital and hard copy of annual report and operation report (every year).
	Engagement Highlights in 2020	◆ Implemented online ballots in shareholders' meetings since 2013 to facilitate the voting process for foreign and individual investors. E-ballots accounted for 56.63% of the total shares issued in 2020, while more than 90% of foreign investors use e-ballots. ◆ Invited domestic and international institutional shareholders and held conference calls for more than 100 times. ◆ Participated in 2 domestic conferences: 1.Masterlinks Securities Corp. institutional investors' conference (Taipei). 2.Fubon Securities Corp. CSC Group institutional investors' conference (online).

Shareholders	Engagement Highlights in 2020	◆ Both foreign and domestic investors value the company's performance in ESG aspects, and laid particular emphasis on climate change issues and relevant risk control measures in recent years. Written forms and meetings are constantly adopted to communicate with the shareholders and adequately respond to their questions.
Steel Industry Peers	Concerned Topics	① **Employee welfare and salary** ② **Labor / management relations** ③ **Talent recruitment and retention**
	Meaning for CSC	CSC maintains good interaction with the peer companies within the steel industry and actively participates in the institutions and associations of the steel industry. Through exchanges and cooperation, CSC is able to obtain the latest information on regional industry, technology development and policies, which serves as a good basis for business development and strategic cooperation. Also, CSC keeps close ties with the international scene.
	Communication Channels	» Participate in meetings held by the Taiwan Steel & Iron Industries Association, worldsteel, South East Asia Iron and Steel Institute (SEAISI) (irregular). » Bilateral and multi-lateral communication, official visits and meetings (irregular).
	Engagement Highlights in 2020	◆ Participated in the World Steel Association Council and various visual meetings. ◆ Engaged in SEAISI touring lectures and ASEAN Iron & Steel Sustainability Forum (online seminar).
Society	Concerned Topics	① **Air pollutants managemen** ② **Waste management** ③ **Energy management**
	Meaning for CSC	Through communities and local groups, journalists, non-governmental organizations and opinion leaders, CSC understands the society's expectations about its corporate social responsibility. By paying attention to the local community and a sense of responsibility, CSC dedicates itself to social participation in diverse manners.
	Communication Channels	» Visits and negotiations were conducted by the Public Affairs Department (irregular). » Visits and negotiations were conducted by CSC Group Education Foundation, Labor Union of CSC, and employee clubs (irregular). » Press releases and spokesperson interviews (Irregular). » Participated in seminars and meetings held by the professional association, academic institutes, and unions (regular and irregular).
	Engagement Highlights in 2020	◆ A total of 400 visits and negotiations were conducted by the Public Affairs Department. ◆ Conducted a total of 43 communication exchanges and visits regarding environmental protection facilities in collaboration with academic institutions. ◆ 69 press releases. ◆ Arranged 22 press interviews for disclosing important company information. ◆ Participated in the 2020 Asia's Sustainable Supply & Circular Economy Conference and Exhibition held by the MOEA. Participated in the carbon circulation sector in the Taiwan Sustainability Hall, sharing CSC's application diversity and resource integration result. ◆ Participated in the Seminar of Opportunities and Challenges in Circular Economy for the Cement and Steel Industry, sharing CSC's performance in circular economy and resource integration. ◆ Participated in the meeting of National Toxic Chemicals Regional Allied Defense South District Team. ◆ Visited external leaders and exchanged environmental management strategy. ◆ Joined Chinese National Federation of Industries, Taiwan Steel & Iron Industries Association, and Taiwan Soil and Groundwater Protection Association.
	Note : communities and local groups, journalists, non-profit organizations and opinion leaders are included.	
Academic Researchers	Concerned Topics	① **Product quality and innovation** ② **Green development** ③ **Air pollutants management**
	Meaning for CSC	CSC is striving to become a steel mill that provides premium products and services. Collaboration with academic personnel is a fundamental external resource. It not only facilitates CSC to become a high value-added steel mill and the research result also improves CSC image in society.
	Communication Channels	» Progress review of Engineering Research Center and Industry and Academia Alliance (every 2 months). » Progress review of Joint Research Laboratory (mid-term report of outsourced researches) and research guidance (every 6 months). » Proposal and final reports of ERC, JRL, and outsourced researches (every year). » Keynote speeches (irregular).
	Engagement Highlights in 2020	◆ Held keynote speeches by 57 local and international experts and scholars. ◆ 46 research projects outsourced to schools and research facilities. ◆ Invited local and international experts and scholars to guide 2 research projects.

1.5 Material Topics

Besides daily practices of stakeholder engagement, CSC has set materiality analysis procedures in line with GRI Standards and AA1000SES. CSC adopts the principles of stakeholder inclusiveness, materiality, and completeness to identify material topics through collecting and review, prioritization and identification, and validation. For topics of high concern and high impact, CSC discloses its management approach and performances in this report and online.

In 2020, CSC thoroughly reviews sustainability topics in response to international sustainability indices like DJSI, CDP, as well as the international steel alliance, worldsteel, and the development trends of CSC Group. CSC revised the sustainability topics of the survey from“GHGs management and climate action”,“information security management”,“labor practices”, and "diversity and equal opportunity” to“climate change”, “information/cyber security”, “human right”, and “workplace diversity and equality”, in order to have more clearly identify the focuses of each issue. CSC revised the material topics survey description to strengthen the content covered and to have more fully understand of the opinions of stakeholders.

Prioritization and Identification

Materiality analysis is based on the results of questionnaire. To find out the concern levels of stakeholders for each sustainability topic, survey is open all year round on the CSC CSR website and stakeholders were invited by CSC departments to participate in the 2020 survey from November 9, to December 11, 2020. 606 responses were collected and the results of stakeholder concern level were then weighted based on AA1000SES assessment results. 87 1st-level and 2nd-level directors distributed the questionnaires to evaluate the positive or negative impacts and the probability of impact that CSC has made on the economy, environment, and society. The topics are plotted by the concern of stakeholders and the significance of impact into a materiality matrix.

Process of Materiality Analysis

Collection and review

2020 Sustainability Topics List

26 topics

CSC compiles a list of sustainability topics based on the corporate vision and CSR Policies and considering GRI Standards, SDGs, industrial topics and stakeholder feedback are considered as well, and then summarized a list of sustainability issues.

Prioritization and identification

2020 External and internal survey

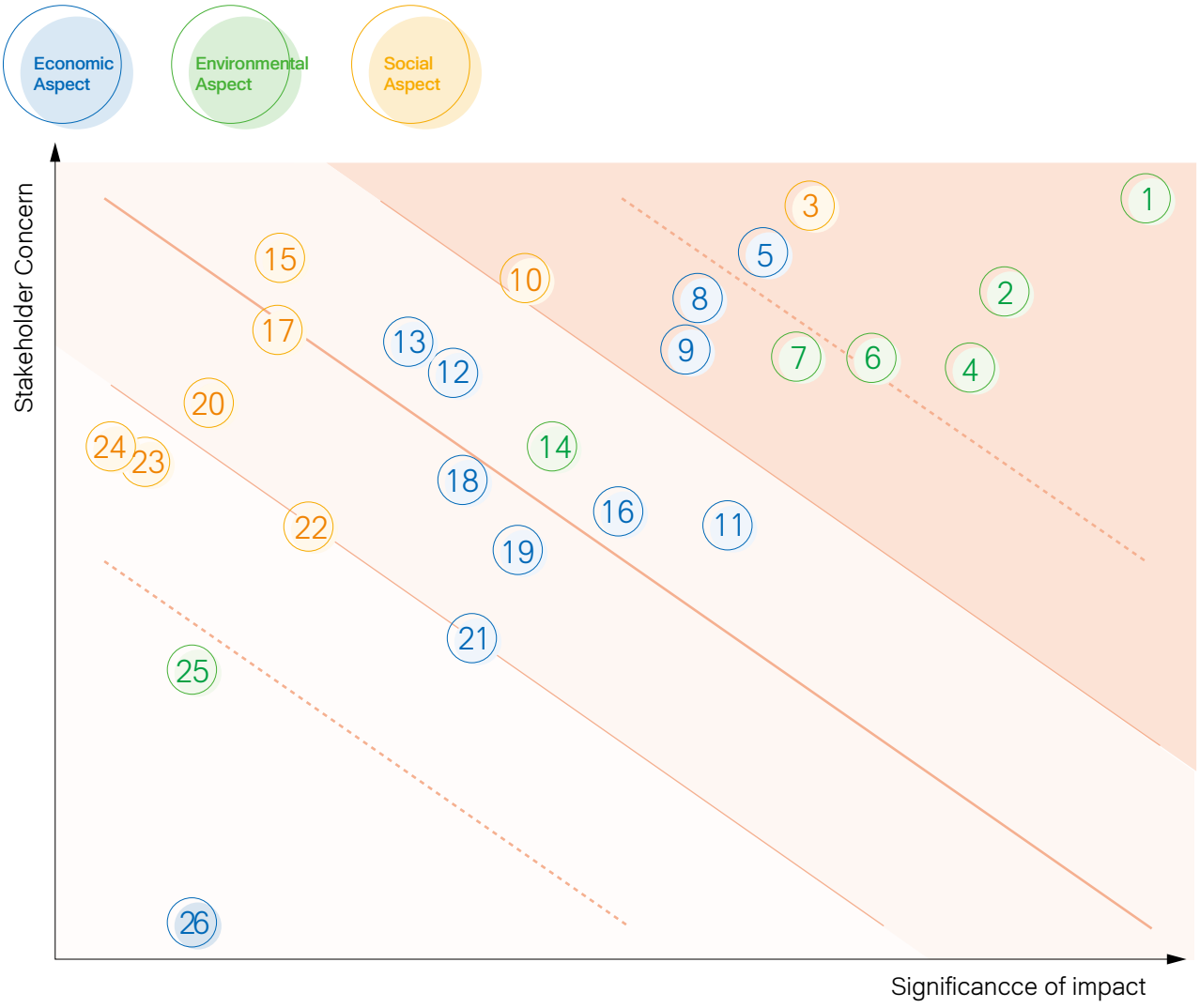
693 responses were collected

Investigate the extent of external stakeholders' concern about sustainability topics by questionnaires, internal assessments of positive/negative impact levels on each sustainability topic in CSC, and then draw a materiality matrix to prioritize and identify the material topics in CSC.

Validation

10 material topics in 2020

Material topics are examined and confirmed of respective GRI Standards. Topic boundaries are determined based on the scopes of impact, industrial characteristics, experience of international peers. Management approaches and performances are disclosed.



Sustainability Topics

1. Air Pollutants Management
2. Waste Management
3. Occupational Safety and Health
4. Climate Change
5. Operational Financial Performance
6. Water Management
7. Energy Management
8. Green Development
9. Hazardous Substance Management of Products
10. Labor / Management Relations
11. Corporate Governance
12. Codes of Conduct / Ethics
13. Product Quality and Innovation
14. Raw Materials Management
15. Employee Welfare and Salary
16. Risk Management
17. Talent Recruitment and Retention
18. Supply Chain Management
19. Information/Cyber Security
20. Human Right
21. Customer Services Management
22. Community Involvement and Charity
23. Career Development and Training
24. Workplace Diversity and Equality
25. Biodiversity
26. Tax Policy

Material Topics and Value Chain Context

The materiality analysis for 2020 yielded 10 material topics. The management of these topics stems from CSC Values and Operation Concepts and is incorporated into the CSR Policy and risk management strategies. The economic topics are managed by annual business directives and targets according to the respective attributes of each topic; the environmental topics and the social topic on Occupational Safety and Health are included in the EHS Policy; the other social topics consist of the social participation concepts. The sustainability context of material topics, including positive and negative impacts CSC directly causes and indirectly contributes to through a business relationship, management approaches, and performance, are disclosed in respective chapters. The corresponding material topics and GRI Standards can refer to Appendix 1 in this report.

Aspect	Material Topic	Value Chain Impact Boundary [1] ● Direct Impact ◎ Indirect Impact			Chapter
		Upstream	CSC	Downstream	
Economic Aspect	Operational Financial Performance		●		3.1
	Hazardous Substance Management of Products	◎	●	●	3.3.3
	Green Development	◎	●	●	3.4
Environmental Aspect	Air Pollutants Management		●	●	5.2.3
	Waste Management	◎	●	◎	4.4.1
	Energy Management	◎	●	◎	5.2.2
	Water Management		●	●	5.2.4
	Climate Change	◎	●	◎	5.3
Social Aspect	Occupational Safety and Health	◎	●	◎	6.4
	Labor / Management Relations		●		6.3.1

Note: I. Refer to Taiwan industry value chain information platform, OECD steel industry workshop, and international peers for identifying value chain impact boundary of CSC. The core of the value chain is CSC, and included employees and contractors. The upstream is suppliers of raw material like ore, and the downstream is included to customers and local communities.

Supplementary Explanation for Report Arrangement

CSC sets up a media database to keep track of issues concerned and public opinions. CSC continues to improve and implement the strategies for developing a sustainable corporation CSC proactively explains the issues concerned to stakeholder using a “Feature” section in the report this year.

Sustainability topics for non-material topics are mainly disclosed on the CSR website of CSC. Following websites are provided to stakeholders who care about all kinds of topics about CSC.

Sustainability Topics	CSR Official Website
Tax Management	https://www.csc.com.tw/csc_e/hr/csr/in/in8.htm
Information/Cyber Security	https://www.csc.com.tw/CSC_E/is/is_pol2.html
Customer Services Management	https://www.csc.com.tw/csc_e/hr/csr/in/cm5.htm
Biodiversity	https://www.csc.com.tw/csc_e/hr/csr/soc/soc3.htm
Human Right	https://www.csc.com.tw/csc_e/hr/csr/em/em3.htm
Talent Recruitment and Retention	https://www.csc.com.tw/csc_e/hr/csr/em/em.htm
Career Development and Training	https://www.csc.com.tw/csc_e/hr/csr/em/em6.htm

2

Chapter

Corporate Governance

2.1 Strategies and Targets

Five-year Operational Strategies

Every year, CSC makes five-year operational strategies for the future. CSC is striving to become a steel mill that provides premium products and services, and engage in developing green energy industry. CSC maps out its 2021-2025 operation and development strategies as follows:

1 Mission

Promote to Be a Leading-edge Steel Mill

Strategy

1: Develop Advanced Premium Steel.

2: Establish Excellent Manufacturing Capability.

3: Improve Marketing Capability.

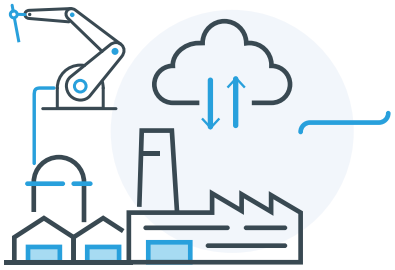
4: Deepen the Upgrade of Steel-using Industry.

5: Introduce the Application of AIoT.

6: Build up Highly Efficient Business Processes and Systems.

7: Move towards High Productivity.

8: Pass on and Enhance Corporate Culture.



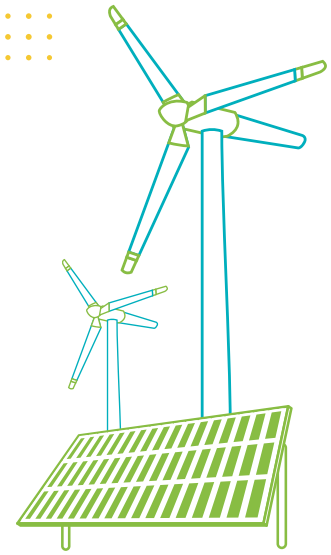
2 Mission

Develop Green Energy Industry Business

Strategy

9: Develop the Green Energy Industry Business.

10: Mitigate Coal Phase-out and Carbon Reduction Pressure.



2.1.1 Annual Business Directives and Performances

Implementation results for 2020 include the 4 main points as follows:

Enhance overall performance through comprehensive cost reduction profit increase

CSC promoted “cost reduction activities” and link internal and external R&D resources with open innovation to accelerate the development of highly competitive products, low-cost processes, and value-added application technologies in order to improve product cost performance and create differentiated competitive advantages.

In 2020 cost reduction and performance improvement program, the original business goal was 3.03 billion TWD. Due to the sluggish market in the first quarter, CSC was in profit loss. Therefore, the program was reinforced and the goal was readjusted to 4.58 billion TWD. The goals of different aspects were adjusted as well to be in line with the Directives in 2020. The new goals were implemented in June.

In 2020, CSC reduced costs by 6.04 billion TWD, achieved 132% of the target.

Implement diversified services to expand the market

CSC total product delivery reached 9.1915 million tonnes (with 9.32 million as the goal), and premium steel delivery reached 4.7717 million tonnes (with 5.15 million as the goal). CSC didn’t reach the goals because of the spread of COVID-19, US-China trade war, 232 steel and aluminum tariff in the US, health measures undertaken for EU imports, the demand impacts due to the price fluctuation and steel market recovery. In the future, CSC will explore more new clients, make marketing strategies, and increase product delivery at a reasonable price.

Create intelligent steel plants to create efficiency

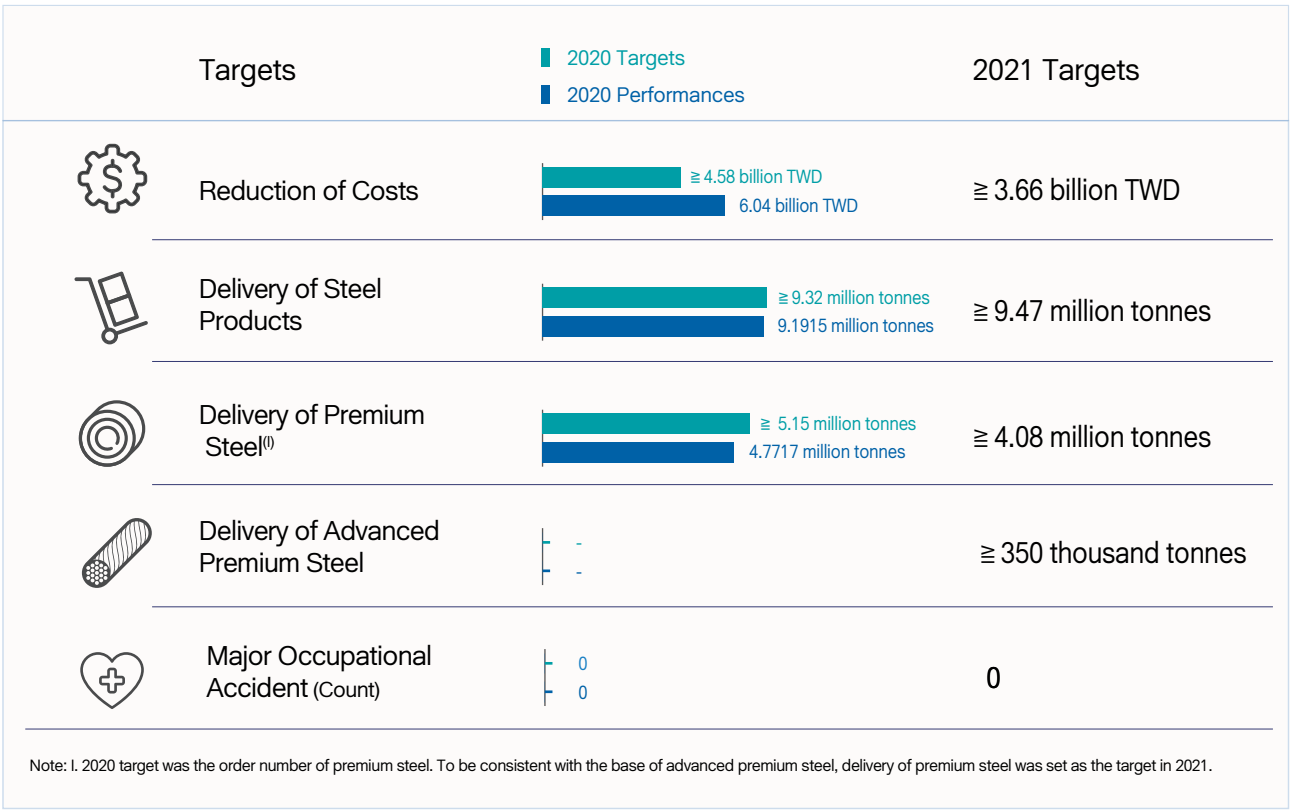
In terms of intelligent manufacturing and intelligent sales, CSC implemented 40 company-level intelligent projects in 2020, with 13 of which completed. In 2021, 32 projects are to be applied and equipment and manufacturing ability will be reviewed and improved in the hope of increasing productivity as well as realizing overall intelligent steel plants.

To reinforce CSC's sustainable competitiveness in the next five decades, CSC is striving to become a steel mill that provides premium products and services, and engage in developing green energy industry business. CSC also plans to develop advanced premium steel with high technical content, high profitability and high industry benefit. It is expected that the advanced premium steel can reach 10% of the total sale in 2025, 20% in 2030.

Maintain occupational safety and protect the environment to increase credit worthiness

Improvements on occupational safety: Strengthen the safety awareness of the contracted security supervisors and employees, promote effective audits, promote CSC Group's occupational safety communication, and implement the mid- and long-term plan for traffic safety inspections in the factory, in order to achieve the goal of zero major occupational accident. In 2020, there was zero major occupational accident.

CSC has been devoted to pollutant emission improvement and circular economy. In 2020, basic oxygen furnace slag used for cement raw material amounted to 7,062 tonnes/month. Sludge-coal fly ash mixture sent for domestic cement plants for recycling amounted to 174,372 tonnes.



Note: I. 2020 target was the order number of premium steel. To be consistent with the base of advanced premium steel, delivery of premium steel was set as the target in 2021.

2.1.2 Response to Major Impacts

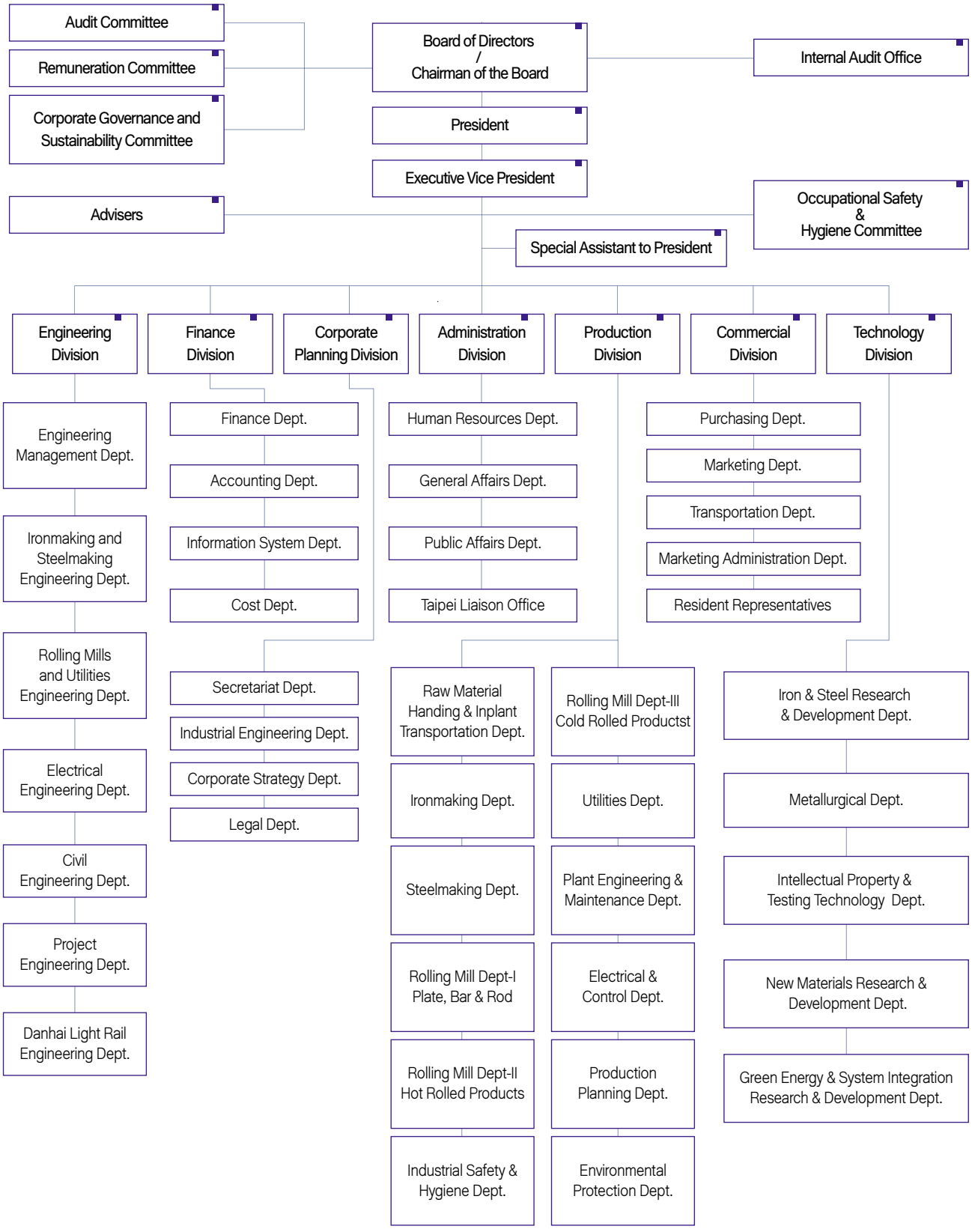
According to the World Economic Outlook published by the IMF (International Monetary Fund) in October 2020, despite the strike of COVID-19, economic activities in some developed countries had already begun. Therefore, the world economic growth rate is expected to be -4.4%, a slight increase compared to the forecast (-4.9%) in June 2020. The public health mechanism was deeply challenged, which saw a drastic shrink in the overall economy. However, the IMF also mentioned that when the epidemic gradually slows down, the deferred demand and the short-term concentration of consumption will lead to a post-pandemic economic performance. There will be a strong rebound in 2021, and the global economic growth rate will rise to 5.2%, which is slightly lower than 5.4% forecasted in June. Overall, the short-term market conditions will be in a steady recovery situation.

World Steel Association published the latest Short Range Outlook in October 2020. It is forecasted that the international steel surface consumption in 2020 will reach 1.725 billion tonnes, a slight decrease compared to 2019's 2.4%. But 2021 will saw a 4.1% growth compared to 2020, which indicates that the international steel consumption will rise after the post-pandemic era.

In order to achieve the annual sales target of 2020 and properly leverage resources, CSC continues to strengthen its marketing channels and supply chain services, adopting the strategy of “domestic sales first, supplemented by foreign sales”, and adjusting flexibly according to changes in market conditions to accelerate new product development and application. CSC combines government policies with industry trends to improve both niche products and customer relationships. Internally, CSC continues to update production equipment, optimize processes for cost reduction and develop collaborative operations in intelligent production and sales in order to enhance overall competitiveness.

Possible Major Impacts on Steel Industry	CSC's Countermeasures
The oversupply on world steel markets has continued as the demand slows. In the post-pandemic era, the utilization rate of steel plants around the world will gradually recover. Steel plants may yield low profits or face deficits.	Improving the ratio of high-end products to segment the market.
	Establishing strategic partnerships with important clients to expand market.
	Setting production bases, sale spots and coil centers in regional economic cooperation system, being close to the market and serving customers.
International trade protectionism keeps happening all over the world: EU, USA, China, and emerging economies take the measures of antidumping, anti-subsidies, importing safeguards to limit the imports of steel products, which is unfavorable for domestic steel mills to expand export markets.	Actively developing emerging markets with explosive growth.
	Creating value by development and trial production of new products.
	Expanding supply scale of products, focusing on the R&D and supply of high-end industrial steel materials, such as cars, home appliances, and electric motors.
In the short run, the steel industry is benefited from the business return from the Taiwanese businesspeople in China. Yet in the long run, global operation is the main trend, which leads to the offshoring of downstream industries and reduction of domestic steel demand.	Actively seeking investment opportunities in downstream steel mills and other steel consuming industries.
Taiwan's downstream industry is export-oriented. Therefore, the uncertainty derived from the China-U. S. trade war and geopolitics have caused big impacts on domestic economy. On top of that, the competition in China's steel market is fierce and the steel price has drastically fluctuated, which is unfavorable for Taiwanese mills to expand markets.	With cost-effectiveness as a competitive advantage, CSC actively develops long-term relationships with potential customers, to stabilize order and strengthen downstream customer adherence.
	Extending the variety of product supply, focus on the development and supply of hot-stamping automobile parts, high-end appliance compressor and motors for electric vehicles.
	Exporting high-value-added and niche products, devoting time and effort to the Southeast Asia market and developing distant markets.
As FTA (Free Trade Agreement) has formed among South Korea, EU, the US, and China, and China joined RCEP (Regional Comprehensive Economic Partnership), many rivals have actively signed free trade agreements. If Taiwan doesn't enter CPTPP (Comprehensive and Progressive Agreement for Trans-Pacific Partnership), the extra tariff will trigger Taiwan to be neglected, which poses a long-term disadvantage to Taiwanese businesses.	Assisting the government in FTA promotion.
The application of BOF slag utilization has obstacles	Enhancing self-management and controlling the flow of BOF slag utilization to reverse the public misunderstanding of BOF slag. The flow of BOF slag utilization has been disclosed on the website in accordance with the government's policy of information disclosure.
	Expand the application of BOF slag: Completing “User’s Manual for the Utilization of BOF Slags in Raw Meal”, which was passed the auditing from Industrial Technology Research Institute, the third-party unit, on January 13, 2020 to promote BOF slag used in cement raw meal.
GHG total quantity control	Conducting annual GHG inventory and verification, implementing energy saving projects to extend emission reduction, and cooperating with IDB and EPA.

2.2 Organization Chart



2.3 Board of Directors

According to Article 192-1 of the"Company Act"and Article 22-1 of the CSC regulations, the directors adopt the nomination system for candidates. Independent directors and non-independent directors are nominated separately, and shareholders elect from the two candidate lists. All directors are covered by liability insurance to reduce the risks of decision-making.

CSC Board of Directors includes 11 seats, with 3 independent directors. There are 10 male directors, and 1 female director, all of which aged 50 to 76.

Title	Name	Gender	Representative of Juristic Person	Diversified Core Competences					
				Business Management	Decision-Making	Industry Knowledge	Finance and Accounting	Marketing	Technology
Chairman	Chao-Tung Wong	Male	Ministry of Economic Affairs, Taiwan (R.O.C.)	●	●	●		●	
Director	Wen-Sheng Tseng	Male	Ministry of Economic Affairs, Taiwan (R.O.C.)	●	●	●			
	Ming-Jong Liou	Male	Ministry of Economic Affairs, Taiwan (R.O.C.)	●	●	●			
	Shyi-Chin Wang	Male	Ever Wealthy International Corporation	●	●	●			●
	Chien-Chih Hwang	Male	Chiun Yu Investment Corporation	●	●	●		●	
	Cheng-I Weng	Male	Hung Kao Investment Corporation		●	●			●
	Yueh-Kun Yang	Male	Gau Ruei Investment Corporation	●	●	●	●		
	Chun-Sheng Chen	Male	Labor Union of China Steel Corporation	●	●	●			
Independent Director	Shyue-Bin Chang	Male	● Chair Professor, Vice President, and Dean of College of Informatics, Kao Yuan University. ● Ph.D.in Mechanical and Aerospace Engineering, Cornell University, U.S.A.	●	●	●			●
	Min-Hsiung Hon	Male	● Emeritus Chair Professor, Department of Materials Science and Engineering, National Cheng Kung University ● Ph.D. in Materials Science and Engineering, North Carolina State University, U.S.A.	●	●	●			●
	Lan-Feng Kao	Female	● Professor, Department of Finance, National University of Kaohsiung ● Ph.D. in Accounting, National Cheng Kung University				●		

Note: December 31, 2020.
For more details [Board of Directors] https://www.csc.com.tw/csc_e/cg/bi.html

2.3.1 Committees of the Board

For strengthening the operation of the Board of Directors, the Board has three functional committees such as “Audit Committee”, “Remuneration Committee”, and “Corporate Governance and Sustainability Committee”.

Audit Committee

The committee is composed of 3 independent directors, one of whom has accounting and financial expertise. Its main responsibility is to assist the Board in overseeing integrity of the company's financial statements, Certified Public Accountant (CPA) appointment (termination) and integrity/performance, internal risk controls, the company's compliance with legal and regulatory requirements, and the company's existing and potential risks. The committee convened 7 meetings in 2020. The proposals drawn from the resolutions of the meetings shall also be presented to the Board.

Remuneration Committee

The committee is composed of all independent directors. The committee shall review and assess the performance evaluation system for commissioned managers, the evaluation results, and related remuneration systems. The committee convened 3 meetings in 2020. The proposals drawn from the resolutions of the meetings shall also be presented to the Board

2.3.2 Board Performance and Evaluation

In order to implement corporate governance and enhance performance targets of the Board of Directors, CSC follows Article 18 of the “Taiwan Stock Exchange Corporation Operation Directions for Compliance with the Establishment of Board of Directors by TWSE Listed Companies and the Board's Exercise of Powers” and Article 37 of the “Corporate Governance Best Practice Principles for TWSE/TPEx Listed Companies” . In 2019 the Board of Directors approved the “Board Performance Evaluation Method”, an internal performance evaluation was conducted through a self-evaluation questionnaire once a year. The results will be organized by the Secretariat Dept. and sent to the Board of Directors before the end of the first quarter of the next year for review and improvement, and an external performance evaluation shall be carried out at least once every three years.

To keep the Directors advancing in their professional skills, and to improve the overall background of corporate governance and corporate sustainability, CSC regularly assigns the Directors and managers to attend ESG courses every year. The topics covered this year are Task Force on Climate-related Financial Disclosures (TCFD), insider trading, and liability case studies. In line with the five action plans of Corporate Governance 3.0 Sustainable Development Roadmap, CSC will continue to arrange further r courses or workshops for Directors, in order to follow the global trends.

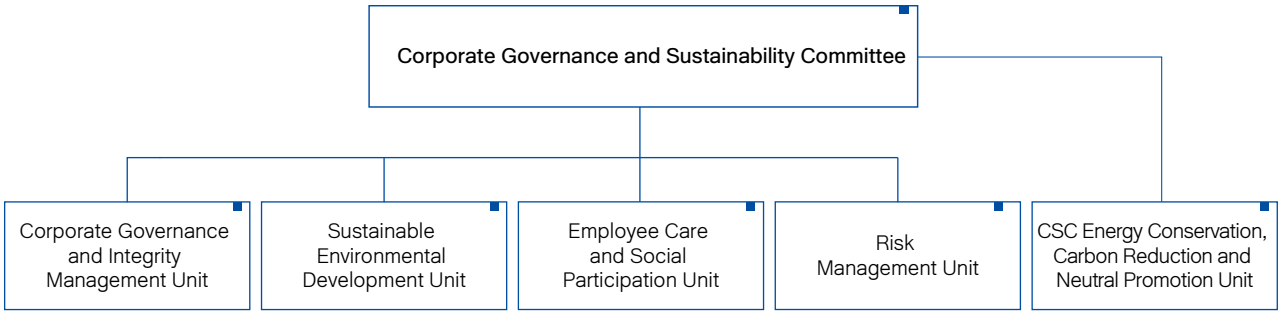
For more details [Further Study for the Board of Directors] https://www.csc.com.tw/csc_e/cg/cg.html#Con

2.4 Corporate Governance and Sustainability Committee

In November 2019, CSC established the “Corporate Governance and Sustainability Committee” (hereinafter referred to as the Committee). The Committee is composed of 5 Directors, 3 of which are Independent Directors who excel in engineering, material science, and accounting. The other 2 Directors are an employee Director who values labor welfare and a manager with hands-on practices in management. The Committee meets the skills needed for corporate governance and sustainable development. 3 meetings were held in 2020. In order to implement the sustainable management policy, the Committee has 4 functional units. Each unit is responsible for the operation, promotion and implementation of the resolutions put forth by the Committee, and convene at least two meetings annually. The Committee reports the implementation of each unit to the Board of Directors every year.

On December 28, 2020, the Board of Directors combined the CSR information disclosure unit and the corporate governance and integrity management unit by amending the Committee Charter. Risk Management unit was newly added to handle risk-related matters.

In addition, CSC founded the “CSC Energy Conservation, Carbon Reduction and Neutral Promotion Unit” under the Committee with the approval of the Board of Directors on February 26, 2020. The team takes real action in environmental protection and climate change.



For more details [Corporate Governance and Sustainability Committee] https://www.csc.com.tw/csc_e/cg/bof3.html

2.5 Ethical Conduct

2.5.1 Regulations and Implementation

Business Integrity

CSC established the “Procedures for Ethical Management and Guidelines for Conduct”, which is based on the principles of honesty, fairness, trustworthiness, and transparency, and is used to implement business activities based on integrity management policies.CSC's integrity management policies are being publicized in internal regulations, annual reports, company websites, publicity and external activities, so that managers, employees, suppliers, customers or other business-related institutions and personnel can understand CSC's integrity management philosophies and regulations.

The company arranges instructions on rewards and punishments for new employees every year and promotes the importance of the integrity using topics on “side job”, “receiving improper benefits” and other related content. A total of 9 sessions were arranged in 2020 with 406 trainees participated. Besides, in order to improve the professional knowledge and legal literacy of the group's directors and supervisors, two corporate governance courses were arranged, which included the contents of TCFD and insider trading.

Avoiding Conflicts of Interest

“The Codes of Ethics for Directors” of CSC strictly stipulates avoidance of conflict of interest and sets anti-corruption principles. Also, “Rules of Procedure for Board of Directors Meetings”, which was enacted in accordance with “Regulations Governing Procedure for Board of Directors Meetings of Public Companies”, provides that if there is a conflict of interest for any director with respect to any matter on the agenda at the board meeting, the director must recuse from discussion and voting on that matter and must not exercise voting rights as proxy for another director on that matter.

In addition, the organizational regulations state the relevant rules regarding avoidance of conflict of interest and corresponding penalties, such as: 1. “The Code of Ethics for General Managers and Above”, which clearly regulates that personnel above General Managers should handle business in an objective and efficient manner, avoiding using their positions to cause undue benefits to related personnel or the company; 2. “The Ordinance for Avoiding Conflict of Interests”, prohibiting employees from using their power or position and information to plot private interests.

Preventing Malpractice

Complying with Article 7.1.1 of the "Political Donations Act", CSC does not contribute to political donations. According to "The Principles of Integrity and Ethical Management", all of the CSC's directors, managers, employees, mandataries or anyone who de facto controls the management of CSC should neither directly nor cause other dishonest behaviors such as violation of integrity, illegality, or breach of fiduciary duty when engaging in commercial activities.

To realize a high-quality corporate culture and maintain a positive corporate image, CSC formulated "The Ordinance for Handling on Receiving of Gifts, Receiving of Drinking and Dining Treat, Requests for Intercession through Influence", for employees to follow.

The company establishes an open complaint channel through the whistleblower hotline, fax, e-mail and company website etc. The Internal Audit Office is responsible for handling the complaint case, keeping the information of such case confidential throughout the investigation process. In 2020, a total of 30 complaints were received, all of which were properly handled by relevant units after careful verification and censorship. There were no violations of regulations.

Complaint Hotline: +886-7-8021111#2191 (Headquarter)

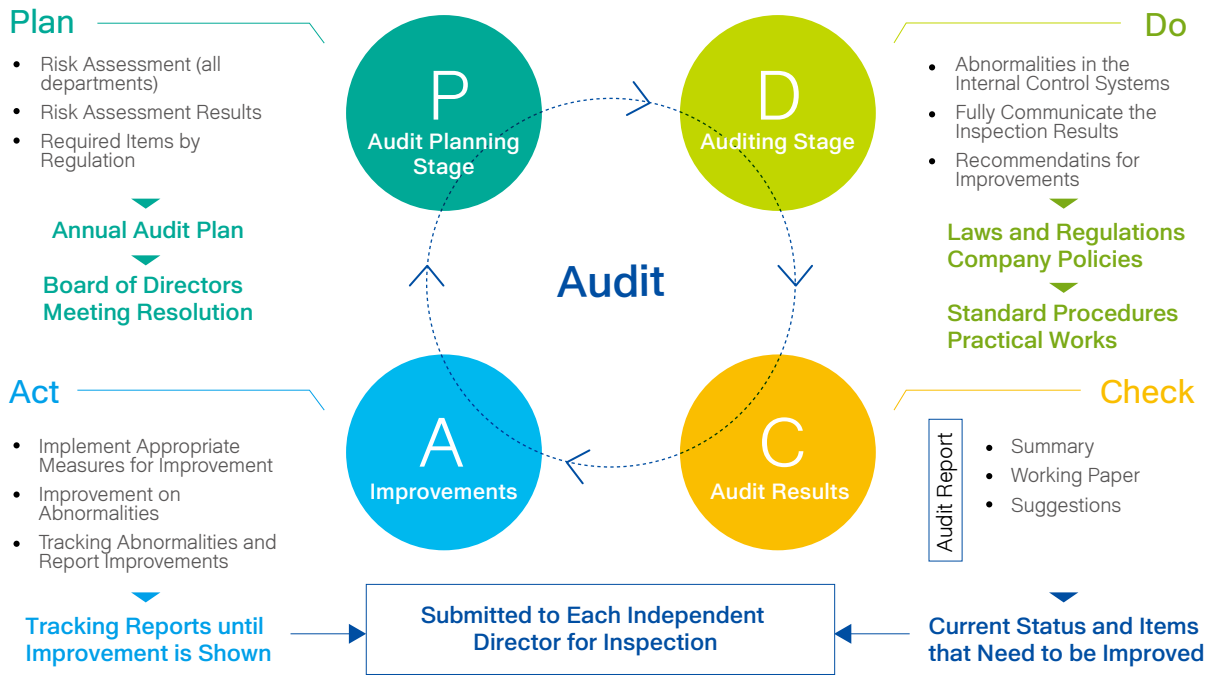
+886-7-3371111#22191 (China Steel Building)

Complaint Fax: +886-7-8010736; Complaint Mailbox: P.O. BOX 47-13 Kaohsiung, Taiwan

e-mail: IA00@mail.csc.com.tw

2.5.2 Internal Auditing and Correction

The Internal Audit Office (IA) is under the Board of Directors. The purpose of internal auditing is to assist the board and management in checking and reviewing defects of the internal control system, to evaluate the effect and efficiency of operations, and to provide timely suggestions of improvement to ensure the continuous practice of internal control systems. IA requested that related units revise 7 internal control procedures and control key points in 2020.



Self-assessment Reports of Internal Control System

The Internal Audit Office reviews the management review report and internal control system self-assessment report from CSC's departments, divisions and the group's subsidiaries annually. Along with the results of each operational audit performed in 2020 as well as self-assessment reports of each department, it was consolidated into the “2020 Departmental Self-Assessment and IA Summary Report”. The report was used to evaluate the effectiveness of the overall internal control system and served as the main content of the “Internal Control System Statement”.

Eight Operating Cycles

Audit items of 2020 include the procedure of 8 operating cycles, crosschecking functions between systems, compliance with the regulations of Financial Supervisory Commission (FSC), and internal control systems of subsidiaries. A total of 47 auditing reports and 540 suggestions of improvement were proposed in 2020, and subjected timely improvement measures by audited units and subsidiaries, and filed in the CSC's IA Management System for follow-up. Audit items are submitted to supervisors and independent directors for review.

2.5.3 Information Transparency

To ensure transparency of information, CSC builds online filing system in accordance with Guidelines for Online Filing of Public Information by Public Companies of the Securities and Futures Bureau. Information is also disclosed on CSC website and is accessible through the shareholder service direct line, spokesperson, and designated media contact.

For more details [Information Transparency] https://www.csc.com.tw/csc_e/hr/csr/gov/gov8.htm

2.6 Risk Management

2.6.1 Operating Mechanism of Risk Management

There are three levels for risk control in CSC, and all employees are responsible for each level. Instead of being monitored by one certain department, we believe that the best way to implement the risk management is to prevent layer upon layer through daily routines.

Risk Control Procedure

Level	Unit
1	**Departments**
	Mechanism: The responsible departments take the responsibility of early risk detection, evaluation, control, and setup of prevention schemes.
2	**Committees and Meetings**
	Mechanism: The President and Vice Presidents hold committees and meetings for risk assessment and feasibility study for the prevention schemes, while the Legal Office and IA provide legal opinions and control points setting.
3	**The Audit Committee and the Board of Directors**
	Mechanism: The Audit Committee and the Board of Directors review and approve the risk assessment and prevention schemes. IA regularly, or from time to time, selectively exams and evaluates the risks and reports to the Audit Committee and the Board.

For a more stable operation and sustainable development, CSC approved the establishment of the Policy and Procedure for Risk Management as the highest authority for risk management. In the Policy and Procedure for Risk Management, the risk covers operational risk, financial risk, information security risk, environmental risk, legal risk. A unit is designated to carry out the risk identification, evaluation, and countermeasure planning. The Board of Directors, the Committees of the Board, and managers at all units are responsible for risk monitoring. Through regular reporting, risk is under control.

In order to prevent the risk of illegal operations caused by failing to conform to constantly revised regulations, CSC began to plan and promote the internal regulatory identification mechanism at the end of 2018. A regulatory identification system was built in 2019 to confirm to the latest versions of the regulations and initiating the identification process. In 2020, CSC continued to promote legal compliance, strengthened system operation, and developed e-handling service. The overseas production bases follow CSC's management mechanism to respond to legal changes.

2.6.2 The Implementation of Risk Management

Aspect	Type	Potential Risk	Control Strategies and Measures
Economy / Governance	Financial Risk	Exchange Rate Risk	• Adopt hedging operation for foreign currencies of import/export businesses to avoid risk, and monitor the trend of exchange rate and buy or sell currencies adequately to avoid risk. • Take out loans of equivalent amounts of foreign currencies or enter forward exchange to avoid exchange rate risk when foreign currencies are demanded at foreign investment or procurement of imported equipment; constantly adjust the approaches as hedging cost, exchange price trend and foreign currency loans change. If the New Taiwan Dollar (TWD) is strong when injecting capital for foreign investment, the financing cost would be considered, and discussed to borrow TWD to settle foreign currency for capital.
		Rising Interest Rates	• Set a strict tolerance rate for variable interest rate liabilities. • Regularly assess the best timing for issuing mid-term and long-term debentures in combination with bank credit to lower capital cost and avoid increasing interest rates. • In terms of short-term financing in TWD, CSC continues to use low interest rate commercial papers and short-term bank loans. • In terms of mid-/short-term financing in TWD, CSC adopts adjustable fixed rate commercial papers (FRCP) during the time of a relaxed capital market to reduce the long-term interest rates in TWD .
		Inflation Risk	• COVID-19 put the world economy into a near standstill. Central banks in all countries responded with quantitative easing and expansionary fiscal policies. The inflation made a tremendous impact on the company's operation. We will take close attention on the inflation trend. CSC is striving to become a steel mill that provides premium products and services, which can improve the gross profit.
		Pickup by Customers	• Use the accounts receivable without recourse to sell out, obtain the payment in advance, and enhance fund utilization efficiency. • Use e-commerce and security mechanisms of digital signatures to simplify payment procedures.
		Big Changes in the Industrial Structure of the Insurance Market	• In response to the pandemic and natural disaster that caused a rapid change to the insurance market, CSC went deep into the structure change of the insurance market as a preparation for the renewal of the Group's fire insurance. • CSC also came up with workable options with different insurance types to reach the goal of reducing the premium cost. • CSC inquired the property insurance companies in Taiwan about the premium rise and the rate to formulate renewal project backup. • Discussion has been made for detailed implementation by following the insurance schedule for wind farm companies.

Aspect	Type	Potential Risk	Control Strategies and Measures
Economy / Governance	Financial Risk	Big Changes in the Industrial Structure of the Insurance Market	• Reinforce precaution measures, decrease the accident occurrence, and minimize the range of damage. CSC makes improvement plans and preventive actions with the insurance companies, so they know that the risks are within control.
		Capital Utilization Efficiency of CSC Group	• Regularly analyze the financial structures and indicators of affiliates and set up an alarm mechanism. • Formulate risk communication mechanism, provide necessary assistance and advice on financial risks encountered by the Group subsidiaries. • Strengthen relationships between affiliates and finical institutions to enhance capital management among affiliates and improve capital utilization efficiency.
	Production Risk	Economic Recession	• Simulate and plan for production and sales situations based on orders estimation. • Slab procurement quota allocation: Allocate the slab quota to each subsidiary and affiliate. • Adjust blast furnace production and maintenance schedule according to storage capacity. • Adjust production line quarterly/yearly maintenance schedule. • Adjust raw material limit in accordance with the decrease of molten iron. • Commissioned rolling: If the plant's capacity cannot cover, CSC will commission other plants to do the rolling.
	Market Risk	Concentrated Sales	• Adopt the marketing channel strategy of “mainly domestic sales, export sales as a supplement” and make adjustments according to market changes. • Operation centers are set overseas to immediately receive sales information and channel news, in order to lower the operational risk.
		Imbalanced Production and Sales	• Predict orders with big data in order to plan and simulate production and sales conditions in advance, also timely adjust production plans. • Make full use of CSC Group's resources, flexibly schedule production line capacity, reduce inventory and shorten delivery time. • COVID-19 caused a decline in overall demand, and afterwards the global economic recovered, the global steel market and systemic risks increased rapidly. CSC not only meets needs of downstream industries as much as possible, but also adjusts the price moderately, thus increasing competitiveness of the domestic steel supply chain.
		Price Changes	• Grasp domestic and foreign market information, actively participate in organizational meetings, exchange information with the industry, and listen to the opinions from downstream customers. • Strengthen the price opening mechanism to enhance the timeliness of CSC's response to market conditions. • Apply Intelligent Production and Sales technique to predict future market conditions and improve the accuracy of future forecasts.
	Transportation Risk	Shipment of Raw Materials	• Review material reserve weekly for optimized transportation planning to avoid material interruption. Based on the capacity needed and economic benefits, actively dispatch vessels of long term or temporary contracted. Continuously track the positions of vessels till unloading. • Control the progress of operations such as raw material shipping, loading and unloading, and provide materials in a timely and appropriate manner for on-site production. In the weekly raw material purchase and transportation meeting, CSC reviews and communicates internally with relative departments, and makes proper shipping plans according to the raw material reserves, amount of replenishment, and safety stock level. • The transfer operation of iron ore has been developed since 2019 to overcome the issue of the shipment not being unloaded in time due to insufficient space on site, and also shorten the waiting time for the fleet in order to achieve minimal cost on delay. • COVID-19 epidemic situation abroad is severe. For ships berthing at the CSC plant, we must ensure the health and epidemic prevention of staff.

Aspect	Type	Potential Risk	Control Strategies and Measures
Economy / Governance	**Transportation Risk**	Shipment of Finished Goods	• The buyer (client) bears all risks of loss or damage to the goods from the time they have been delivered on board. • For domestic in-land transportation, all the contractors must sign an affidavit and provide an irrevocable bank guarantee involving a certain promised quota to ensure goods will reach their destination safely. If the goods are damaged, lost or delayed, CSC may deduct the deposit or deduct from the freight payable to the transportation company in order to control the transportation risk. • COVID-19 has led to the suspension of supply chains in various industries around the world, and the demand for the steel industry has plummeted, causing the company's domestic customers to receive a rapid decline in downstream orders. In addition, the recent fuel market price has fallen sharply in the short term, to help customers reduce costs and reduce operating pressure. • Considering that downstream customers may be affected by the COVID-19 (epidemic prevention measures and delay the shipment timing) we coordinated some customers to arrange the transfer of finished products to a third place for unloading, so as to reduce the impact of the epidemic on the inventory of finished products in the factory.
	Raw Material Source Risk	Interruption of Supply	• Carefully assess and actively develop raw materials sources to avoid monopoly of certain suppliers. • Build an adequate safe stock level and purchase loose items on the spot market for replenishing a part of the required amount of use to ensure flexible response to changing production needs. • For transportation: operate with own vessels for material shipment and use chartered vessels as alternatives when necessary. • Increase self-supply of raw materials. • Grasps market conditions by collecting business information and plant surveys.
	Raw Material Source Risk	Material Investment	• Prudently choose miners and/or partners for raw materials resources investment. • Hire advisors to assist in conducting project feasibility study. • Conduct on-site due diligence on the projects and mine. • Convene meetings of both internal and external experts for comprehensive evaluations. • Monitor the operation and development of the invested projects and/or companies. • Participate in the decision making of the invested projects and/or companies.
	Information System Risk	Information System Abnormal	• Standardize operation procedures, implement training, and carry out regular safety drills. • Enforce disaster prevention, information safety, monitoring, and back-up; establish alert and report mechanism and problem management platform.
		Information Security	• Enhance CSC's information security. Relevant measures have been carried out in accordance with the advice from the external consultant in 2019. • Implement privileged account management, weaken domain accounts access of PC/ Notebook, enable personal computer firewall, plan schedules of upgrades regularly to avoid ransomware attacks. • Adopt asset inventory software, apply APT (Advanced Persistent Threat) defense software to strengthen the security quality of the endpoint devices. • Adopt online encryption/decryption equipment to avoid hidden attacks from SSL connection, and include them in the monitoring range.
	Equipment Maintenance Risk	Machinery Equipment Maintenance	• Spare parts management: Maintain appropriate inventory level based on maintenance experience and spare parts consumption records. Notify designated personnel when inventory level is lower than safety stock to prevent production disruption. • Maintenance records establishment: Decrease equipment unscheduled downtimes through equipment shutdown and failure management. Proactively discover equipment abnormalities and implement equipment maintenance records. Strengthen monitoring process of countermeasures and maintenance strategies to systematically and comprehensively retain and pass on maintenance expertise and practices. • Online Monitoring Center: Monitor major production equipment data through system and provide daily and weekly abnormality reports. Develop abnormality countermeasures for early warning and prevention of possible unforeseen production halt.

Aspect	Type	Potential Risk	Control Strategies and Measures
Economy / Governance	**Equipment Maintenance Risk**	Electrical Equipment Maintenance	• Strengthen the Maintenance Procedure by referring to IATF 16949 Automotive Quality Management System Standard, enhance equipment availability, and improve the maintenance ability. • Implement the System Development Procedure by referring to ISO 9001 Quality Management Systems to build a highly stable equipment system. • Build up information security mechanism by referring to the ISO 27002 Information Security Standard Management for sustainable operation; Adopt TWGCB (Government Configuration Baseline) to lower the risk of cyber attack or hacker intrusion.
Environment	**Utility Risk**	Unstable Supply	• Inspect pipelines to maintain a steady and reliable supply of utilities. • Conduct periodic emergency drills. • Participate in public sewage treatment plant (Fengshan Creek and Linhai) reclaimed water recycling projects.
		Stricter Regulations	• Comply with regulations to ensure the quality of effluent meets standards.
	Water Risk	Water Resources Management	• Collect rainwater for reuse. • Add secondary water sources such as seawater desalination and urban sewage recycling. • Examine drainage and emergent submerge pumps for extreme precipitation. • Set run-off pools and treatment systems to improve effluent quality.
	Climate Change Risk	Carbon Management	• Develop low carbon steel products and perform LCA. • Participate in green businesses and collaborate on carbon reduction domestically and abroad. • Enhance energy efficiency and formulate carbon reduction action plans. • Follow national regulation to amend laws to lower the legal impact.
Environment / Society	**EHS Risk**	Labor Safety Culture	• Conduct comprehensive hazard identification and risk assessments; adopt risk mitigation measures; conduct emergency response drills.
		Environmental Protection	• Reduce air pollutants and wastewater discharge, and increase water saving and wastewater recycling. • Strengthen the risk control of resource utilization. • To promote the utilization of BOF Slag in public construction, CSC has set up three levels of stringent management system, including self-management in the Group, third-party verification, the audit from the competent authority, and so on, in order to manage the utilizing way from source to end-use. • Properly manage waste production, storage and cleanup procedures.
		Administrative Justice	• Watch for the imposition of various types of environmental taxes, fees and energy taxes to ensure that they are justice.
Economy/ Governance, Society	**Engineering Management Risk**	Internal Management	• Establish engineering and capital expenditure management systems, and strictly control the progress, budget, etc. • Establish engineering management platform and consolidate information such as contract and suppliers and cost to better facilitate the constructions. • Promote zero accidents and strengthen the risk control of occupational safety and health.
		Contractor Performance	• Track contractors' financial status by entrusting local investigators and filing investigation results in the engineering management system and integrated platform. Conduct periodic credit checks of specific suppliers. • Develop performance assessment and category mechanisms for the construction contractors, technical service suppliers, and technical service consultants. The assessments are evaluated by the engineering organizer and filed with the engineering management authority for reference. The contractors are registered and classified into different grades according to their holding capital, completed projects and credits. The risk is controlled by limiting project scale for each grade of contractors.

3

Chapter

Value Creation

Feature:
Two Main Business Missions

Feature

Two Main Business Missions

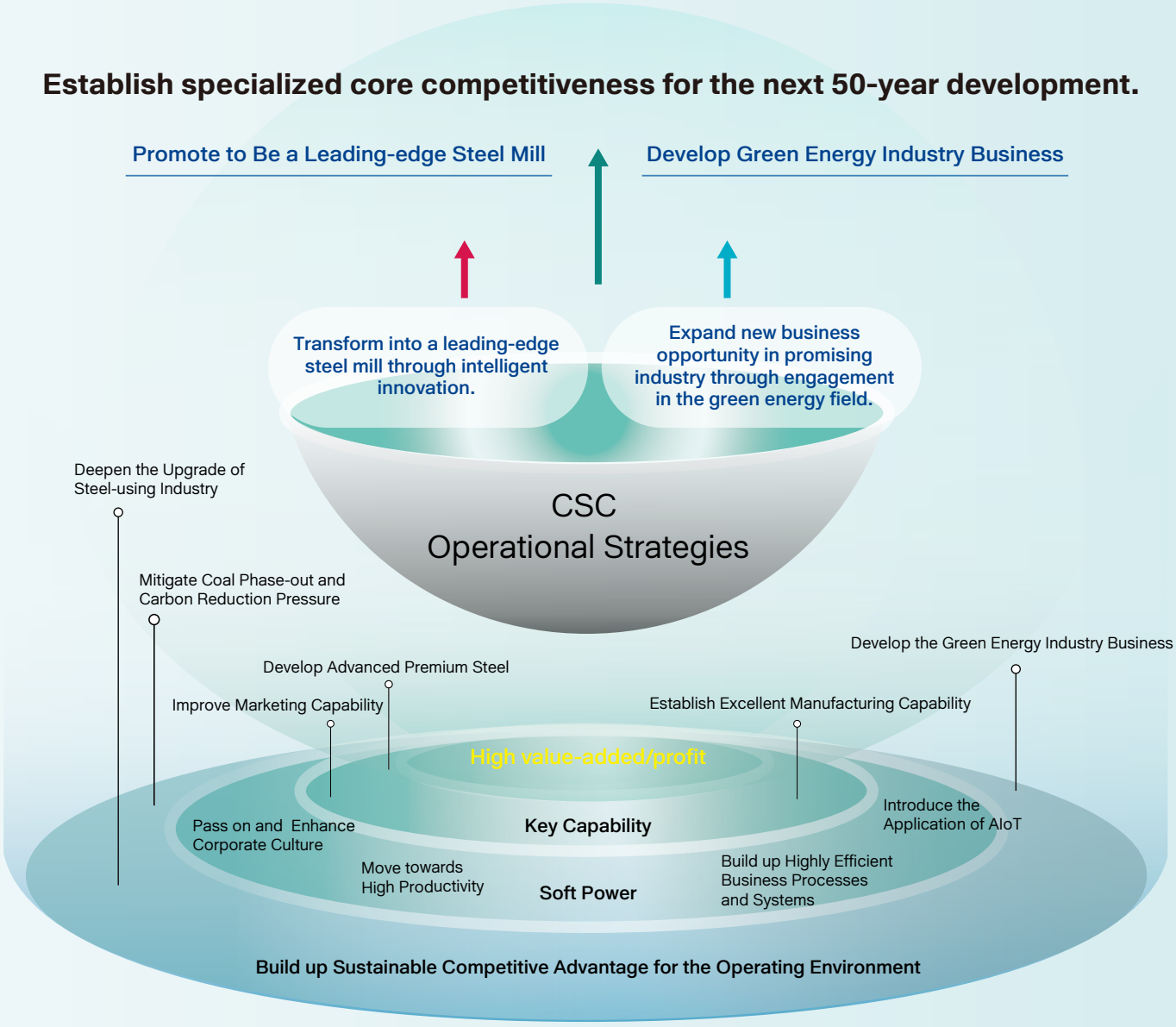
Achieve the Two Main Business Missions

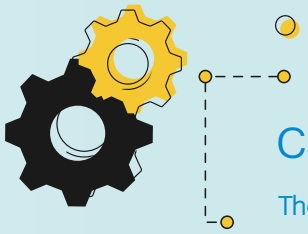
Looking forward to the next five decades, CSC is striving to become a steel mill that provides premium products and services, and engage in developing green energy industry business to strengthen its competency. CSC will advance based on the solid foundation in sustainable development.

Ten strategies. Three key capabilities

To highlight the two business missions, CSC has made plans to develop advanced premium steel, establish excellent manufacturing, improve marketing capability, introduce the application of AIoT, build up highly efficient business processes and systems, move towards high productivity, pass on and enhance corporate culture, deepen the upgrade of steel-using industry, develop the green energy industry business, and mitigate coal phase-out and carbon reduction pressure, as shown in Fig.

Establish specialized core competitiveness for the next 50-year development.





CSC Operational Strategies

The core of the ten operational strategies are “develop advanced premium steel”, “establish excellent manufacturing capability”, and “improve marketing capability."

1 Develop Advanced Premium Steel

Advanced premium steel products need to fulfill the conditions of high technical content, high profitability and high industry benefit. After considering the future industry trend, clients' demands, and government policies, eight items are categorized as advanced premium steel products: High-Quality Forging Steels, Superior Hand Tool Steels, High Performance Structural Steels, Steel for Green Energy, Ultra-High Strength and Toughness Steels, Advanced Alloy Steels, Cross-Generational Automotive Steels, Ultra-High Efficiency Electrical Steels.

2 Establish Excellent Manufacturing Capability

Manufacturing capability establishment will focus on excellent steel making, rolling abilities and the ability to mass-produce advanced premium steel products. The main purposes are to increase production efficiency, decrease product abnormality, reduce the production cost, and shorten delivery time.

3 Improve Marketing Capability

Exert the marketing capability and fully grasp clients' needs. Provide high-quality products to those in need at reasonable price. CSC also aims to turn its technology edge into a business attraction, continuously strengthening the service to win clients' trust.

Additionally, CSC plans to enhance the business performance through the application of AIoT and the highly-efficient operational procedure. Optimization programs relating to automation and intelligentization are drawn up to enhance the productivity and output value per employee, and passing on and enhancing corporate culture are also included to enhance the overall operating soft power. With the relentless efforts in upgrading steel-using industries, CSC provides competitive steel products and develops relevant technology, all of which are deeply rooted in four aspects: Industry 4.0, core technology cultivation, R&D cooperation with up-and-down stream suppliers, and industry service team. It is expected that through these endeavors, the downstream steel-using industries can be upgraded and generate more demands in advanced premium steel products.

In response to a low-carbon economy development trend, CSC actively implements energy conservation and carbon reduction works and focuses on developing the green energy industry business, which is listed as one of the important development strategies of CSC. It is hoped that CSC can alleviate the pressure of carbon reduction and move towards green industry.

The above-mentioned two main business missions are highly related. Developing green energy industry business requires a solid support of material while developing to be a leading-edge steel mill requires a steady demand in the industry to expand the market scale. By equipping the above key abilities, soft power and building up the sustainable competitive advantage for the operating environment, CSC expects to create a sustainable industry chain with partners in the up and down-stream.

Material Topic

3.1 Operational Finance

Benefit Highlights in 2020

Highlights

AA-

The Long-term Credit Rating given by Taiwan Ratings is twAA-. The Long-term Credit Rating given by the Fitch Ratings is AA- (twn).

Selected as a constituent company of the TWSE Corporate Governance 100 Index (CG100).

6.04 billion TWD

The goal of cost reduction and profit increase projects was 4.58 billion TWD, and the actual cost reduction amounted to 6.04 billion TWD. The target achievement rate was 132%.

Meaning for CSC

Financial performance is a demonstration of business stability and efficiency. By strengthening its financial structure and implementing cost control, CSC will continue to steadily give impetus to the increase of economic value and give back to all stakeholders in order to achieve the long-term goal of sustainable development.

Target

Short-term Goals (1~2 Years)	Mid-term Goals (3~5 Years)	Long-term Goals (5 Years and More)
✓ 2021 cost reduction and profit increase≥ 3.66 billion TWD. ✓ 2021 premium steel delivery ≥ 4.08 million tonnes. ✓ 2021 advanced premium steel delivery ≥ 350 thousand tonnes.	✓ Improve global logistics, strengthen strategic partnerships, optimize overseas distribution, and introduce intelligent commerce. ✓ Provide the companies in the Group with financial advice and fundraising assistance, as well as establish risk. management mechanisms ✓ Provide multifaceted analysis of profitability to support price setting.	✓ Advanced premium steel delivery reaches the “double 20%” goal. ✓ Flexible financial control to reduce the group's financial costs. ✓ Optimize the standard product costing system, provide real-time cost and profit information in order to build the best product combination module.

Management Approach

CSC continues to create profits through increasing income and reducing costs. When there is a surplus in the year, under the maintenance of a stable financial structure, the annual surplus will be returned to shareholders in the mission of dividend distribution to establish the value of the company's long-term investment.

CSC makes short, mid, and long-term goals to reach financial stability. By fully implementing the action plans, CSC assists the Group companies in making financial plans and financial integration projects. In compliance with the mission of a leading-edge steel mill, CSC continues to raise product value, improve gross profit structure, in order to reach the profitability rate and sales ratio of the advanced premium steel reach 20%.

Action Plan

» **Financial information platform**

- CSC established the banking management system for the Group to manage credit items centrally. A financial information inquiry system has been established to allow users to search for important financial information. A Group capital system was also built to optimize capital usage.

» **Risk Control**

- CSC assisted the Group in analyzing and managing risks and completed the insurance arrangement based on the risk control plans. Based on the financing needs, CSC also engaged in the negotiation of the financing and the financial guarantee planning.

» **Transparent Communication Channels**

- CSC participated in the investor conferences and road shows held by the brokers to have face-to-face communication with domestic and international investors.
- CSC website has Investor Section in both Chinese and English, where financial information will be regularly disclosed, as well as the investor conference presentation, annual report, and stock-related information.

CSC website has a Stakeholder Section where the contact information of the spokesperson, deputy spokesperson, and stock affair/IR unit is disclosed. Shareholder service e-mail and free shareholder hotline have been established to instantly respond to the questions and comments of the shareholders/investors.

Implementation Results

CSC Taiwan Ratings in 2020 remain the same while the rating outlook was negative. This is mainly due to the lower steel demand because of the COVID-19. The Fitch Rating results remain “stable”. It is evident that the rating agencies affirm that CSC can respond to the fluctuations in the steel market through its cost advantages and the ability to maintain a steady and stable cash flow. Maintaining good performance in credit ratings will help with short-, mid- and long-term financing and reduce financing costs.

2020 Credit Rating				
Rating Agency	Credit Rating		Rating Outlook	Effective Date
	Long-Term	Short-term		
Taiwan Ratings	twAA-	twA-1+	Negative	April 16, 2020
Fitch Ratings	AA-(twn)	F1+(twn)	Stable	December 23, 2020

3.1.1 Cost Control

Due to China-US trade war and COVID-19 pandemic outbreak, the steel market slumped dramatically, which affected CSC's profitability. To overcome the difficulty and strengthen the competitive advantage, CSC implements various cost control measures. The previous cost reduction and profit increase projects were implemented through the bottom-up approach, namely project items were proposed from each sector In 2020, besides the bottom-up, CSC added items through top-down approach. The key items that the chairman and the president concern will be included in the project and reviewed the performance monthly. CSC also utilize the standard cost system to set appropriate yet challenging cost control goals for each production line. Every month, meetings will be held to review the result and make suggestions for improvement measures to reinforce cost control.

2020 Highlight: CSC encountered a deficit in the first half of 2020, thus the cost reduction and profit increase projects were implemented on a larger scale in June. The number of items increased from 323 to 425, and the original target (3.03 billion TWD) was adjusted to 4.58 billion TWD. The actual cost reduction was 6.04 billion TWD with the target achievement rate reaching 132%.

2021 Target: Cost reduction and profit increase projects will add up to 376 items, with the total cost reduction target amounting to 3.66 billion TWD.

Unit: 100 million TWD	2017	2018	2019	2020	2021
Cost Reduction and Profit Increase Target	32.5	38.0	61.8	45.8	36.6
Cost Reduction and Profit Increase Performance	39.6	46.9	72.5	60.4	—

3.1.2 Business Performances

Operating Revenue			
Unit: 1,000 TWD	2019	2020	The reasons of increase/decrease from 2019 to 2020
Sales Revenue	201,535,449	177,864,295	Steel unit price dropped
Service Revenue and Others	5,762,084	5,977,231	Construction revenue increased
Total Operating Revenue	207,297,533	183,841,526	—

For more details [Financial Information] https://www.csc.com.tw/csc_e/ss/fin/fin.html

Operating Expense				
Unit: 1,000 TWD	2019	2020	Increase / Decrease from 2018 to 2019	Rate of Change (%)
Operating Costs	194,591,389	175,614,789	(18,976,600)	-10%
Cost of Goods Sold	190,047,383	170,497,942	(19,549,441)	-10%
Service Costs and Others	4,544,006	5,116,847	572,841	13%
Operating Expense	8,257,497	7,490,152	(767,345)	-9%
Total Operating Expense	202,848,886	183,104,941	(19,743,945)	-10%

Net Profit			
Unit: 100 million TWD	2018	2019	2020
Operating Revenue	2,354.03	2,072.98	1,838.42
Profit before Income Tax	263.97	100.35	10.07
Net Profit for the Year Tax	244.54	88.10	8.86

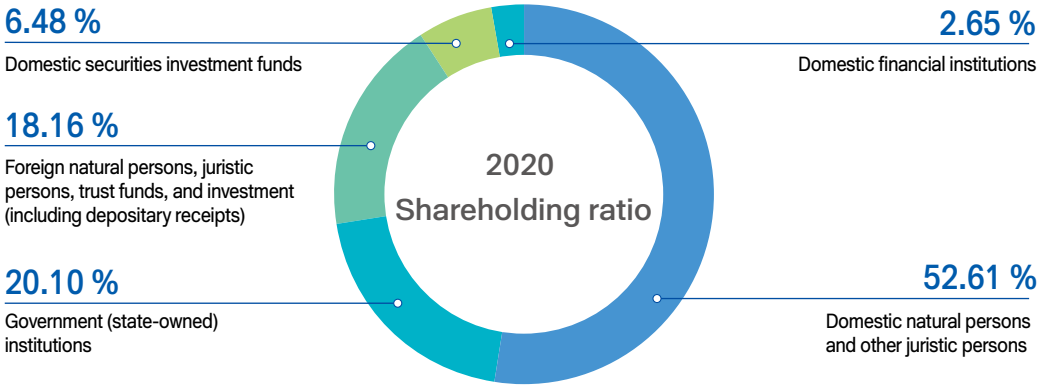
Dividend Distribution			
In 2020, earnings available for distribution totaled 14.091 billion TWD, with dividend distribution of 1.4 TWD per preferred share and 0.3 TWD per common share. CSC revenue dropped in 2020 due to the pandemic. Earnings per share were 0.05 TWD. Considering the promising development in the steel industry and the long support from millions of shareholders, CSC increased the dividend per common share to 0.3 TWD from unappropriated earnings, equivalent to 1.41% of cash yield (based on the average closing price of that year). Dividend distribution and return on investment over the past three years are as follows:			
Unit: TWD	2018	2019	2020
EPS	1.58	0.57	0.05
Cash Dividend	1.0	0.5	0.3
Stock Dividend	0	0	0
ROE (%)	8%	3%	0.3%
P/E Ratio	15.32	42.47	424.8
P/D Ratio	24.20	48.42	70.8
Cash Dividend Yield (%)	4.13%	2.07%	1.41%

Note: P/E Ratio = Average closing price per share for current year ÷ EPS P/D Ratio = Average closing price per share for current year ÷ cash dividend per share Cash Dividend Yield = Cash dividend per share ÷ average closing price per share for current year.

According to CSC's Articles of Incorporation, earnings of a fiscal year are distributed in the following order after tax payment, deficits offset, and appropriation of legal reserves: (1) Set aside for special reserves or partial retain when necessary. (2) As dividends for preferred stocks at 14% or par value. (3) The remainder, if any, as additional dividends divided equally between the holders of preference and ordinary shares. CSC's cash dividend payout ratio is approximately 80%.

3.1.3 Shareholder Structure and Subsidies

Shareholder Structure (According to the information on the book closure date, August 1, 2020)



Based on Article 10 of the Statute for Industrial Innovation, CSC's expenditure on R&D is credited against its income tax payable. In 2020, the amount of the tax credit applied for R&D expense was 11.76 million TWD.

For more details [Tax Management] https://www.csc.com.tw/csc_e/hr/csr/in/in8.htm
For more details [Invested Businesses] https://www.csc.com.tw/csc_e/hr/csr/in/in3.htm

3.2 Product and Sales

3.2.1 Major Products and Usage

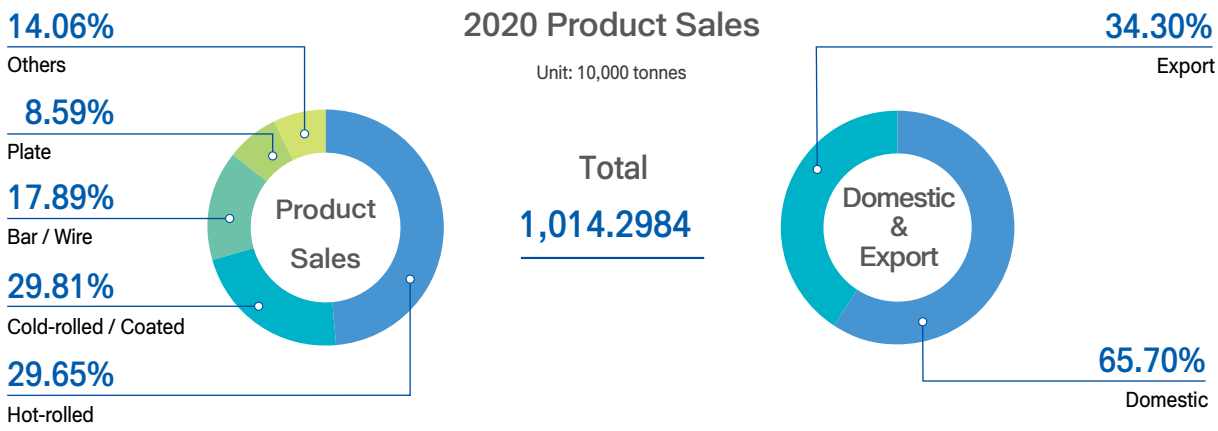
The production of crude steel in 2020 was 8.24 million tonnes approximately, decreasing by 1.25 million tonnes compared to 9.49 million tonnes in 2019, and the decrease rate is about 13.17%. The productivity per capita was 827.22 tonnes/man-year.

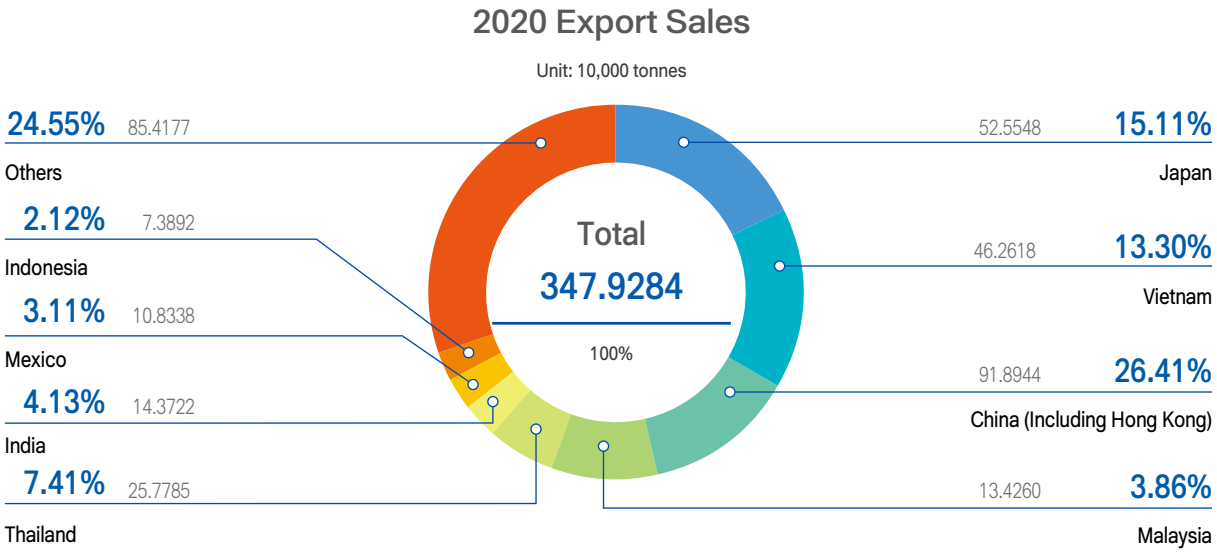
Major products and usage		
Steel		**Applications**
	Plate	Shipbuilding, bridges, steel structures, oil country tubular goods (OCTGs), storage tanks, boilers, pressure vessels, die, truck chassis, general construction, offshore wind power, etc.
	Straight bars, bars in coil	Nuts and bolts, hand tools, loudspeaker parts, automobile and motorcycle parts, suspension spring, bearing, machinery parts, free cutting rod, gear, polished bar, etc.
	Wire rods	Nuts and bolts, steel wire and rope, P.C wire and strand, hand tools, welding electrodes, tire cord, bearing, free cutting rod, umbrella part, polished bar, etc.
	Hot rolled coils, plates, and sheets	Steel pipes and tubes, vehicle parts, containers, pressure vessels, building structures, hydraulic jacks, cold rolled and galvanized substrate, hand tools, light shapes and formed parts, etc.
	Cold rolled coils	Steel pipes and tubes, steel furniture, kitchenware, home appliances, oil barrels, automobile panels and parts, enamelware, substrate for galvanized and coated steel sheets, hardware, etc.
	Electro-galvanized coils	Computer cases / parts and accessories, home appliance panels / parts and accessories, LCD TV back plates / parts, motor cases, construction materials, furniture hardware and components, motorcycle fuel tanks, etc.
	Hot-dip galvanized coils	Automobile panels and parts, home appliance panels / parts and accessories, computer cases / parts and accessories, PPGI substrate, construction materials, furniture hardware and components, etc.
	Electrical steel coils	Electric vehicles, electric boats, compressors, household appliances, electric machine tools, transformers, fluorescent ballasts, drones, spindle motors, servo motors, industrial motors, etc.

Production volume of major products			
Unit: 10,000 tonnes	2018	2019	2020
Plate	96.1	84.1	86.5
Steel bar	68.4	54.1	45.8
Steel wire rod	128.8	112.5	123.4
Hot-rolled	268.7	279.8	270.8
Cold rolled	332.0	300.8	294.4
Slab	29.0	41.0	48.8
Cast iron	1.04	1.68	1.27
Total	924.0	874.0	871.0

3.2.2 Product Sales

In 2020, the total sales of steel products were 10.14 Mt. Domestic sales accounted for 65.70% (6.66 Mt), Cold-rolled / Coated products took up 29.81%, and Hot-rolled products accounted for 29.65%. Export sales accounted for 34.30% (3.48 Mt), and the major exporting markets included Japan, China (including Hong Kong), and Southeast Asia.





3.3 Product Quality and Innovation

3.3.1 Research Innovation

For more details [Research Innovation] https://www.csc.com.tw/csc_e/hr/csr/in/in6.htm

CSC follows the concept of “five I”, Information, Imagination, Ideation, Innovation, and Implementation, to stimulate endless capability of innovation. The major research objectives include:

- Product Development: developing high quality, high grade and new products with top specification and added value.
- Product Application: developing advanced second and third processing technology to enhance the competitiveness of steel-using industry.
- Process Development: setting up small quantity, low cost and low pollution but diverse production capability of pure refining and tight rolling technology.
- Enabling Technology: integrating AI technology with ICT industry, implementing AI technology in steelmaking process, and establishing AI production and marketing system to advance CSC towards a sophisticated steel company.
- Energy Conservation and Environment Protection: enhancing the efficiency of energy use and pollution prevention technology, furthering energy conservation and emission reduction to create a sustainable environment.

In terms of non-steel development, CSC extends the current core technology, integrates the external resource, and develops the key materials that have high demands in the industry. In terms of steel-related field, CSC focuses on special steel, high quality aluminum, refractories, special chemicals, and environmentally friendly catalysts; In terms of industrial demand, CSC focuses on non-ferrous alloy, fine carbon, magnetic, thermoelectric, and photoelectric materials.

3.3.2 Quality Control

For more details [Quality Control] https://www.csc.com.tw/csc_e/hr/csr/in/cm3.htm

CSC puts customers in the first place. The verification system must cover customer orientation (10 items), supporting process (9 items), and management process (7 items). Adhering to the quality conviction of “No best quality, only better quality that exceeds customers' expectations”, Through the PDCA cycle as a spindle, with the experimental planning method, Taguchi method, and 6-sigma method used alternately to work out the cause analysis, the data tier and the improvement countermeasures matching the current situation, CSC has accomplished 81 improvement projects in 2020. Among them were 215 pieces from the five major aspects of “raw materials, products, processes, equipment and downstream applications” that combined the six major strategies of cost reduction, such as “redesigning, reducing alloys, saving rejection, increasing yield, lean and simplify processes”, which earned a total benefit of 312 million TWD. The flow chart of CSC's quality management system is as below:

For more details [Quality Control] https://www.csc.com.tw/csc_e/hr/csr/in/cm3.htm
For more details [Customer Service] https://www.csc.com.tw/csc_e/hr/csr/in/cm5.htm

Material Topic

3.3.3 Hazardous Substance Management of Products

Corresponding UN SDGs

Benefit Highlights in 2020

Highlights

For IECQ HSPM QC 080000, CSC has completed the verification process for the updated version and obtained the relative certificate.

For eight consecutive years, the steel products whose hazardous substance content complies with regulations have been 100%

98.61%

HSPMS included 118 trainees, reaching 98.61% achievement rate.

Meaning for CSC

Hazardous substance management is one of the demonstrations of sustainable development. CSC implemented IECQ HSPM QC 080000 and established a complete system for hazardous substance management. From the selection of raw materials to product design, CSC fully refuses the prohibited hazardous substances that cause great impacts to the environment and offer environmental-friendly products that are compliant with international regulations.

Target

Short-term Goals (1~2 Years)	Mid-term Goals (3~5 Years)	Long-term Goals (5 Years and More)
✓ 100% compliance rate of hazardous substance in steel products (including outsourced products). ✓ Achievement rate of HSPMS training ≥ 85%.	✓ 100% compliance rate of hazardous substance in steel products (including outsourced products). ✓ Achievement rate of HSPMS training ≥ 88%.	✓ 100% compliance rate of hazardous substance in steel products (including outsourced products). ✓ Achievement rate of HSPMS training≥ 90%.

Management Approach

CSC promotes the “HSPMS IECQ QC 080000” to establish a management system for products with hazardous substances. Regular annual internal and external audits and management reviews on the IECQ HSPM QC 080000 are conducted. CSC completed the verification for the new version in 2020 and obtained the new certificate. In the process design and development stage, the use of raw materials containing hazardous substances is avoided in accordance with the green design principles. There are control measures for external suppliers and production processes to ensure that products comply with domestic, foreign regulations, and customers' requirements on hazardous substance restrictions without causing any health or safety related impacts.

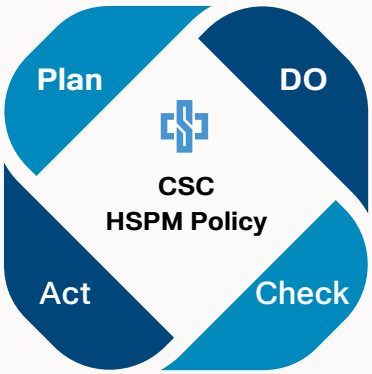
CSC has set the annual business goals of “100% compliance rate of hazardous substance in steel products (including outsourced products)” and “achievement rate of HSPMS ≥ 85%”. Relevant factories and departments carry out the review of the responsible processes according to business attributes, conduct risk assessment on materials, establish control lists, and require suppliers to provide hazardous substance compliance certificates or hazardous substance analysis reports when purchasing raw materials. The products are assessed on the basis of source, manufacturing process, quality, packaging, and quality in order to reduce or eliminate hazardous substances in the product. It is also to ensure that all

products (including subcontracted products) comply with the regulations on hazardous substances, improve customer satisfaction and continue to maintain zero complaints about CSC's hazardous substance management. CSC also regularly organizes training on hazardous substance management to ensure employees are eligible for HSPM. In the future, external personnel will be included in the QC 080000 training to guarantee HSF.

CSC has further formulated regulations regarding customer complaints and claims, and offered customers' feedback on CSC's steel products to the factories. In addition to understanding the customer's overall satisfaction with CSC's steel products, the technical service group provides the direction of strategy improvement to improve the company's production efficiency and competitiveness. Marketing Administration Dept. conduct an annual customer satisfaction survey and research plan for all domestic and international.

Life-Cycle Perspective Control

CSC avoids using hazardous substances as raw materials and reduces outsourced processes during the stage of the product design and development to ensure the products meet international regulations and customers' requirements. CSC pays close attention to restricted substances that have a major impact on the environment from the design and material selection stage, make sure they are compliant with international regulations such as EU RoHS, REACH SVHC, packaging regulations, Germany AfPS GS PAHs, California Proposition 65, and Montreal Protocol include them into the scope of control.



Plan

- Identify regulations and customer requirements, set up HSPM Standard and HS lists
- Identify risks and opportunities for HSPM
- Set up HS management objectives and plans

Do

- HSPM training of staff
- Use of raw materials and outsourced processes that meet regulations and customer requirements
- Evaluation, selection and performance monitoring of external providers

Check

- Entrust a qualified third-party laboratory to measure the content of HS in products
- Internal and external of HSPM
- Conduct HSPM audits to external providers
- Management review of HSPM

Act

Annual management review of HSPM :

- Improve the efficiency and effectiveness of HS free (HSF) and supervision processes
- Improve the control of changes, competence of staff
- Nonconformity or improvement from internal and external audit
- Previous management review

In the stage of external provider control, CSC requests external providers to comply with CSC's or customers' requirements on the restrictions on hazardous substances and to submit the “Warranty of Conformity to China Steel Corporation's Restrictions on Hazardous Substances”. In this way, hazardous substances in products can be reduced during the early stage of life cycle.

“The compliance rate of hazardous substances in steel products (including outsourced products)” is included in the objectives of internal management. The compliance rate was 100% in 2020 (100% for each year since 2013), To ensure CSC's product comply with the international regulations and customers' requirements, CSC has product samples tested by an external third-party TAF-certified laboratory every year to prove the products meet the requirements.

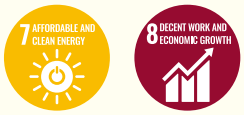
Training Programs

To carry out the HSF requirements to meet the IECQ, CSC regularly provides training courses which enable employees to understand the changes in the latest international green product regulations. Moreover, CSC has set up a new HSF objective -- "HSPMS training achievement rate ≥ 85%" -- in 2019 and has since provided a course on "IECQ HSPM QC 080000", for first-line/middle/top directors and management staff from business units). So that employees can gain the capabilities required for HSPM. To comply with BSI standards, the date of training completion was added to the system. In 2020, personnel completing the training amounted to 118 people, and the achievement rate was 98.6%. The goal was achieved.

Material Topic

3.4 Green Development

Corresponding UN SDGs



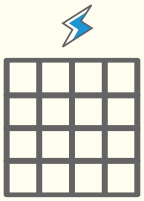
Corresponding Taiwan's SDGs (T-SDGs) :
Core Objective 7 · 8 · 12

Benefit Highlights in 2020

Highlights

In 2020, 3.349 Mt green steel products were produced to help save energy and reduce carbon emissions to an estimated 6.205 Mt.

Zone 29 offshore wind farm passed the environmental assessment via the review of Environmental Protection Administration (EPA).



As of the end of 2020, the cumulative installed capacity of the solar photovoltaic system had reached 84.8 MW, and the cumulative power generation had reached about 230 million kWh, equivalent to 117 thousand tonnes of carbon reduction. In the future, CSC can contribute at least 100 million kWh of green electricity and 51,000 tonnes of CO_2 carbon reduction annually.

Kaohsiung light rail phase 2 rolling stock and C37 light rail depot and pedestrian bridge won the City Engineering Quality Gold Award on July 28, 2020. A third-party inspection selected projects of excellent quality by project quality inspection and verification, because of the competition, construction teams strengthened the ability and drove the progress of urban construction through healthy competition.

Meaning for CSC

With "green growth" as its vision, CSC adheres to the low-carbon strategy of green manufacturing and operations. Committed to the development of solar photovoltaic and other green businesses, CSC mitigates policy impacts and connects with future international competition trends.

Target

Short-term Goals (1~2 Years)	Mid-term Goals (3~5 Years)	Long-term Goals (5 Years and More)
✓ Sales ratio of the premium steel≥ 49.0%. ✓ China Steel Power Corporation was established to build zone 29 offshore wind farm In the meantime, it is expected to build a local component supply chain through wind turbine system supplier.	✓ Sales ratio of the premium steel ≥ 50.0%. ✓ Supply premium steel for wind farm tower, underwater foundation, and wind turbine, etc.	✓ Sales ratio of the premium steel ≥ 51.0%. ✓ Promote the application of technologies such as energy storage systems, intelligent grids, and PV optimizers based on policies and market conditions.

Short-term Goals (1~2 Years)	Mid-term Goals (3~5 Years)	Long-term Goals (5 Years and More)
◎ Maintain stable and efficient power generation on the rooftop solar power plant; the average efficiency target > 80%. ◎ Establish the best operation and maintenance technology for photoelectronic operations, and keep the annual decline rate of system performance below 1%. ◎ Monitor the ongoing three light rail projects (Danhai light rail/Ankeng light rail/ Kaohsiung light rail) in terms of the schedule, quality, budget, and contract alteration.	◎ Add 3~5MW PV systems every year. ◎ In response to the renewal energy policy of the government to obtain a license for selling green energy; conduct green energy trade in response to the application of green energy certificate. ◎ Cooperate with company policies, and implement track engineering business.	◎ Strategic cooperation with domestic/ international industries to apply self-produced fuels, low-carbon offshore power generation, and high-price electricity application. ◎ Cooperate with company policies, and implement track engineering business.

Material Topic

3.4.1 Green Products

As an upstream manufacturer of the industry, CSC plays an important role in developing and expanding the supply of green steel products and driving the green supply chain. CSC has dedicated itself to the development of premium steel and around 70% of them are green steel that help save energy and reduce carbon emissions.

Action Plan

CSC's green steel products refer to raw materials, processes, finished products and customer applications that have external energy-saving and carbon-reduction benefits. They include (1) high-strength or functional steels for automobiles, boats, buildings, and electrical sheets; (2) Steel with fewer reprocessing procedure, such as non-lead steel, steel requiring no further quenching, non-wire drawing annealing steel; (3) steel with higher endurance such as high-temperature endurance, anti-corrosion, wear resistance, and plating steel.

CSC reviews the content of green steel products such as steel plates, bars, hot-rolled steel products, cold-rolled steel products, galvanized steel products, hot-dip galvanized steel products, and electrical steel coils every quarter and renews the identification list. The green steel product implementation status of each product is evaluated quarterly by the list.

Implementation Results

In 2020, 3.349 Mt green steel products were produced to help save energy and reduce carbon emissions to an estimated 6.205 Mt[I]. Environmental protection and energy-saving steel products are mainly used in the green supply chain as follows:

Top grade thin-gauge electrical steel	Application of chrome-free galvanized steel	Chromium-free insulation film of electrical steel
It can reduce the temperature and weight of the motor, save materials, and improve the efficiency of the motor. Widely used in the manufacture of electric vehicles and compressors.	The coating does not contain toxic substances such as hexavalent chromium and therefore will not cause harm to the human body while prolonging the service life of the product. It is widely used in electronics, home appliances, furniture and structural components.	It does not contain toxic substances such as hexavalent chromium, and is used in products containing EV traction motors, which meets environmental protection trends and customer requirements.

Note: I. The calculation of external carbon reduction performance is based on the Japanese Steel Alliance and Economic Institute, ITRI, CSC New Materials Research & Development Dept. CSC will continue to provide relevant data for the reference of the domestic steel industry.

Case Highlights

Taiwan's first special steel plate for marine foundation

Steel plates for wind energy

In cooperation with national development strategy, CSC developed the steels for the offshore wind farm to realize an independent supply of steel. An offshore wind farm mainly comprises wind turbines, towers, and underwater foundation. Steels used include 16 grades of steel in five different specifications: EN10225, EN10025, ATSM, JIS, and DNV GL. CSC has already developed and stably produces steel plates below 14 tonnes.

Take underwater foundation for instance. Steels used are mainly EN10025 S355ML, S420ML, S460ML. The steel thickness in demand is above 90mm. Since Taiwan is frequently impacted by earthquakes, strait currents, and typhoons, steel plates must have high intensity, high area contraction, and temperature resistance that can withstand extreme temperatures as low as -40℃. Therefore, low phosphorus, low sulfur, and niobium alloy are added to enhance the quality of the material. Along with the new cooling process, cooling speed can be precisely controlled. After the assessment, the steel plates used in wind energy can withstand up to 100J-200J of low-temperature impact. EN10025, the high-intensity steel plates for wind turbine tower piles, can contribute to the mitigation of global warming and carbon reduction.

For more details [Product Environmental Footprint] https://www.csc.com.tw/csc_e/hr/csr/in/cm8.htm

Material Topic

3.4.2 Green Industry Development

Low-carbon economy is a global trend. CSC has long contributed to the improvement of environmental protection and R&D for green energy; apart from the development and wide application of energy-saving steel products, CSC also has performed well in terms of recycling resources and energy integration.

Offshore Wind Power

In order to collaborate with the government's renewable energy policy, CSC is determined to involve in steels fabrication for offshore wind farms, including (a) building jacket foundation production line in Xingda Da Harbor, (b) establishing the subsidiary, China Steel Power Corporation (CSPC) to build zone 29 offshore wind farm, and (c) participating in a joint venture “Taiwan International Windpower Training Corporation Ltd.” Which is mainly led by with Taiwan International Ports Corporation. Through Zhongneng Offshore Wind Farm CSPC, CSC expects to establish a local component supply chain to provide relevant components for wind turbines. Also, Sing Da Marine Structure (SDMS) was founded to build production lines for the jacket foundations to support domestic jacket component supply chain.

Action Plan

In order to implement the government's localization policy of offshore wind power industry, CSC promoted the localization policy of offshore wind farm through the efforts of CSPC and SDMS to reach the achievements as below:

- **Localized production of wind turbine components**

  CSC jointly reinvested in CSPC with Copenhagen Infrastructure Partners (CIP) to promote the localized production of wind turbine components. Through the progression of localized supply, CSC expects to provide wind turbine components through Taiwanese local suppliers.

- **Jacket foundation supply chain**

  Jacket foundation facility accounts for a higher proportion of total costs and has stricter quality requirements. Therefore, SDMS collaborates with well-known foreign steel construction experts to established production line in Xing Da Harbor. CSC is also dedicated to local manpower to provide consultancy to and support downstream manufacturers to establish a complete supply chain. SDMS is expected to achieve continuous production and match the jacket foundation demand for the domestic offshore wind farm developers.

Solar Photovoltaics (PV)

CSC actively responded to the renewable energy policy. In October 2016, CSC combined companies within the group to establish the CSC Solar Corp., which is responsible for promoting the development of CSC's solar power generation business. CSC Solar starts with using the 80-hectare rooftop of all group companies' plants, and with sufficient sunlight in the central and southern regions of Taiwan, it is estimated to have a total power capacity greater than 80MW. The construction will be completed in 3 years. The annual power generation is expected to reach more than 102 million kWh.

As of the end of 2020, CSC Solar Corp. has installed a capacity of approximately 60MW on the roof of CSC's plant, which is currently the largest rooftop solar photovoltaic project site for a single company in Taiwan. The cumulative installed capacity of the solar photovoltaic system which installed in CSC group by CSC Solar Corp had reached 84.8 MW, and the cumulative power generation had reached about 230 million kWh. In the future, CSC can contribute at least 100 million kWh of green electricity and 51,000 tonnes of CO_2 carbon reduction annually.

Action Plan

After the establishment of CSC Solar Corp., the short-term goals are mainly focused on completing the construction of CSC Group's 80MW rooftop solar photovoltaic system from 2017 to 2019. In addition to achieving the short-term three-year goal, the management team has a long-term mission and vision which is to further develop solar photovoltaic fields and green energy related industries. The relevant development strategies from the short-term to long-term and technical regulations are set out as follows:

» **Short-, medium-, and long-term strategies**

- Improve the power generation efficiency strategies of photovoltaic power plants, strengthen the operation and maintenance capabilities of PV power plants, and create stable profits.
- According to the regulation on users with high-power consumption in Renewable Energy Development Act, CSC actively developed rooftop PV Systems in the Group subsidiaries and supply chains. The goal is to generate 100MW of power.
- CSC actively transformed Type III renewable energy facility to Type I renewable energy facility in order to obtain a license for selling green energy. CSC also applied for a green energy certificate to conduct green energy trade, boosting green industry market.
- Promote the application of green energy generation technology to create differentiated advantages.

» **R&D services**

- CSC established the integrated intelligent operation technologies, including spectrum analysis, infrared temperature measurement, serial measurement of voltage and current, etc. to detect the abnormality. The average performance ratio (PR) is expected to exceed 80% while boosting revenue by 3~5%.

- CSC implemented project category system and cleaning technology to ensure the degradation rate of the PV system is below 1%.
- CSC implemented PV anti-corrosion inspection technology, which includes anti-corrosion design, corrosion inspection on the structure, and maintenance/evaluation, etc.

» **Engineering Regulations**

- In accordance with the technical regulations of the building, the load of the inclined roof of the existing building needs to be greater than 60kg /m^2; the dead load of the solar photovoltaic module, maintenance walkway, and support frame need to be <30kg/m^2.
- The solar photovoltaic system is more superior than the regulatory standards, and the overall resistance to the average wind speed is greater than 47.5m/s, and the coastal design is 51 to 56m/s.
- The corrugated support frame, bolts and fasteners are designed to be durable according to environmental conditions, and their product lifespan must be more than 20 years while in compliance with structural safety calculations. (e.g. using fluorocarbon baking paint, stainless steel 316 screws, etc. that have high weather resistance and salt damage prevention)
- Each module is fixed to the support frame with a 6-point screw set (ø1/4inch or more than M6). More superior than ordinary modules that are mostly fixed at 4 points.

Track Engineering Projects

“Rail transit” is one of the best transportation solutions for energy saving and carbon reduction. CSC cooperates with local governments to provide citizens with a light rail system that is safe, comfortable, convenient and environmentally friendly.

For example, the rolling stock of Danhai/Ankeng light rail transits were designed and manufactured by Taiwan Rolling Stock Co., Ltd in cooperation with foreign manufacturers, demonstrating the “Made in Taiwan” capability. By cooperating with the Railway Bureau to establish a light rail procurement guideline, these projects create new opportunities for the future design and manufacture of light rail vehicles.

For more details [Green Industry Development] https://www.csc.com.tw/csc_e/hr/csr/in/in7.htm

4

Chapter

Industry Chain Improvement

4.1 Supply Chain Management

CSC's supply chain management can be categorized by the supplier types as follows: Equipment and Material Procurement, Transportation, Security and Contractor, and each of the aforementioned supplier is managed by a different responsible department. The management and assessment of suppliers are handled by each division in accordance with the provisions of the CSC's quality control regulations, the "Steel Quality Manual", of which coverage controls products and services provided to external parties as well as relevant processes. CSC's regulations pertaining to supply chain management include "Management Guidelines for Contractor", "Management Guidelines for Safety and Health of Contractor", "Regulations on Environmental Protection by Contractor", "Management Guidelines for Surveys on Foreign and Domestic Vendors", and "Directions for Violation of Integrity Principles by Vendors".

In order to strengthen supply chain management, CSC requests all contractors involving in each bid to incorporate an anti-corruption clause in the contract as the following: "The contractor undertakes that its bid price shall not include bribes, gifts, commissions, rewards or other unjust interests, and the contractor also undertake that it shall not offer the same to any managers, employees, part-time employees, their spouses, immediate family members, consultants, or contractors for design and/or planning of CSC." In case of any violation, contractors shall be liable for all damages suffered by CSC. For serious violations, CSC is entitled to revoke or terminate all contracts signed with the contractors in fault. In 2020, CSC imposed the penalty of temporary suspension of transactions on five vendors due to their violation of integrity principles, demanding improvements before restoring their eligibility to trade.

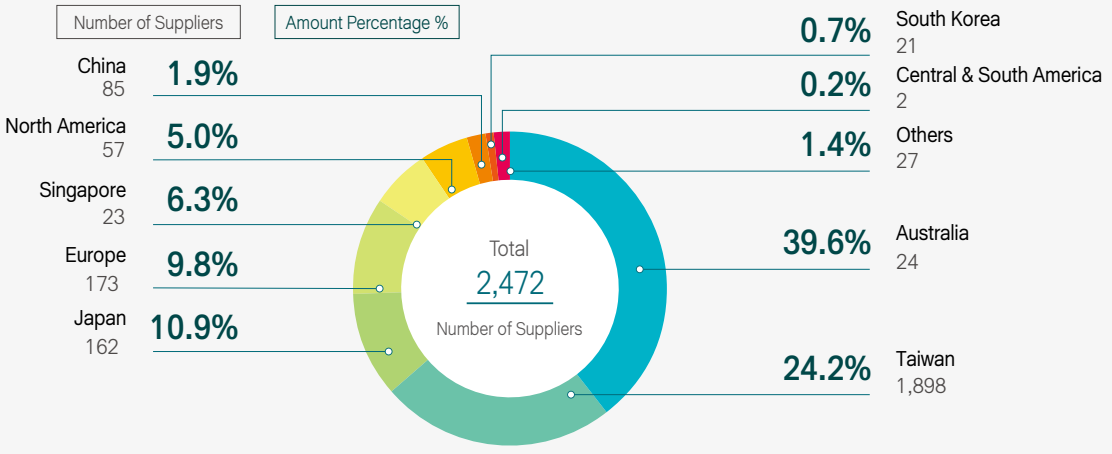
The hotline for reporting incidents of corruption, bribe and fraud is specified in Article 13 of the "Supplier's Quotation Notice" to be +886-7-8021111 # 2191. (URL: https://cs.csc.com.tw/mqz/open/mqzp2)

4.1.1 Equipment and Material Procurement

CSC has committed to not using any minerals from Democratic Republic of the Congo, its neighboring countries or any mines controlled by armies or rebel groups, in its products or packing. CSC effectively identifies and traces material sources to eliminate the use of conflict minerals. Any mine that is suspected to be involved in conflict minerals would be disregarded in investment evaluation. CSC also pays attention to human rights conditions in the countries providing equipment and materials and adjusts procurement decisions accordingly. The tender instructions and contract terms stipulate no bribery, no infringement, and environmental and safety in-plant regulations.

In accordance with the "Occupational Safety, Hygiene, Pollution Prevention of Procurement and Contracting Rules", suppliers were evaluated for indirect risk on environmental aspects for six types of raw materials in 2020. The results were that all suppliers had risks below moderate level except for one with high indirect risk. CSC's relevant units will conduct joint on-site audits and visits to ascertain the supplier's improvement.

Procurement of Raw Materials and Equipment by Country, 2020



For more details [Local Procurement] https://www.csc.com.tw/csc_e/hr/csr/par/par6.htm

4.1.2 Transportation

The transportation of CSC's imported raw materials and exported steel products is entrusted to China Steel Express Corp. (CSE), which uses its own fleet or hires chartered vessels. CSE is an AEO certificated corporation that meets CSC's supply chain safety regulations. CSC exercises strict control over risks associated with transportation suppliers. In addition to demanding transportation suppliers to obtain the certification of OHSAS 18001 with the verification for transitioning to ISO 45001 completed on May 8, 2020, CSC strengthens accident risk management during transportation in order to mitigate occupational hazards.

In order to maintain environmental sustainability, CSC reduces the impact of its transportation operations on the environment and strives to fulfill its corporate social responsibility. For example, CSE's own vessels have received environmental related certifications. As to vessel design, CSE's newly built vessels pay particular attention to eco-friendliness and travel at economical speeds to reduce fuel consumption and carbon emissions. In addition, CSE complies with the International Maritime Organization's regulations where all self-owned and chartered ships must switch to low-sulfur fuel for the entire voyage from 2020.

Since 1999, CSC has set rules governing the ages of vehicles carrying finished products. From January 2017, new vehicles must be compliant with stage 4 vehicular air pollutant emission standards to ensure eco-friendliness and existing worn-out vehicles have been annually scrapped. Starting from January 2020, CSC has requested drivers to fill out information at the Safety and Health Self-management APP before reporting for duty, pushing drivers to run a quick physical and mental examinations and fully understand occupational hazards before work, in order to enhance road safety and pedestrian safety. As of 2020, in line with the policy to replace OHSAS 18001 with ISO 45001, 92 vehicle suppliers have switched to ISO 45001 while 32 suppliers have stayed with OHSAS 18001. The latter have all signed affidavits stating that if they fail to obtain ISO 45001 certification by March 11, 2021, they are no longer eligible to carry out CSC business.

In 2020, 1,602 product carrying vehicles passed the standards of environmental impact assessment. 99 existing suppliers were assessed with their social impacts, where three of them were identified as having occupational safety risks, which were improved after taking disciplinary action.

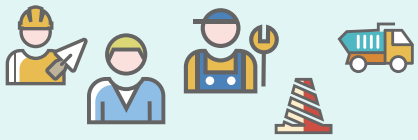
4.1.3 Security

The access control and security of CSC's factory is assigned to China Steel Security (CSS), with 150 security staff members onsite. According to the provisions of Article 10-2 of the Private Security Service Act, “When a security company hires security guards, it shall offer them pre-service professional training of one week or above. For current security guards, it shall provide them with in-service training of at least four hours every month.” CSS not only manages education and training according to law, but also offers legal knowledge, skills required on duty, human rights advocacy, etiquette, etc., providing a total of 600 training hours every month. Furthermore, CSC regularly implements emergency response at various sentries and administrative buildings every year to maintain access control security.

4.1.4 Contractor

Owing to the industrial characteristics of steel manufacturing, a large number of manpower would be required for equipment revamping or periodic/annual/major repairs at the production units for a short period of time. CSC uses contracted workers to cope with the fluctuating demand. Due to the time constraints for production equipment maintenance tasks, contractors located in nearby areas are preferred, thus creating a vast amount of stable job opportunities locally. This is yet another example of CSC fulfilling corporate social responsibilities while maintaining sustainable business operations.

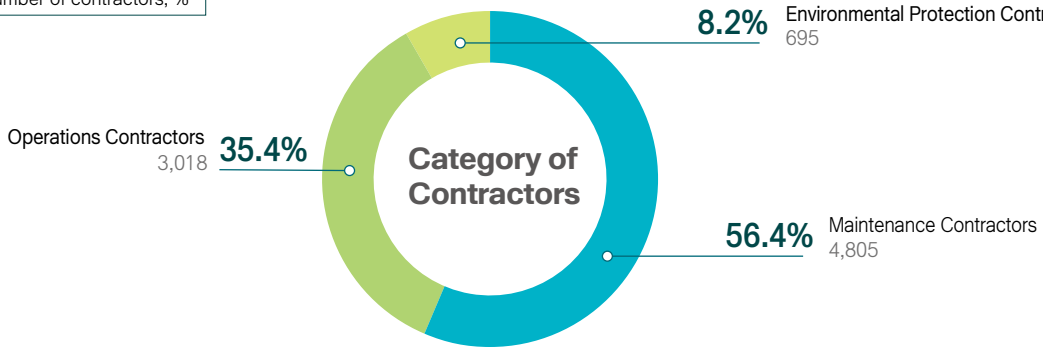
CSC Improves Working Conditions of Contractor:



① Increase safety and health management fees.
② Establish vacation policies and compensation for working on holidays.
③ Establish job safety cultures.
④ Adjust contracting fees in accordance with the policy of “one fixed day off and one flexible rest day”.
⑤ Adjust contracting fees in accordance with the basic wage.

According to “Management Guidelines for CSC Operations, Maintenance, and Environmental Protection Contractors”, operations, maintenance, and environmental protection contractors are to enter long-term or case-by-case contracts with CSC, providing manpower, equipment, and technical support for CSC in maintenance, operations and environmental protection related tasks. These contractors are categorized based on the nature of the tasks, amongst which the ones related to maintenance are the majority.

Unit: Number of contractors; %



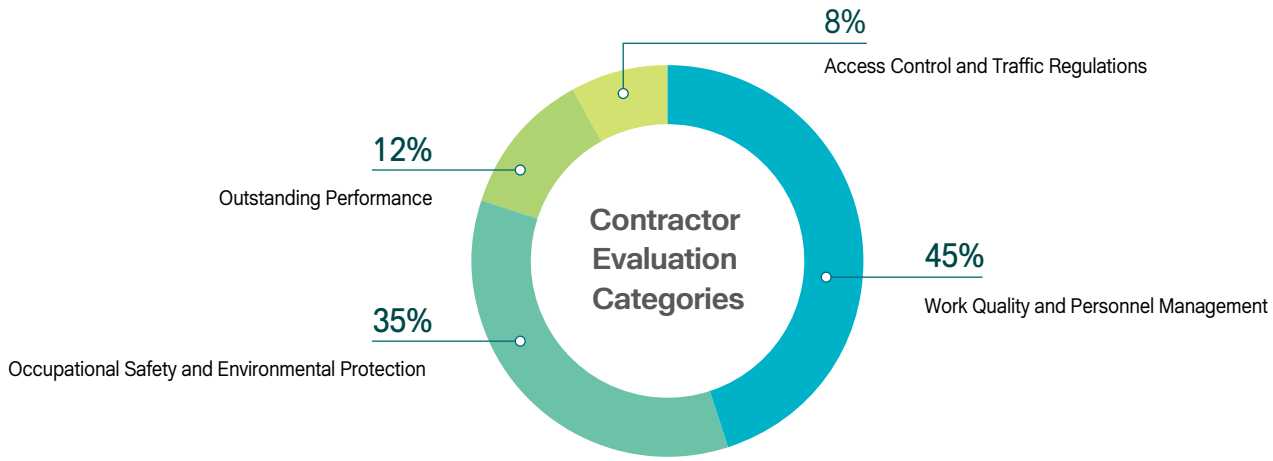
Category	Job Description
Maintenance Contractors	Responsible for repair and maintenance of equipment; or repair, manufacture and process of spare parts or test samples in production and technology divisions.
Operations Contractors	Responsible for operations-related tasks that require basic technical skills and have only indirect access to production equipment, or involved in non-technical labor works in production and technology divisions and transportation department.
Environmental Protection Contractors and other	Responsible for the disposal of industrial waste produced during production.

Contractor employees working in CSC must have insurance mandated by the government, and comply with CSC's safety and health work rules. A penalty would be imposed for any violation, and the fine will be designated exclusively to a fund for supervision, correction, and improvement of the safety and health of contractor employees. New contractors must fill out evaluation forms, disclosing information including primary business activities and verified certifications (OHSAS 18001/ ISO 14001) to prove that they are legally registered, adequately insured, tax-paying companies with healthy financial status. Also, they must genuinely report on the critical occupational safety and/or environmental protection issues for the past three years to allow respective departments to classify and evaluate as well as arrange on-site inspections.

The agreements between CSC Plant Engineering & Maintenance Department and service providers are in compliance with regulations. Also, in accordance with the ISO 9001 regulations on contractors, CSC assesses new contractors and reevaluates them every three years to ensure that all contractors abide by national regulations, and no child labor is used or no regulation breaching the right to freedom of association and collective bargaining is in place. CSC also dedicates to the supervision of contractors to enhance the working conditions of their employees and to ensure the compliance with the Labor Standards Act by carrying out inspections on the labor conditions of contractors in general performance evaluations. No incident was reported on use of child labor, forced or compulsory labor, or violation against labor conditions in 2020.

Contractor Evaluation and Assessment

According to “Management Guidelines for CSC Operations, Maintenance, and Environmental Protection Contractors", evaluation units must provide annual evaluation reports of contractors two to four months prior to the expiry date of contract, based on regular evaluations and daily performance, as part of the supporting documents for contract renewal. The “Management Guidelines for Contractor” also states that contract executing units must conduct a monthly evaluation based on contractor's performance and compile the results in the “annual evaluation report", in which a score below 70 would result in disqualification for contract renewal. There was no such incident in 2020.



Establish Stable Partnership

Under the notion of partnerships, CSC actively helps contractors to enhance human resource structure and working conditions in order to improve working conditions of contractor's employees, and lower their turnover rate. During the “Outsourcing Strategy Review Meeting” held at the end of each year, CSC ensures that the wage level of its contractors is superior than the minimum wage stated in the Labor Standards Act. At the same time, CSC verifies the labor conditions every July to confirm that the minimum basic salary and payment in lieu of annual leave given by contractor employers are in compliance with the Labor Standards Act and the regulations put forth by CSC. Any discrepancies with regulations need to be explained by contractor employers and signed by contractor employees.

Safety and Health

CSC Contractor Safety and Health Committee was founded in 1983. Plant Engineering & Maintenance Department established “Safety and Health Guidelines for Plant Engineering & Maintenance Department Contractors” in May 1984, to appoint a team consisting of experts from Industrial Safety & Hygiene Department and Plant Engineering & Maintenance Department to assist with the implementation and monitoring of the committee affairs. The committee members consisting of about 100 contractor companies in the areas of mechanical engineering, civil and steel construction, electrical engineering, and refractories, collaborating towards the common goals of ensuring the safety and health of contractor employees, strengthening labor quality, improving technical quality and establishing safety culture.

Contractor Safety and Health Propaganda
Gather contractors every month to announce new safety and health related information and regulations by CSC.
New Contractor ID Issuing Assessment
New contractors must attend mandatory safety trainings and be interviewed by managers of ID issuing organization. (Listed in the Industrial Safety & Hygiene Department's system)
Safety Care
Conduct on a monthly basis. (Listed in the Industrial Safety & Hygiene Department's system)
Report of Near Misses
Reporting near misses is encouraged with rewards.
Implement and Promote Inherent Safety
Urge contractors to comply with CNS 4750, and reinforce by frequent inspections to reduce scaffolding related safety hazards.
Safety Inspections
All levels of management personnel regularly conduct safety inspections at contractors' workplace and keep records. (Listed in the Industrial Safety & Hygiene Department's system)

Contractor Training

CSC maintenance units are responsible for arranging training courses and certifications based on the health and safety requirements as well as technical skills required for contractors to perform their work at CSC. The training has been proven to be effective. In 2020, contractor workers received a total of 46,240 hours of training in CSC.

Type		Safety Training	Technical Training		Skill Certification	
Training Course/ Purpose		New hire training: Designed for new hires to pay attention to all safety hazards in work environment.	Fire watch personnel: Designed to prevent fire accidents.	Corrugated roofing: Designed to prevent safety hazards such as falling through.	Scaffolding certification: To ensure scaffolding procedure could be proceeded properly according to requirement.	Metalworking: To ensure metalworking tasks are carried out up to the standard and safety requirement demanded.
Contents		General safety and health training, Zero-Accident Program exercise, and safety and health regulation propaganda.	Hazard identification, firefighting equipment introduction, and flammable item identification.	Hazard identification, fall protection solutions, personal protective gear introduction.	Technical drawing reading, construction layout, structure transportation and assembly skills assessment.	Basic technical knowledge, good work quality and safety habits, and proper execution based on drawings or samples.
2020	Persons	7,409	370	148 (l)	100	76
	Hours	6	3	1	3	3
	Frequency	3 times/week	2 times/year	2 times/month	1 time/year	1 time/year
	Total Hours	44,454	1,110	148	300	228

Note: l. 1,019 and 431 persons received corrugated roofing training in 2018 and 2019 respectively. Due to the impact of COVID-19, in order to comply with the company's epidemic prevention policy, number of trainees was reduced to 148 persons in 2020, with the same training hours and frequency.

For more details [Contractor Management] https://www.csc.com.tw/csc_e/hr/csr/par/par5.htm#par-Coop

4.2 Industry Upgrade

4.2.1 Industry Upgrade and Innovation

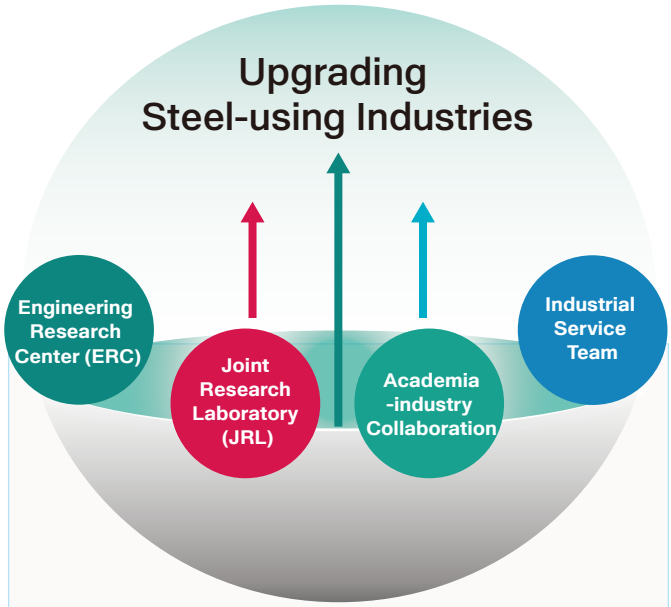
CSC is striving to become a steel mill that provides premium products and services to assist the steel industry with moving towards high value-added products. CSC formulates diverse plans in order to drive the transformation and upgrade of domestic steel industry and carry out relevant research projects. The main R&D topics include:

Facilitate Industry 4.0	CSC builds industry cloud through the facilitation of industry 4.0 and uses cloud services to forge connections, assisting steel-related industries in enhancing their capabilities of intelligent manufacturing and intelligent production and sales services.
Devote to Core Technology	CSC adheres to the philosophy of upgrading the industry by enhancing the material used and integrates government-industry-university-institute resources according to the industry developments. The company executes the A+ Industrial Innovative R&D program and academia-industry collaboration projects in developing relevant core technology.
Drive Collaborative R&D within the Supply Chain	Through collaborative R&D mechanism, CSC and its customers face end customers' demand together and develop customized steel materials and manufacturing technology to offer customers differentiated technology and services.
Launch Industrial Service Team	With the idea put forth by the Chairman that "What benefits the customers will benefit CSC", CSC launched the industrial service team composed of external experts such as CSC's retirement talent pool, the Metal Industries Research & Development Centre (MIRDC) and Corporate Synergy Development Center (CSD) in 2018. The team is involved in customers' operations and offers comprehensive services to be the drive force behind customers' growth. The team has undergone phase I "research and survey" in 2019 and phase II "project requirements" in 2020 to promote the supply chain integration and industry upgrade within the steel industry.

4.2.2 Upgrading Steel-using Industries

To enhance the competitiveness of the steel-using industries, CSC set up 16 steel-using industry R&D alliances between 2006 and 2014, inviting 66 companies and 8 academic and research organizations to launch 13 technological projects. Through the R&D alliances, more diverse industry upgrade plans were carried out, strengthening the collaboration between CSC, academic and research organizations and strategic partners. In drawing the attention of academic institutions to the industry, the "Engineering Research Center" and "R&D Testing Center" were set up in collaboration with academic and research units in 2008. As for having downstream vendors focusing on industry development, a "Joint Research Laboratory" was established through the alliance between CSC and strategic manufacturers in 2010. In 2015, CSC further cooperated with the Taiwan Hand Tool Manufacturers' Association (THTMA) and jointly promoted an "Alliance of Steel-related Industries" in collaboration with the CSD. With respect to collaboration with the government, CSC has carried out 13 technological projects during two R&D alliance sessions. In addition, the company implemented the project of "Next-gen Steel, Green Processes, and Product Innovation" during Phase I of academia-industry collaboration project from 2013 to 2018 and the "Intelligent Platform for Integrated Design of New-generation Auto Power Drive Modules" during Phase II from 2018 to 2021.

In 2020, CSC took one step further and adopted "driving the steel-using industry upgrade" as one of the business strategies. Besides offering technical services to external parties and developing customized materials as well as incorporating the strategy to be a key theme in a leading-edge steel mill development, the action helped with forming an industry environment necessary for a leading-edge steel mill. A competitive and sustainable supply chain is essential to the refined power drive carrying CSC value and quality.



Engineering Research Center (ERC)

- Long-term cooperation with research institutions strategically.
- Six ERCs in operation currently, such as Motor Technology Research Center and Steel Structure Engineering.

Joint Research Laboratory (JRL)

- Established with customers, in-depth customer site, to provide customers with differentiated technical services.
- Five JRLs in operation currently, such as Compressor Joint Laboratory, Automobile Steel Joint Laboratory.

Academia-industry Collaboration

- Established with National Cheng Kung University (NCKU) to put forward academia-industry collaboration, such as in steel, electric motor, battery and vehicle industries.
- The project is estimated to run three years from 2018 to 2021.

Industrial Service Team

- Share the technical achievements accumulated in the past 10 years of industrial upgrading work and promote them to downstream customers. At the same time, combine with the retired talents of CSC to establish an industrial service team, walk into the customer's business site, and provide professional advice that meets the needs of customers.

For more details [Upgrading Steel-using Industries]
https://www.csc.com.tw/csc_e/hr/csr/par/par.htm

Case Highlights

Initiate Reverse Engineering on Hand Tool Benchmark Products

CSC worked with the “Next Generation Hand Tools Engineering Research Center” of National Yunlin University of Science and Technology, MIRDC and domestic hand tool manufacturers in promoting reserve engineering through the “Cooperative Innovation Committee” of Taiwan Fine Hand Tool Development Association. The analysis and optimization on screwdriver socket, box wrench, and pipe wrench were completed in Phase I while cutting plier, universal joint, and screwdriver bit were done in Phase II. CSC analyzed the materials, microstructures, and features of international benchmark products and produced products of the same fineness upon improvement.

4.3 Domestic and International Associations

4.3.1 Domestic Association

The major institutes and associations CSC participated in 2020 are as follows:

Field	Organization	Visions & Goals
Steel Industry	Taiwan Steel and Iron Industries Association CSC Chairman Chao-Tung Wong as the chairman	To assist the government with economic development and foreign investments and coordinate relationship among peers for the collaboration and development of the steel industry as well as common interests.
	Chinese Institute of Engineers CSC president Shyi-Chin Wang as the director	To help with national construction development and enhance engineering expertise and technology, aiming at promoting social responsibilities and creating a sustainable and prosperous future.
Corporate Sustainability	Business Council for Sustainable Development of Taiwan	To cooperate with members in promoting corporate sustainability and environmental protection for the purpose of sustainability.
	Taiwan Association of Soil and Groundwater Environmental Protection	
	Center for Corporate Sustainability	

4.3.2 International Association

Organization	Means of Exchange and Cooperation	Benefit
World Steel Association, worldsteel	**As a key member** ● CSC participates in the sustainability reporting taskforce by giving data, offering opinions and taking parts in propaganda. ● CSC participates in the committees of technology, safety and health, environment, raw materials, economy, as well as product sustainability. ● CSC takes parts in CO_2 data collections, LCA, energy consumption, and sustainability reporting or joins expert groups and offers comments as well as supports propaganda.	CSC shares experiences via exchanges, cooperation, and services, and thereby obtains the latest development and stays connected to the global steel industry.
South East Asia Iron and Steel Institute, SEAISI	**As a key member** ● CSC assists with matters associated with steel technology and environment, safety and health, and takes parts in economic discussions and technology training programs. ● CSC supports the arrangement of SEAISI's annual conference and technical seminar, travelling seminars, and ASEAN technology forum, and shares reports of technology, environment, safety and health, and statistics as well as Taiwan country reports.	Through maintaining good interaction and collaboration with other steel industries in neighboring countries, CSC obtains information on the development of regional industries, technologies, and policies, which provides a good basis for business development and strategic cooperation.
Organization for Economic Cooperation and Development, OECD	**CSC regularly participates in the meetings of the OECD Steel Committee under the instruction of the Ministry of Economic Affairs, Taiwan (R.O.C.)** ● CSC represents the industry under the instruction of the officials (Ministry of Economic Affairs and embassies abroad) and academia (MIRDC) to participate in the OECD Steel Committee in order to obtain the latest information on the global steel environment, related policies and economy.	With this international platform, CSC can obtain important information on the steel industry and environmental protection as well as increase Taiwan's visibility participation in international agendas. With this platform, CSC is able to communicate with official steel authorities in different countries and seek opportunities to break through the existing trade barriers.

For more details [Connection to Global Trend] https://www.csc.com.tw/csc_e/hr/csr/par/par8.htm#par-trend

4.4 Circular Economy

Material Topic

4.4.1 Waste Recycling

Corresponding UN SDGs

Corresponding Taiwan's SDGs (T-SDGs) : Core Objective 6

Benefit Highlights in 2020

Highlights

Waste reuse rate is 95%.

Continue to achieve the goal of “zero solidification landfill”.

87% of waste is treated within the factory to reduce the carbon footprint of transportation.

Meaning for CSC

The energy resources of raw material, processes and end applications are all taken from the environment. In order to reduce the burden on the environment from operations, CSC is committed to develop technologies on treating waste from manufacturing based on the concept of steel life cycle, and at the same time integrates the resource chain both in and outside of the Linhai Industrial Park to properly recycles waste and achieve circular economy.

Goals

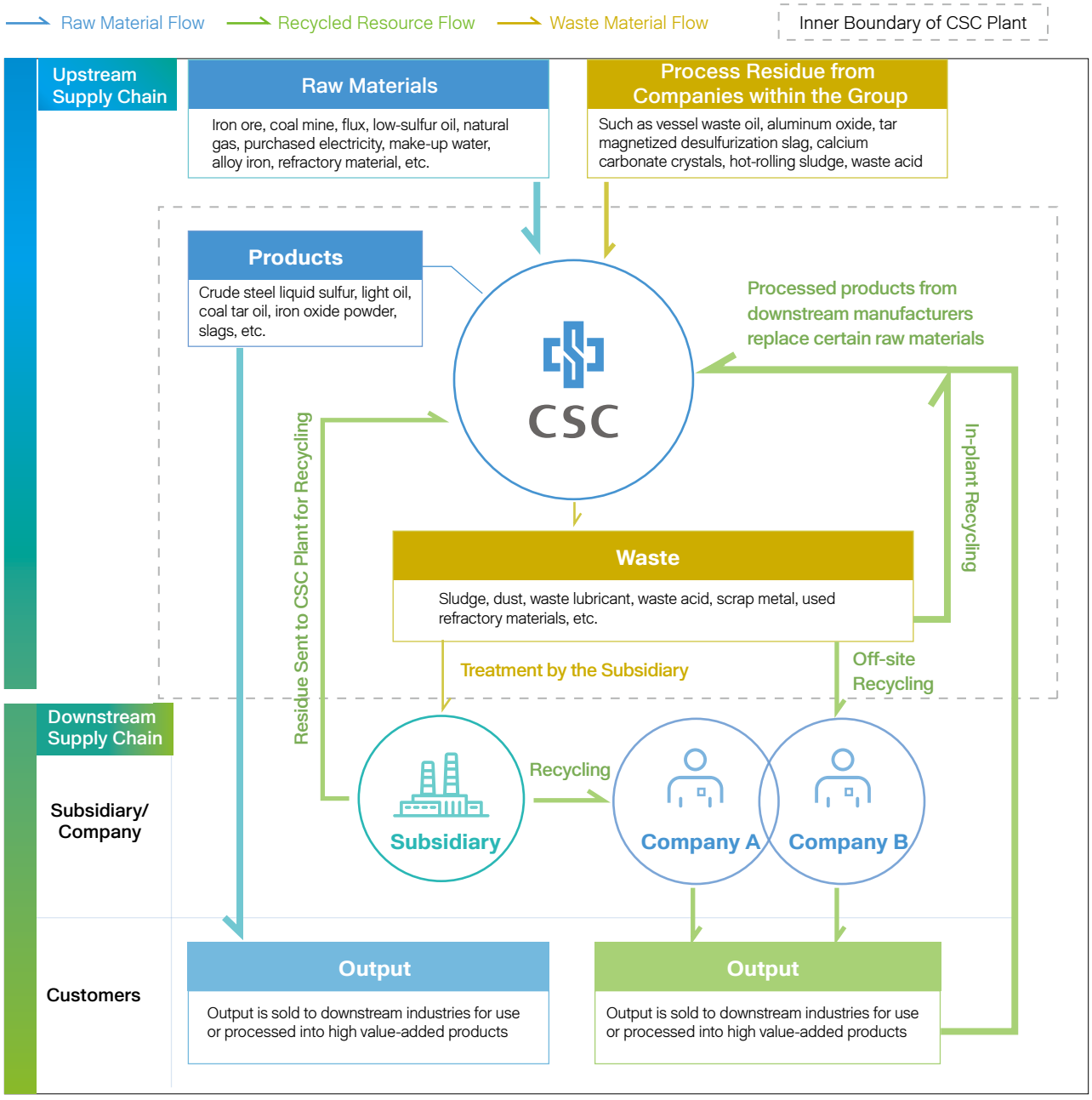
Short-term Goals (1~2 Years)	Mid-term Goals (3~5 Years)	Long-term Goals (5 Years and More)
The recycling ratio is over 90%, and zero solidification landfill.	The recycling ratio is over 92%, and zero solidification landfill.	The recycling ratio is over 94%, and zero solidification landfill.

Management Approach

CSC persistently set the goal of resource recycling and sustainable development. CSC sees waste and by-products from production as recycling resources, which are to be reused and recovered. It also helps processing waste from entities within the Group to mitigate the overall environmental pollution risk. With different material requirements for processes such as blast furnace, basic oxygen furnace, and acid regeneration and advanced treatment technology, the majority of waste and by-products can be fully utilized at CSC or Group entities. The excess iron-containing sludge can also be transferred to the cement plant as a raw material, reducing the need for the cement plant to purchase iron sludge from abroad as well as the burden on the environment.

In order to strengthen the waste and by-product flow management, refinement, and classification, CSC has developed various waste management systems. Through functional management in three major aspects: “record control", “reporting statistics", and “flow tracking", the management efficiency is enhanced for outsourced waste treatment and recycling, CSC also arranged visits to the processing industry to understand the proper disposal conditions and kept records to show that CSC took responsibilities for the waste output, storage, disposal, treatment, and reuse.

Material Management Process



Current Status/Action Plan

By-products from CSC productions include coal tar oil, light oil, BF slag, BOF slag, iron oxide powder, desulfurization slag, and magnetized desulfurization slag. On the basis of the off-site recycling network built in the past, except for water quenched BF slag which is sold to domestic businesses, all others are recycled and processed by affiliate companies and then provided to chemical, construction, civil engineering, electrical, commodity, and other industries. The resources can be effectively reused, and the industrial ecosystem both inside and outside of the Kaohsiung Linhai Industrial Park is expanded. While improving the recycling rate, it also reduces the environmental burden caused by long-distance transport, thereby achieving carbon reduction and fulfilling corporate social responsibility.

CSC manages the storage and disposal of hazardous industrial waste in accordance with the Waste Disposal Act and relevant laws by the EPA, and carries out audits internally every year. Before commissioning the disposal of hazardous waste to the cleaning company, CSC would check its qualifications. After signing the contract with the cleaning company, CSC would file the triplicate form report of Joint Disposal of Industrial Waste to the Industrial Waste Report and Management System. Once the waste clearance is completed, CSC would then ask the entrusted company to provide proof of proper waste disposal.

CSC's hazardous industrial waste in 2020 was chromic sludge from the steel rolling process. The chromic sludge was recycled for reuse within the CSC plant without shipping overseas.

Implementation Results

Through implementing the aforementioned management policies, the total waste output produced by CSC was 584,469.2 tonnes, and the output of waste per unit of steel billet was 70.93 kg in 2020.

Unit: tonnes

Item	Type of Waste	2018	2019	2020
General Industrial Waste	Waste plastic	7.00	2.00	0.00
	Waste refractory	74,580.98	84,842.26	74,099.99
	Waste wood	2,963.24	3,412.08	3,038.44
	Sludge	301,359.55	277,958.69	237,899.37
	Fly ash	4,247.46	4,506.31	3,871.32
	Dust	269,336.11	275,801.82	248,714.35
	Boiler bottom ash	303.25	284.39	320.07
	Bottom ash	199.18	176.80	169.97
	Non-ferrous scrap metal	376.14	185.74	84.66
	Waste solvent	0.76	2.57	0.55
	Waste acid	12.07	2.49	0.00
	Spent alkali	0.0050	0.0025	0.0000
	Waste lubricant	5,248.76	3,752.20	4,737.18
	Municipal waste	7,917.35	7,594.20	7,063.67
	Non-infectious medical waste	0.62	0.61	0.64
	Scrap metal	3,293.10	3,408.10	2,628.56
	Waste wire and cable	333.30	110.10	277.98
	Scrap motor	0.00	10.69	0.00
	Waste grinding wheel	23.61	6.20	30.46
	Waste acid	2,344.40	1,985.00	1,451.36
	Sandblasting waste	15.10	8.52	25.42
	Waste transformer	83.50	0.00	13.44
	Waste rubber	219.14	0.00	0.00
Total of General Industrial Waste		672,864.6	664,052.8	584,427.4
Hazardous Industrial Waste	Lead dross	0.00	10.44	0.00
	Chromic sludge	34.42	42.98	41.76
Total of Hazardous Industrial Waste		34.42	53.42	41.76
Total Waste		672,899.0	664,106.2	584,469.2

Unit: tonnes

Item		2018	2019	2020
General Industrial Waste	Incineration	4.7%	4.4%	4.8%
	Recycling	95.3%	95.6%	95.2%
Hazardous Industrial Waste	Recycling	100%	100%	100%
Waste production per tonne of crude steel (kg)		71.35	69.96	70.93

Unit: tonnes

General Industrial Waste	2018		2019		2020	
	Onsite	Offsite	Onsite	Offsite	Onsite	Offsite
Incineration (with energy recovery)	29,710.2	1,681.6	27,652.1	1,418.9	26,944.4	1,342.4
Total of waste directly disposed	31,391.8		29,071.0		28,286.8	

Note: The direct disposal of general industrial waste is all incineration (with energy recovery), incineration (without energy recovery), landfill and other disposal operations.

In 2020, 87% of CSC's waste is recycled in the plant, and only 13% of the waste needs to be shipped out of the factory, therefore it is relatively difficult to cause environmental pollution. By exchange of ideas with external entities, the waste management of CSC and CSC Group can be improved.

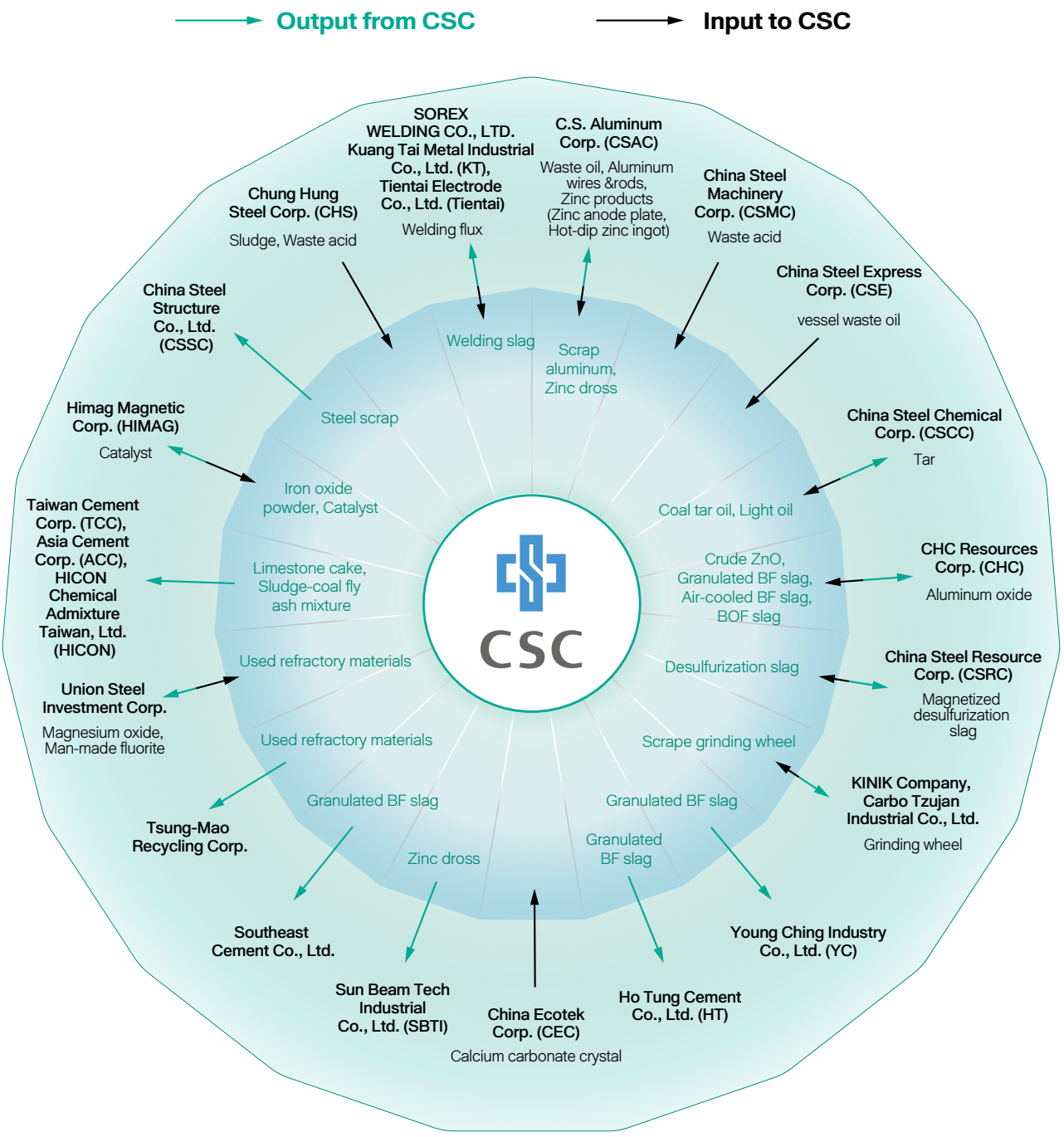
Excellent results have been achieved in the reduction of by-products (solid residue), in-plant recycling, and off-site recycling. After years of hard work and close cooperation with academia and other industries, CSC has reached the "zero-solidification landfill" milestone for the first time in July 2001. Since then, CSC has set the milestone as its goal which was accomplished again in 2020. A total of 5.491 million tonnes of process by-products (wet basis) were recycled in 2020. About 24.8% of the by-products were recycled in the plant and 75.2% were recycled off-site.

Category	Annual output (10,000 tonnes)	Recycling (%)		Recycling Purposes
		In-plant	Off-site	
BF Slag	283.9	1.7	98.3	It is used to produce slag powder after water quenching or as all types of engineering materials after air cooling.
BOF Slag	104.1	37.4	62.6	Residual liquid steel is recycled as raw materials for the sinter plant, blast furnace flux, and slag pot base layer. The rest is used as materials for temporary roads, asphalt concrete aggregate, cement, and backfilling for marine engineering.
Desulfurization Slag	25.4	38.0	62.0	Residual liquid steel is recycled as raw materials for cement.
Dust	27.6	90.2	9.8	Mixture of coal ash and sludge can be used to produce cement; the iron oxide powder produced by acid regeneration plant can be used for magnetic materials, while the rest can be recycled as iron making materials in the plant.
Sludge	34.9	83.4	16.6	High-Zn sludge is sold to refineries in Japan while others are recycled for ironmaking in the plant or sold to cement plants if not recyclable.
Mill Scale	25.7	99.6	0.4	It is recycled for ironmaking in the plant or used as magnetic materials off-site.
Refractory Materials	8.1	77.6	22.4	Residual liquid steel is recycled as steelmaking flux and protective base layer for slag pots. The rest is reversely recycled by suppliers to produce refractory materials and low-strength concrete.
Construction Soil	8.4	0.0	100.0	After the South Star Project was shut down in 2012, soil is used as material for earth dump site starting 2013.
Others	31.0	9.0	91.0	Slag steel, magnetized desulfurization slag, iron oxide powder, burnt lime and limestone cake, etc., are mainly sent to the Group entities, and a small amount is recycled using the steelmaking process in the plant.
Total	549.1	24.8	75.2	

For more details [Waste Recycling] https://www.csc.com.tw/csc_e/hr/csr/par/par10.htm

4.4.2 Industrial Ecology Network

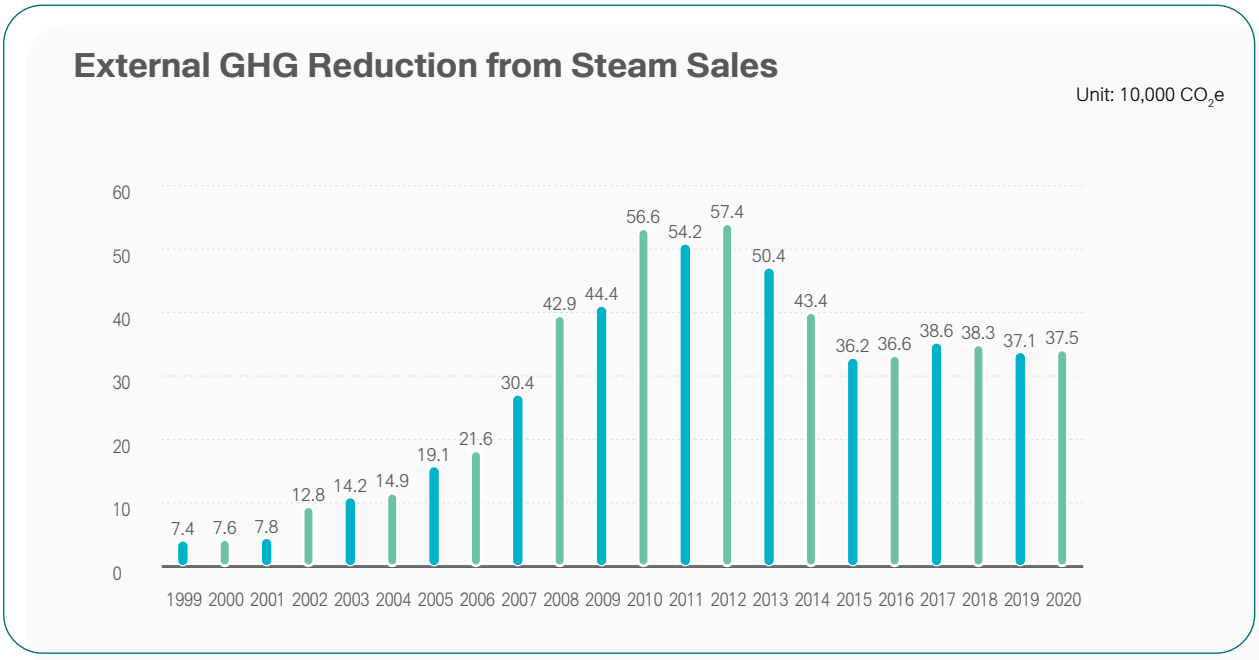
In 2020, the industrial ecology network centered around CSC contained 25 companies. CSC will continue promoting the “Industrial Resource Integration Plan” in accordance with the government policy and expand the waste recycling operations in collaboration with the manufacturers of Linhai Industrial Park so as to construct a resource sharing and recycling network among industries in the industrial park, improve the operating conditions and competitiveness, and keep in line with the global trend of sustainable development.



4.4.3 District Energy Integration

CSC is located in Kaohsiung LinHai Industrial Park, surrounded by a number of petrochemical and steel plants. CSC has long utilized steam produced from combined heat and power (CHP) and waste heat recovery as well as industrial gases produced from oxygen plant to share excess energy with neighboring plants. Users can turn off existing facilities with lower efficiency and higher GHG emissions or terminate new investments with lower efficiency and at same time achieve the objectives of improving energy utilization efficiency, reducing resource consumption, and lowering pollutant and GHG emissions to effectively mitigate environmental impact and improve environmental quality.

At present, a total of 14 manufacturers, including CSC, have joined the District Energy Integration. The energy that CSC sells include steam and oxygen, nitrogen and argon produced by the Oxygen Plant. Among them, steam is the main item. The amount of steam sold in 2020 was 1.562 million tonnes, saving 4.78 million GJ (equivalent to 120,000 kL of low-sulphur oil.) In terms of reducing GHG emissions and improving air pollution, it reduced 375,000 tCO_2e, 1,141 tSOx, 792 tNOx, and 113 tonnes particulates[(I) (II) (III)], creating a multi-wins situation for CSC, customers, and the environment.

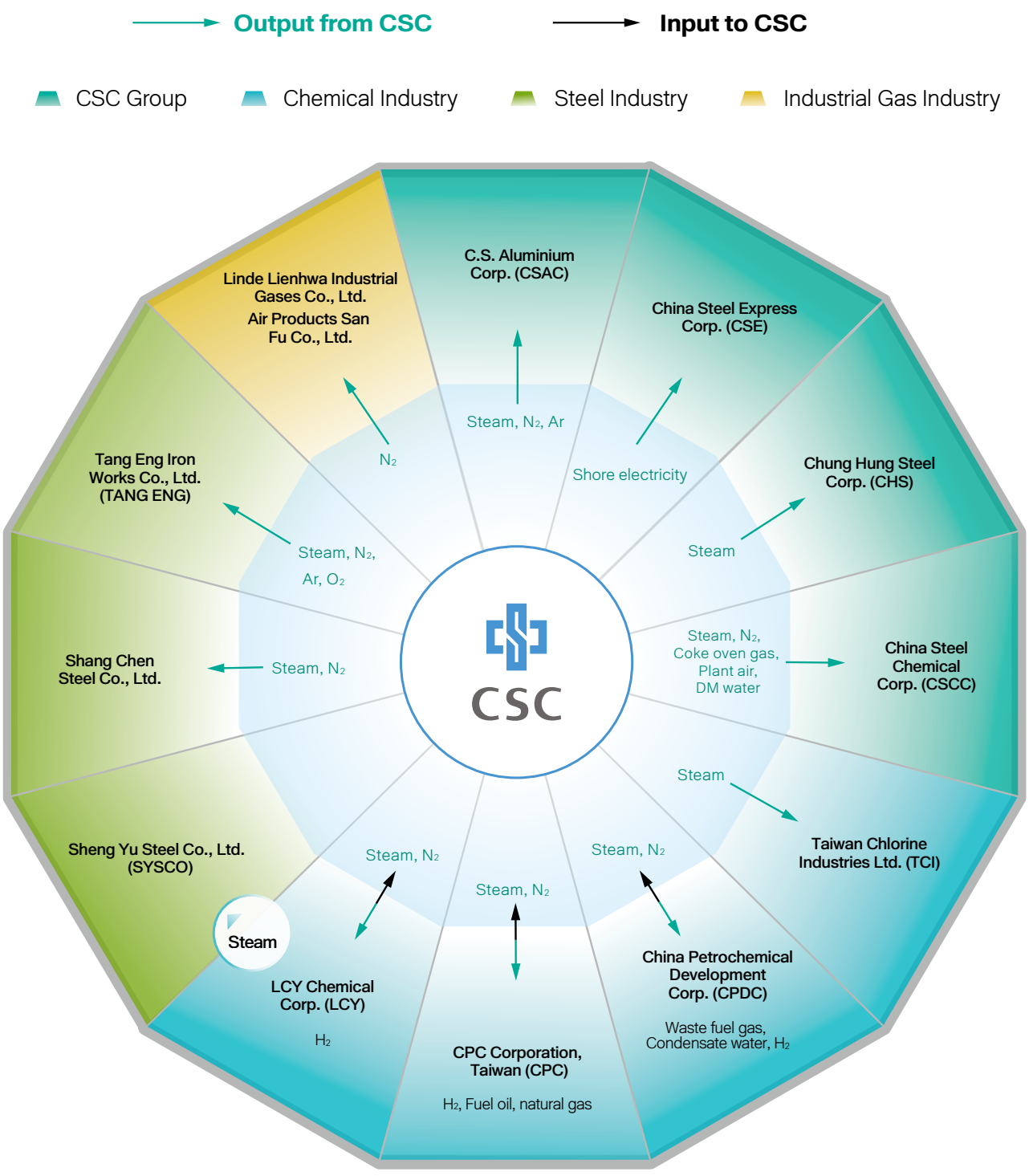


Note: I. GJ = 1 billion joules

Note: II. With an estimated efficiency of 94% for the newly installed boilers, 1 kL fuel oil can produce 13 tonnes of steam. Thus, the 1.562 million tonnes of steam sold in 2020 is equivalent to the use of 120,000 kL of low-sulfur oil.

Note: III. The calculations of environmental benefits are as follows:

- Energy saving: The heat value of fuel oil conversion is cited from the average detected heat value of CSC in 2020, which was 9,501 Mcal/kL.
- Air pollutant reduction: The calculation and coefficients were in line with the calculation of emission amount for the air pollution control fee of stationary sources by EPA.
- GHG emission reduction: The reduction only covered CO_2 emission before 2018, with the factors cited from the IPCC 2006 National Greenhouse Gas Inventory Guide-CO_2 emission coefficient of fuel oil. From 2019, N_2O and CH_4 were also involved in the calculation coverage, using the factors cited from the GHG emission coefficient list (version 6.0.4) announced by EPA.


Output from CSC
Input to CSC
CSC Group
Chemical Industry
Steel Industry
Industrial Gas Industry
C.S. Aluminium Corp. (CSAC)
China Steel Express Corp. (CSE)
Chung Hung Steel Corp. (CHS)
China Steel Chemical Corp. (CSCC)
Taiwan Chlorine Industries Ltd. (TCI)
China Petrochemical Development Corp. (CPDC)
CPC Corporation, Taiwan (CPC)
LCY Chemical Corp. (LCY)
Sheng Yu Steel Co., Ltd. (SYSCO)
Shang Chen Steel Co., Ltd.
Tang Eng Iron Works Co., Ltd. (TANG ENG)
Linde Lienhwa Industrial Gases Co., Ltd.
Air Products San Fu Co., Ltd.
CSC
Steam, N2, Ar
Shore electricity
Steam
Steam, N2, Coke oven gas, Plant air, DM water
Steam
Steam, N2
Steam, N2
Steam, N2
Steam
Steam, N2
Steam, N2, Ar, O2
N2
Waste fuel gas, Condensate water, H2
H2, Fuel oil, natural gas
H2

5

Chapter

Environmental Protection

5.1 Environmental Concepts and Management

Vision

To be a trustworthy steel company of global distinction that pursues growth, environmental protection, energy saving, and value innovation.

To be eco-friendly by achieving KPI (key performance indicator) targets at / close to top international standards.

To demonstrate synergy through effective use of internal and external energy and resources.

To achieve low-carbon, low-pollution, and high-value targets by accelerating Best Available Techniques and renewable energy applications.

To support government's policy of low-carbon economy by developing energy-efficient and emission-reducing products and engaging in new green businesses.

*Coverage ratio of employees and contractors within CSC scope in 2020

Environmental, Health and Safety (EHS) Management System

In 1997, CSC obtained ISO 14001 - Environmental Management System (EMS) certification and received the approval of ISO 14001:2015 certification in 2018. CSC then combined EMS with OHSAS 18001 into the CSC EHS Management System, launched in 2005. Strategic decisions are made by Committee for EHS Management, chaired by the Executive VP. EHS policies are approved by the Chairman of the Board before implementation and subject to annual external audit.

Care for Life

Respect life, practice environmental protection, safety, and health management to prevent occupational injury and illness and promote employee health.

Risk Management

Assess risks and environmental aspects. Reinforce risk control and pollution prevention.

Training and Communication

Educate employees with EHS concepts, establish a self-motivation culture, encourage the involvement of employee and contractors, and strengthen communication with stakeholders.

Legal Compliance

Reinforce the identification and execution of legal requirements and strengthen correction and prevention actions.

Improvement

Promote zero accident, energy conservation, and emission reduction; improve EHS performance and pursue sustainable operations.

EHS Management Committee

The EHS Management Committee holds two meetings every year, convening the first-level units of the production division and first-level supervisors from relative units to discuss EHS relevant management issues, and review tracked projects. The relative units include the Iron and Steel R&D Dept., Metallurgical Dept., Intellectual Property & Testing Technology Dept., New Materials R&D Dept., Green Energy and System Integration R&D Dept., Transportation Dept., General Affairs Dept., Smelting Engineering Dept., Rolling & Utilities Engineering Dept., and Civil Engineering Dept., By tracking and examining discussion and resolutions during each meeting, the goal of continuous improvement can be met.

Environmental Loading Reduction Commitment

CSC established an environmental load assessment system for investment projects. With the collaboration of all units, environmental load is assessed by proper scaling of existing production capacity, and CO_2 emission is evaluated by defining energy boundary and calculating energy use variation. CSC completed 5 projects of environmental load assessment, including 33rd hot stove renewal in 2020.

Environmental Accounting

By the end of 2020, CSC has invested 76.3 billion TWD. Amongst them, air pollution control accounted for 63%, water pollution control accounted for 17%, and energy saving and GHGs accounted for 10%, waste pollution control accounted for 8%, noise control accounted for 1%, and others accounted for 1%.

Energy and Environmental Investments

Items (100 million TWD)		**2018**	**2019**	**2020**
Capital Expenditure	Energy and Environmental Investments	23.5	31.8	53.5
Recurrent Expenses	Government Charges and Fees	2.3	2.6	2.4
	R&D	0.5	0.9	0.8
	Depreciation	13.6	15.0	15.0
	Operation and Maintenance	44.4	40.7	29.9

Environmental Appeal

In case of abnormality, people can call CSC by phone through 0800-746-008 during office hours or +886-7-8021111 #3702 during off time. Designated personnel are responsible for understanding the abnormality and according to the severity to report to the responsible supervisor and following up instructions to solve problems. At the same time, we ask the suspected pollution department to check or investigate the cause of the abnormality and report the results of the survey to the relevant departments. If the abnormality is caused by CSC, we will take action to control and correct it according to the regulations of the Environmental Management System.

Legal Compliance

In 2020 CSC received 5 violation notices for pollution. We will reinforce operation control and maintenance management and implement “self-management” to reduce violations.

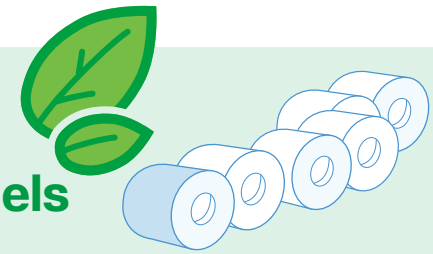
Year	**2018**	**2019**	**2020**
Target	≤ 5 counts/year		
Pollution	Water pollution and waste	Water pollution Air pollution	Water pollution Air pollution
Issuer	KSEPB	KSEPB	KSEPB
Counts / Fine (TWD)	2/0.336 million	4 [I]/ 0.7 million	5 [II] / 3.507 million (1case, with 1.53 million fine, is currently under administrative relief)

Note: I. Among two violation notices caused by abnormal water quality of effluent in 2020, one of it was issued on September 22, 2020. The date of violation was in 2019, therefore we put the violation notices into 2019. There were total 4 violation notices in 2019.

Note: II. Among five violation notices, four cases derive from the abnormality and aging of production and delivery equipment, which caused the spread of particulates. CSC immediately replaced, inspected, and cleaned the equipment, controlling the emission appropriately. At the same time, CSC also improved other relevant equipment and reinforced inspection. Inspectors were asked to report the inspection results in order to prevent relevant violations. One violation notices are abnormal water quality of effluent, caused by the wastewater treatment system which was originally shut down for inspection being temporarily turned on. CSC amended the operation guidelines twice in September and December 2020. In the guidelines, wastewater treatment system activation procedure was finalized, and the alerting signals for the turbidity of the sedimentation basin in the treatment system were added. CSC also established emergency countermeasures for when water quality is abnormal. Operation staff finished educational training to lower the risk.

Feature

Economy Transformation- Low Carbon and Green Steels



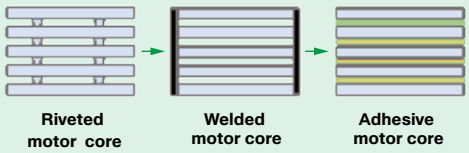
As the low carbon economy becomes the mainstream, manufacturers around the world use green materials instead. Over the past nine years, CSC has been dedicated to the development of green products, becoming irreplaceable in the global supply chains. 70% of CSC's premium steel are green steel. In 2020, 3.349 million tonnes green steel products were produced to help save energy and reduce carbon emissions to an estimated 6.205 million tonnes.

Self-bonding coating of electrical steel, the breakthrough of tradition

The electrical vehicle motor core is mainly made of electrical steel. The electrical steel in the market feature low steel loss and thin layer. Therefore, CSC analyzes the market and techniques required for electrical sheets and successfully developed the self-bonding coating to replace the iron core of riveting/welding. The self-bonding coating includes the following characteristics: (1) suitable film thickness and coating quality (2) adhesive intensity ≧ 2MPa (3) meets customers' requirement in cutting and punching (4) complies with international regulations REACH and RoHS.

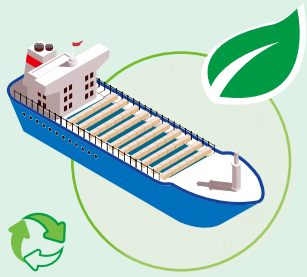
In addition, CSC provides a better core manufacturing process that assists motor manufacturers to overcome the limitation of the adhesive patent. Complete material and technical supports from the steel plant helps motor manufacturers in Taiwan rejoin the EV global supply chain, boosting the industry during the downtime of the COVID-19.

EV motor transformation:
Riveted/welded – adhesive motor Riveted motor



6 types of carbon reduction for high-functional steels

Taking references from LCA, ISO 14040, Institute of Energy Economics, Japan, and the World Steel Association, CSC reviews the steel production and usage, realizing that part of its products have life-cycle carbon reduction benefits. To build the local methodology and coefficients for CSC-made high-functional steels, CSC has built the carbon reduction methodologies for H-beam, fasteners, high-strength steels for automobiles, electrical steel for motor, and high-strength steel for ships after the public discussion with the ITRI and the experts. The methodology for highly functional strip steels such as free-cutting steel is currently undertaken. After the review of the third-party experts, the research result will become valuable data for carbon reduction in Taiwan



H-Beam

The lower limit of yield point for high-strength H-Beam is at least 325N/mm^2 and 490N/mm^2 for steel tensile. The carbon reduction benefits of high-strength SM570 are estimated to be 2.64 tonnes of CO_2 according to the calculation of the methodology.

Green fasteners

Fastener steel, such as steels requiring no further quenching and tempering, can reduce the downstream manufacturing process. According to the calculation, the fastener steel requiring no further quenching and tempering and expected to reduce the annealing process, decreasing the vehicle weight and reducing the oil consumption approximately 2.8 tonnes of CO_2 per ton of steel can be reduced.

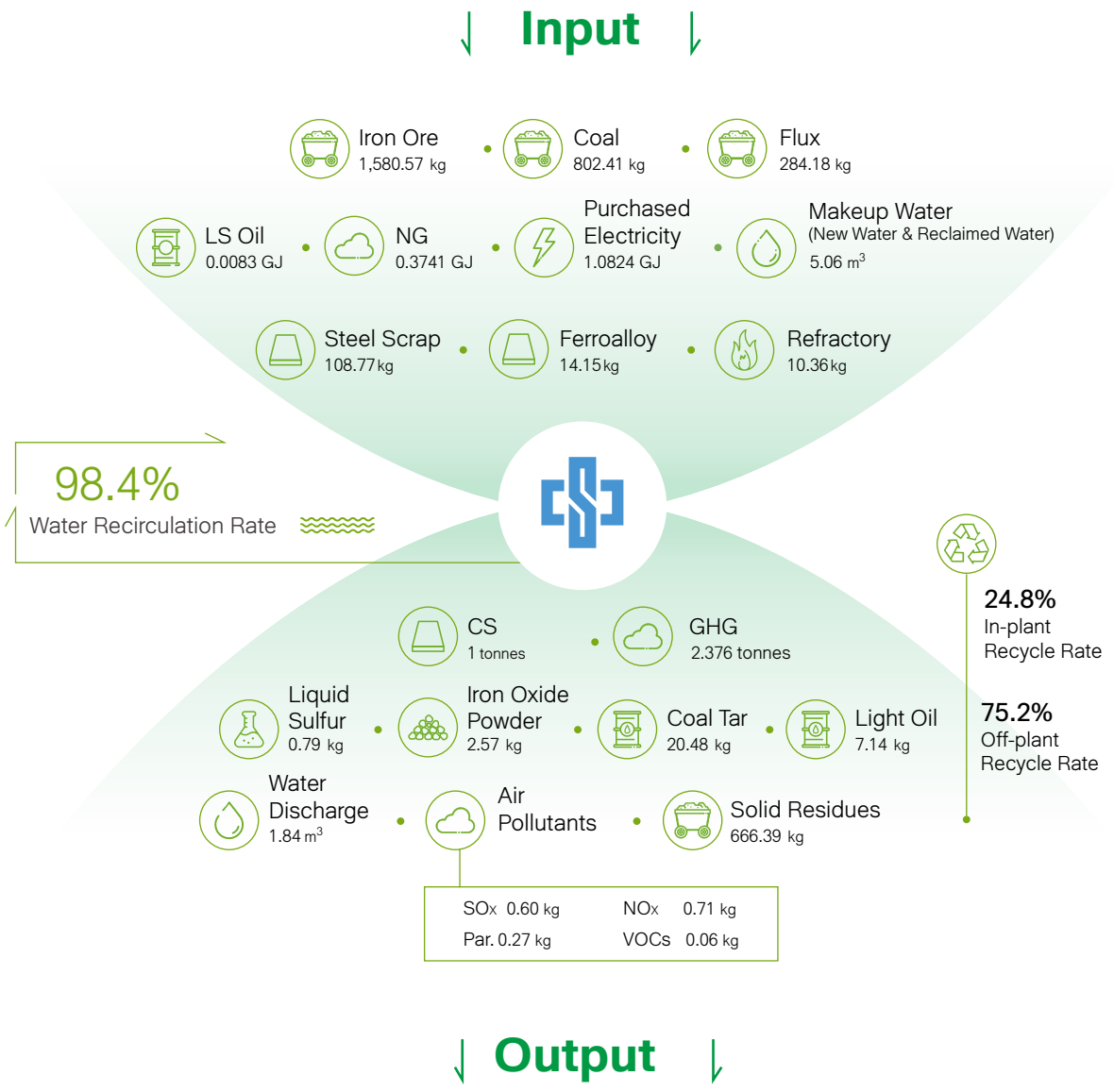
Corrosion-resistant steel for bridges

To prolong the bridge lifespan, factors such as environmental corrosion in the atmosphere, corrosion-resistant steel, and weight loss were taken into account during the establishment of the methodology. Based on the case studies of Guandu Bridge (coastal area) and Xinfa Bridge (mountain area) the carbon reduction benefits are 8,964 and 5,408 tonnes of CO_2, equivalent to 1.49 tonnes of CO_2 tonnes of steel.

High-strength steels for ships

The external carbon reduction methodology of high-strength steels for ships was completed in 2020, which defined the high-strength steels for ships should have a yield strength higher than 32 kgf/mm^2. According to the analysis of case studies on China Steel Growth, China Steel Realist and China Steel Liberty, the high-strength steel account for 60% to 78%. 1.50 tonnes of CO_2e was saved per ton of steel.

5.2 Green Process



5.2.1 Raw Materials Management

CSC is the largest upstream steel production plant in Taiwan. The main products are steel plates, steel bars, wire rods, electromagnetic steel coils, galvanized steel coils and others. The main raw materials used are coal, iron ore and flux; the majority of the raw materials are imported. In recent years, the raw materials market has changed from a buyer's market to a seller's market; therefore, the management of raw materials is one of the important determining factors for the steel plant to produce and make profit.

Besides, adjusting raw materials stock according to domestic and international situations during weekly meetings on material purchase, transportation, and storage, CSC should also actively develop new materials and new sources. CSC also actively develops new sources for raw materials and recycles steel scrap in order to reduce costs, diversify sources, and avoid material shortages and monopoly by suppliers. The important implementations in the current stage include:

Development of new material sources

CSC actively seeks new supply sources that satisfy the CSC's quality requirement. By closely tracking and reviewing the progress to diversify the risk, 18 new sources for coal and iron ore were developed in 2020.

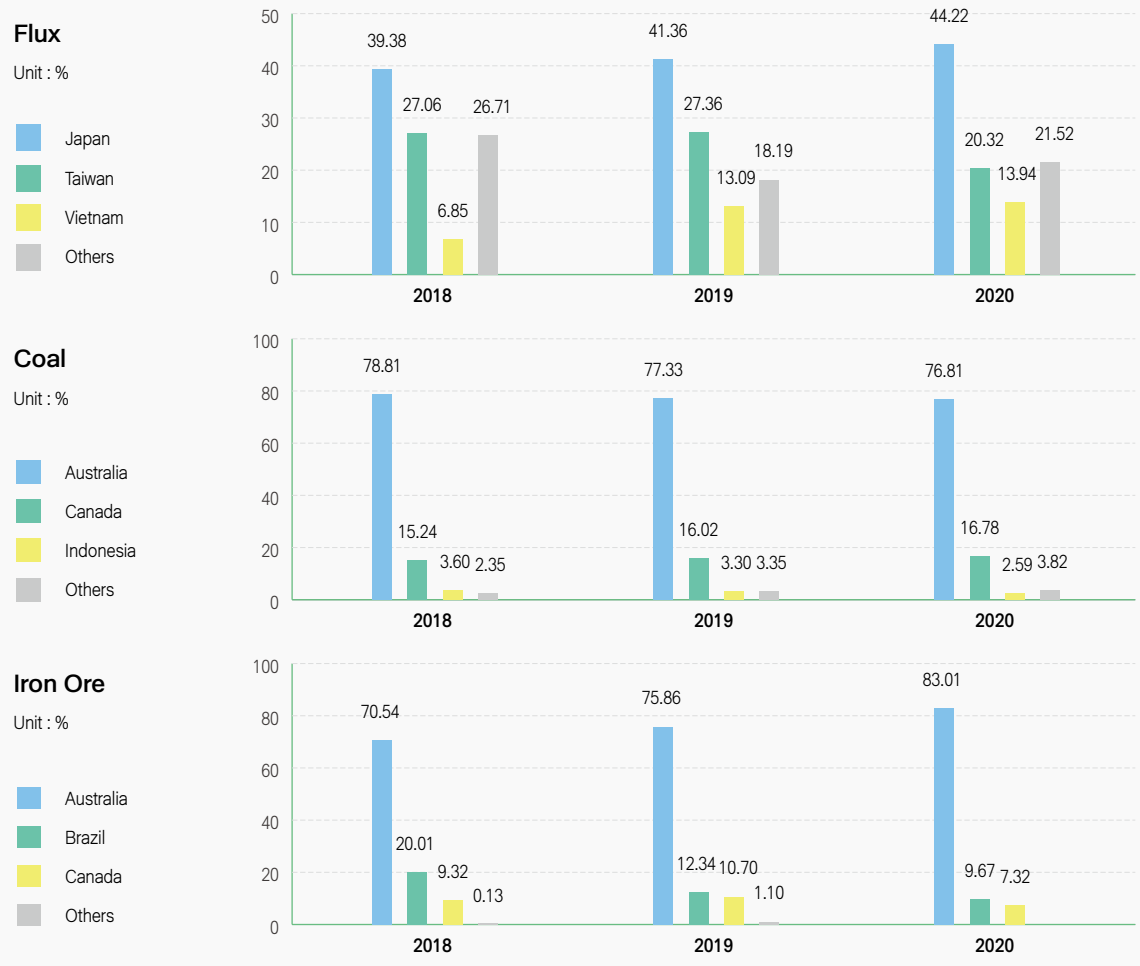
Steel Scrap Recycling

In response to resources recycling, CSC has already added steel scrap into the raw materials-mixed and steelmaking process. However, due to the current stage of technological advancements, the amount of steel scrap used will depend on the quality requirements of the steel products, the blast furnace condition and the annual maintenance conditions. Steel scrap is mainly for self-production and self-use at CSC, and the excess will be sold to subsidiaries to achieve the principle of the circular economy.

Implementation Status

CSC is a consistent steel production plant. During the manufacturing process, more than 90% of the raw materials are flux, coal and iron ore, and a small portion of steel scrap. The procurement of raw materials is mainly focused on non-renewable raw materials, including the flux, coal and iron ore. Steel scrap is mainly for self-production and self-use at CSC. A total of 2.51 Mt of the flux, 7.33 Mt of coal and 13.24 Mt of iron ore were purchased in 2020. Among them, about 80% of the flux was imported from abroad and serpentine and limestone from Hualien area accounted for about 20%. Coal and iron also need to be purchased from abroad.

Use of Raw Material and Percentage of Purchasing by Country in 2020



Material Topic

5.2.2 Energy

Corresponding UN SDGs

Corresponding Taiwan's SDGs (T-SDGs) :
Core Objective 7, 8, 11, 12
* Energy-saving measures cover process equipment and buildings, etc.

Benefit Highlights in 2020

Highlights

Rolling Mill Dept. I achieved outstanding energy-saving performance and won the Gold Award of the "2020 Energy Saving Leadership Award" of the Ministry of Economic Affairs, R.O.C. Its energy-saving projects are diverse and comprehensive. The main project is transforming the heating furnace of Plate Mill to reduce fuel consumption.

1.68%

The regulations require that the average annual power-saving rate of energy users shall reach 1% or more in 2015-2024, and CSC's average annual power-saving rate in 2015-2020 is 1.68%, which is more superior to the regulatory standards.

60.5MW of solar power generation systems are established in CSC. 4 solar power bike charging stations are built in CSC in 2019, which generated 30kW of power. Energy generated in 2020 was 32,370 kWh, with accumulated energy reaching 48,866 kWh. All the energy was self-generated and used in CSC.

tonnes.
375,000

In terms of promoting District Energy Integration to increase energy efficiency in LinHai Industrial Park, the steam sold in 2020 was 1.562 million tonnes, which could reduce CO_2e emissions by about 375,000 tonnes.

The energy intensity target of 2020 is 23.50GJ/tCS(5,614 Mcal/tCS), and the actual performance was 23.23 GJ/tCS (5,549 Mcal/tCS).

CO_2

The 2020 Energy Saving Action Plan (2016 to 2020) has a target of saving 3.784 million GJ. From 2016 to 2020, it has accumulated 6.253 million GJ, achieving a success rate of 165%. It is equivalent to 449,000 tonnes of CO_2e emission reduction.

In order to promote energy-saving measures and sharing case studies within the CSC Group, an energy-saving technology exchange platform has been established. Up until the end of 2020, 9 seminars have been completed.

Meaning for CSC

CSC has a wide variety of energy sources and most of them are self-produced by-product gas (such as blast furnace gas, coke oven gas, LD-Converter gas) whose output and consumption vary greatly. In order to balance energy use and achieve the most effective usage, CSC implements ISO 50001 Energy Management System, and continues to improve energy performance by upholding the PDCA spirit so as to reduce environmental impact and enhance corporate competitiveness.

Target

Short-term Goals (1-2 Years)	Mid-term Goals (3-5 Years)	Long-term Goals (5 Years and More)
✓ 2015-2021 average annual power-saving rate> 1%	✓ 2015-2025 average annual power-saving rate > 1.05%	✓ 2015-2030 average annual power-saving rate > 1.1%

Management Approach

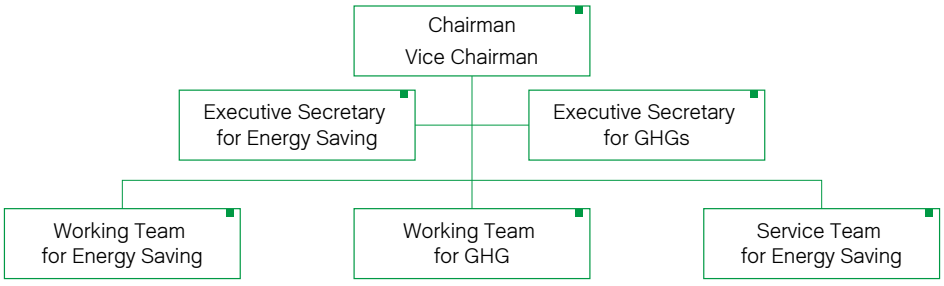
CSC mainly implements energy management through the Energy Conservation Committee and control of the energy management system (ISO 50001) to achieve the goals of energy conservation, carbon reduction and continual improvement. The Committee was formed and chaired by VP of Production Division. The Committee has three teams be responsible for energy saving and emission reduction in CSC's plants. The Committee also regularly holds meetings to review the achievement of current targets, share information on energy conservation projects, communicate relevant important topics, bring up appeals or consultations, propose interim motions, and publicize the records of the meeting. The energy policies are approved by the Chairman of the Board and updated when necessary. The latest version of the Energy Policy is committed to continuous improvement, compliance with regulations, performance management, energy conservation, carbon reduction, and knowledge advancement.

The International Organization for Standardization officially released ISO 50001 Energy Management System in June, 2011. In order to improve the performance of energy conservation, CSC introduced ISO 50001 in February 2011 along with consultation from Industrial Technology Research Institute (ITRI), and received the certificate of ISO 50001 from BSI on December 1st of the same year. CSC is the first steel company to implement ISO 50001 in Taiwan. In response to the new ISO 50001: 2018 standard, CSC conducted an external audit in June 2019, and successfully passed the transition.

Energy Policy	Continual Improvement	Improve energy performance, support energy-saving designs and green procurement, and commit to sustainable operations.
	Legal Compliance	Implement legal identification, comply with energy regulations, and fulfill corporate social responsibility.
	Performance Management	Perform energy reviews, fully provide resources and information to achieve goals/ targets, and eliminate potential energy waste.
	Energy Saving and Carbon Reduction	Improve energy-saving technologies and develop green energy, promote district energy integration, and create a sustainable value of circular economy.
	Knowledge Advancement	Capture the latest energy technical opportunities, reach communication consensus and achieve widespread application.

In order to improve energy efficiency and achieve continuous improvement, CSC sets the energy intensity target (Mcal/ tCS) according to the annual production plan every year, as the energy performance indicator. The energy intensity target for 2021 is ≤ 5,390 Mcal/tCS (22.57 GJ/tCS).

The Energy Conservation Committee



Energy Intensity Target

Item	2019	2020	2021
Energy Intensity Target (Mcal /tCS)	≤ 5,480	≤ 5,614	≤ 5,390
Energy Intensity Target (GJ/tCS)	≤ 22.94	≤ 23.50(I)	≤ 22.57(II)

Item	2019	2020	2021
Actual Energy Intensity (Mcal /tCS)	5,383	5,549	—
Actual Energy Intensity (GJ/tCS)	22.54	23.23	—
Accomplishment	Yes	Yes	—

Note: I. 2020 target was revised due to the COVID-19 pandemic that struck the global steel market. The major overhaul of #2 blast furnace was originally expected to be conducted from October 2020 to February 2021, but was carried out earlier from July to December 2020. This causes the target to deviate from the plan. Thus the 2020 target was revised.

Note: II. The energy intensity target is determined according to the production capacity and equipment maintenance. The energy intensity target in 2021 is lower than 2020 because the major overhaul of #2 blast furnace was completed in the second half of 2020. Therefore, the production capacity in 2021 is expected to rise and the energy saving target will be reached. This causes the 2021 target to be lower.

Five-year Energy Saving Action Plan and Targets

In order to achieve energy conservation and carbon reduction and respond to mandatory Greenhouse Gas (GHG) reductions in advance, CSC started the “Five-year Energy Saving Action Plan” in 2005, and has successively promoted three phases. Every phase has reached the targets of the action plan. From 2016 to 2020, 662 energy-saving projects were completed and achieved 165% of the “2020 Energy Saving Action Plan Target”, which is equivalent to a reduction in carbon emissions of 449,000 tonnes[I]. At the same time, CSC adheres to the government's energy saving targets and regulations “The average annual power-saving rate of energy user shall reach 1% or more from 2015 to 2024”. Currently, CSC has achieved a power-saving rate of 1.68% from 2015 to 2020. 2025 Energy Saving Action Plan will be carried out from 2021 to 2025 and the energy saving target is 2,637,684 GJ.

Note: I. The calculation coefficients are partially quoted from the CO_2 emission factors of the GHG inventory in the previous year, and the rest are calculated based on CSC's energy equipment efficiency coefficient in 2014 x previous year's electricity emission coefficient from the Bureau of Energy.

Phase	2010 Energy Saving Action Plan	2015 Energy Saving Action Plan	2020 Energy Saving Action Plan	2025 Energy Saving Action Plan
Schedule	2005 - 2010	2011 - 2015	2016 - 2020	2021 - 2025
Energy-saving Target (GJ)	8,666,676	9,043,488	3,784,624	2,637,684
Number of Projects	372	658	662	--
Performances (GJ)	8,930,444	12,623,202	6,253,473	--
Achieving Rate	103%	139%	165%	--

Note: Due to the diminishing energy-saving potential, the targets of 2020 and 2025 Energy Saving Action Plans are less than previous years. The number of projects, energy-saving performances and achieving rate are calculated until 2020.

On-plant Energy Saving

• Set up Utilities Dispatching Center (UDC)

CSC established the UDC since factory completed and put into production. The UDC centrally monitors all energy sources and integrates production plans. Then with the assistant of the integrated-Energy Management System (iEMS), UDC can execute dynamic dispatching in order to keep energy balancing in CSC and to minimize by-product gas emissions. UDC also manages the electricity load in CSC, and actively participates in the Taipower Demand Bidding Program. Furthermore, it compares the power generation cost of different fuels with Taipower tariff to adjust the self-generation amount to minimize the usage of high-priced fuels, such as low-sulfur oil and natural gas.

• Best Available Techniques (BAT)

In order to improve energy-saving performance, CSC has intensively contacted with steel-making companies in Japan, South Korea and China in recent years. We had collected BAT for energy-saving from other companies and completed the "Best Available Technical Manual for Energy Saving and Emission Reduction of Steel Plants" in July 2011.

• Guidelines of Energy Conservation

Energy-saving begins with design. CSC adds the "Guidelines of Energy Conservation" section to CSC Design Standard. New plants should follow the design standard to choose equipment that is high efficiency, energy saving with long-term benefits. 8 energy-saving seminars have been held in CSC since June 2018.

For more details [Off-plant Energy Saving] https://www.csc.com.tw/csc_e/hr/csr/env/env2.htm
For more details [District Energy Integration], please refer to Chapter 4.4.3
For more details [Renewable Energy Capacity], please refer to Chapter 3.4.2

Implementation Results

• Energy Consumption

The coking coal in the steelmaking process transforms into by-product gases which can be used as fuel in steelmaking and in cogeneration power plants to generate steam and power. Coal, oil, and nature gas can also be used in power plants while the excess power demand is met by purchased electricity from Taipower.

Category[I]	Item	2018 Usage (GJ)	2019 Usage (GJ)	2020 Usage (GJ)
Primary Energy	Coal	224,412,807	223,264,243	207,815,234
	NG	3,874,341	3,263,848	3,082,331
	Diesel Oil	119,232	118,578	103,292
	Gasoline	6,741	6,656	5,953
	Low-sulfur Oil	109,458[II]	56,154	68,615
Secondary Energy	Purchased Electricity	8,746,195	8,359,895	8,918,640
Self-Produced secondary energy	Steam	11,340,552	12,529,538	11,692,499
	Coke Oven Gas (COG)	35,259,410	36,255,470	35,070,654
	Blast Furnace Gas (BFG)	46,167,945	45,758,504	40,424,444
	Linz-Donawitz Converter Gas (LDG)	7,338,940	7,593,845	6,982,838
	Cold Blast Air	8,650,029	8,949,682	7,793,058
	Oxygen	1,223,453	1,098,180	942,972
	Nitrogen	799,986	813,264	713,866
	Argon	101,793	102,249	95,064

Note: I. The amount of primary energy and secondary energy used is checked by the DNV verification company during the annual GHG inventory checkup. The energy consumption of each energy category was calculated from the annual consumption x the annual average heating value of CSC in 2020.
Note: II. The amount of low-sulfur oil in 2018 was more than that in 2019, mainly due to the lack of self-produced gas during the overhaul of the #3 blast furnace, regulating in a higher usage of low-sulfur oil in the power plant.

Performance of Energy Saving and Carbon Reduction

In 2020, CSC completed a total of 156 energy-saving projects, saving a total of 1,063,000 GJ, reducing 79,000 tonnes of CO_2e emissions, and saving 408 million TWD in energy costs. The main projects include "#2 heating furnace revamping in #1 hot-rolling mill" which adopted a regenerative design that effectively reduced consumption rate; "Reducing the steam consumption rate of #2 turbine blower of #1 Power Plant", etc.

Category	2018		2019		2020	
	Items	Energy Saved (GJ)	Items	Energy Saved (GJ)	Items	Energy Saved (GJ)
Electricity	74	406,763	117	275,532	111	298,099
Fuel Gas	11	627,874	12	173,374	13	569,392
Industrial Gas	5	68,065	1	50	4	25,364
Steam	3	23,400	4	5,490	5	146,544
Water Systems	8	9,295	18	4,673	11	9,244
Others	12	18,133	11	101,988	12	13,882
Total	113	1,153,530	163	561,107	156	1,062,525

Note: The energy-saving results of each project are reviewed by the Bureau of Energy at the time of annual energy review.

Material Topic

5.2.3 Air Pollutants

Corresponding UN SDGs

Corresponding Taiwan's SDGs (T-SDGs) :
Core Objective 3 · 6 · 11

Benefit Highlights in 2020

Highlights

In 2020, two air pollution improvement projects were completed. These include the equipment placement of the NO.2 reheating furnace of the NO.1 Hot Strip Mill, and the renewal of the NO.2 dust collector of the NO.2 Basic Oxygen Furnace. This will reduce 100.0 metric tonnes of Par., 3.6 metric tonnes of SOx, and 11.5 tonnes of NOx emissions annually.

In conjunction with the government's fall and winter emission reduction policies in 2020, a total of 264.1 tonnes of Par., 1,200.1 tonnes of SOx, 809.6 tonnes of NOx and 25.3 tonnes of VOCs were reduced.

Achieved emission intensity targets.

Emission Intensity (kg / tCS)

SOx Sulfur Oxides	NOx Nitrogen Oxides	Par. Particulates	Accomplishment
Target value 0.74	Target value 0.76	Target value 0.40	
Actual Value **0.60**	Actual Value **0.71**	Actual Value **0.27**	

Meaning for CSC

CSC is located in the third-level air pollution control regions determined by the EPA. In addition to the government's efforts in managing air pollution, the public also has expectations for CSC's specific air pollution improvement plan. While complying with the regulations and the environmental assessment commitments, CSC has also continuously collected the best available control technologies used by the world's most advanced steel plants, evaluated various air pollution reduction projects, and helped to improve air quality.

Target

	Short-term Goals (1-2 Years)	Mid-term Goals (3-5 Years)	Long-term Goals (5 Years and More)
Plans For Reduction	✓ The government's fall and winter emission reduction policies in 2020 reduced 264.1 tonnes of particles, 1,200.1 tonnes of SOx, 809.6 tonnes of NOx, and 25.3 tonnes of VOCs. ✓ A total of 2 air pollution improvement plans have been completed in 2020, which can reduce 100.0 tonnes of particles, 3.6 tonnes of SOx, and 11.5 tonnes of NOx each year.	✓ In conjunction with the air pollution action plans made by the Executive Yuan, 5 reduction plans will be completed in 2020 to 2023, which can reduce 136.9 tonnes of particles, 803.6 tonnes of SOx, and 11.5tonnes of NOx each year.	✓ In conjunction with the air pollution action plans made by the Executive Yuan, 8 reduction plans will be completed in 2024 to 2026, which can reduce 177.9 tonnes of particles., 957.6 tonnes of SOx, and 67.5 tonnes of NOx each year.
Cumulated reduction[(I)]	Par.: 364.1 tonnes SOx: 1,203.7 tonnes NOx: 821.1 tonnes	Par.: 501.0 tonnes SOx: 2,007.3 tonnes NOx: 832.6 tonnes	Par.: 678.9 tonnes SOx: 2,964.9 tonnes NOx: 900.1 tonnes

Note: I. The cumulated reduction is calculated from 2020, adding the annual benefits after fulfilling the short-, mid-, and long-term plans.

Management Approach

Air Pollution Management

- Strengthen the air pollution control regulations, meet the requirements of various laws and regulations, and reduce the occurrence of air pollution anomalies.
- Cooperate with the government's air quality improvement policy, plan the response measures for air quality during fall and winter as well as the medium and long-term air pollution improvement plan.

In accordance with the ISO 14001 environmental management system, CSC aims to promote air pollution reduction, in order to achieve lower pollution, green energy and sustainability.

In terms of air pollution regulations management, the job is to ensure the normal operation of environmental monitoring equipment (CEMS, CCTV, AAQMS, FTIR), complete the testing and reporting of particulates (Par.), sulfur oxides (SOx), nitrogen oxides (NOx), volatile organic compounds (VOCs), dioxins (DXNs), etc., and apply for the permit of the establishment, changes, operation, and extension of pollution source in accordance with the law. Continue to strengthen in-plant inspections and review of pollution prevention efforts, and coordinate with the Executive Yuan's “Air Pollution Prevention Action Plan” and the EPA's Air Pollution Control Act to plan improvement measures.

Action Plan

» Air Pollution Improvement Plan

- In order to further improve pollution, CSC puts forward an air pollution improvement plan for 2020-2026, with a continuous investment of 44.714 billion TWD. CSC cooperates with the “Air Pollution Control Action Plan” promoted by the Executive Yuan, and participates in the quarterly state business air pollution control meeting.

Year of Completion	Improvement Project	Projected Reduction Results (Unit: tonnes/year)		
		Par.	SOx	NOx
2020	#2 slab reheating furnace revamping for NO.1 hot strip mill	—	3.6	11.5
	#2 dedusting system revamping for BOF plant I	100	—	—
2021	Flue-gas desulfurisation equipment to #1 sinter plant	5.3	800	—
	1st phase of enclosed coal storage construction	14.9	—	—
2023	2nd phase of enclosed coal storage construction	16.7	—	—
2024	1st phase of coke oven and coke dry quenching construction	20.5	—	—
2025	2nd phase of coke oven and coke dry quenching construction	20.5	—	—
2026	Overhaul of Power Plant I	—	154.0	56.0
Total		177.9	957.6	67.5

» Actively cooperate with emission reduction policies

- CSC not only obeys the regulatory emission standard for all processes, but also sets emission target (emission intensity) based on air pollution control plans for next year and includes it in the environmental management system for tracking and inspection. CSC has complied with the policy of the Kaohsiung City Government for emission reduction in fall and winter, arranged the production reduction to reduce emission, and reduced Par. emission by 264.1 tonnes, SOx emission by 1200.1 tonnes, NOx emission by 809.6 tonnes, and VOCs by 25.3 tonnes from September 2020 to March 2021.

» Countermeasures for Various Regulated Items

Regulated items	Countermeasures
SOx	CSC has finished a number of air pollution improvement projects, such as FGD of #6~8 boiler and #2~4 sinter, #1 reheating furnace revamping for plate mill, and using low-sulfur content raw materials (anthracite and environmental coal etc.) to reduce SOx emission dramatically.
NOx	CSC has finished a number of air pollution improvement projects, such as De-NOx equipment of #6~8 boiler and #1~4 sinter, and low-NOx burners to reduce NOx emission dramatically.
Par.	CSC has set up air pollution control equipment, such as bag filters and electrostatic precipitators, and budgeting annually to maintain the efficiency of control equipment. In order to reduce fugitive particulates emissions of raw material yards, a 20-meter high dust screen and automatic sprinkler equipment have been installed around the raw material yards and a chemical stabilizer spray is used. CSC has completed the automatic enclosed building of sinter ore in 2019, and particulate volume can be reduced by 14.7 metric tonnes per year. 1st Basic oxygen furnace No. 2 bag filter revamping was completed in 2020 and particulate volume can be reduced by 100 tonnes.
Dioxin	Activated carbon injection equipment was added to the rotary hearth furnace and by-product treatment plants, while dual function De-NOx and De-DXNS selective catalyst was added to the sinter plants to reduce Dioxin emissions.
PM2.5	Bag filters, electrostatic precipitators, wet scrubbers, and dust screens, and water and chemical stabilizers spraying equipment were installed to reduce PM2.5 emissions. De-SOx, De-NOx equipment are planned for sinter and power plants, and low-VOCs coatings are used in rolling mill department III to reduce PM2.5 precursor (SOx, NOx,VOCs) emissions.
Ozone Depleting Substances	To control ozone depleting substances, CSC integrates air conditioning, improves equipment maintenance, develops high efficiency models, uses eco-friendly coolants, and reuses recycled coolants.

» Environmental Monitoring and Testing

- CSC Environmental Monitoring Center oversees 6 air quality monitoring stations and has 2 digital boards that display real-time air quality data for citizens. For stationary emission sources, 29 continuous emission monitoring systems (CEMS) serve to monitor traditional pollutants emission intensity and quantity, and 26 of them are connected to KSEPB for government supervision. The current average monthly effective monitoring rate of each instrument can reach more than 90%, which is superior to the current regulatory standards by 85%. With regards to the draft of "Continuous and automatic monitoring facilities should be set up in public and private places and fixed pollution sources connected to the competent authorities", CSC is the object of the fifth batch of announcements and invited the EPA to the company to conduct CEMS setup and connection guidance.
- If an abnormality is found, you can directly reach CSC by phone (business hours: +886-7-8021111 # 6572; outside business hours or during holiday: +886-7-8021111 # 3702.)

Implementation Results

Through various air pollution improvement measures, CSC uses continuous automatic monitoring systems (CEMS) to report air pollution emissions every quarter in accordance with the relevant provisions of the Air Pollution Control Act.

Emissions		2018	2019	2020	EIA Commitment Limit
SOx (tonnes/year)		6,058	6,233	4,943	34.9 tonnes/day
NOx (tonnes/year)		6,797	6,464	5,822	34.6 tonnes/day
Par. (tonnes/year)		2,727	2,315	2,188	19.5 tonnes/day
VOCs (tonnes/year)		499	518	483	--
Dioxin (g-TEQ/year)		3.05	4.20	3.92	--
Ozone Depletion Potential Values[I]	**Total** (tonnes, CFC-11 equivalent)	27.28×10^{-2}	22.22×10^{-2}	16.61×10^{-2}	--

Note: I. Since R-22 has been listed in the IPCC Third Edition Assessment Report (TAR) as a greenhouse gas control, R-124(2-chloro-1, 1,1,2-Tetrafluoroethane) is the only refrigerant used by CSC subjected to the Montreal Protocol. The Ozone Depletion Potential (ODP) has been calculated based on this principle since 2015. The coefficients are referenced from the Annex of the Montreal Protocol.

Case Highlights

1. #2 slab reheating furnace revamping for NO.1 hot strip mill

In 2015, CSC invested 2.7 billion TWD in slab reheating furnace revamping for NO.1 hot strip mill. In 2020, #2 slab reheating furnace revamping was completed. The project adopted EPC mode, and CSC conducts the design, procurement, and construction by introducing the latest regenerative reheating furnace. Not only was the fuel consumption decreased, but SOx was also reduced by 3.6 tonnes, and NOx was reduced by 11.5 tonnes with the advanced air pollution protection equipment.

2. #2 dedusting system revamping for BOF plant I

CSC Steelmaking Department is divided into BOF plant I and C.C. BOF plant II. #1 and #2 dedusting equipment in BOF plant I are important environmental equipment. They are used for collecting particulates during the blowing process to prevent any pollution. CSC invested 340 million TWD in revamping the #1 dedusting system in 2018, and the #2 dedusting system in 2020. The two pieces of equipment can reduce particulate emission by 100 tonnes respectively.

Material Topic

5.2.4 Water

Corresponding UN SDGs

Corresponding Taiwan's SDGs (T-SDGs) :
Core Objective 6 · 8 · 11

Benefit Highlights in 2020

Highlights

Participated in the CDP water project and obtained the management level (B).

98.4%

The recycling rate of processed water reached 98.4%

12,226 million liters

CSC introduced the first demonstration project of urban sewage reclaimed water in the country. It recovered 12,226 million liters of reclaimed water in 2020.

37.5%

Compared to the introduction of reclaimed water, the intensity of new water is reduced by 37.5%.

Effluent monitoring data are far more superior to the regulatory standards.

Meaning for CSC

Steelmaking is an industry with high water consumption. No matter it's dust suppression, cooling, rust removal, lubrication, water seal, or water quenching, a large amount of water is required from raw material to finished products. CSC is located in Kaohsiung City where there is no large-scale reservoir. According to the Aqueduct's global water risk mapping tool from World Resource Institute, the Kaohsiung City is at medium to high risk (2-3). CSC's water usage is mainly from industrial water and recycled water, and there is no conflict with the domestic water supply. The industrial water comes from Fengshan Reservoir, which accounts for about 40% of the reservoir's water supply and might have a potential impact on local water use. To mitigate the impacts, CSC puts efforts into diversifying water resources, and has actively cooperated with the government in developing the urban polluted water recycling policies. CSC is Taiwan's first public sewage treatment plant for recycling the wastewater, i.e. the Fengshan Creek Reclaimed Water Plant, was born, where CSC and C.S. Aluminium Corporation in Linhai Industrial Park have incorporated the use of reclaimed water as industrial water in manufacturing processes.

Target

Short-term Goals (1-2 Years)	Mid-term Goals (3-5 Years)	Long-term Goals (5 Years and More)
The Fengshan Creek reclaimed water is expected to reduce the new water consumption by 35% compared to 2017.	The Fengshan Creek and Linhai reclaimed water is expected to reduce the new water consumption by 51% compared to 2017.	Apart from the adoption of reclaimed water, CSC also recycled wastewater and implemented water-saving facilities. The expected reduction of new water consumption is 60% compared to 2017.(I)

Note: I. The supply of urban reclaimed water cannot be estimated due to the oil pollution events. The water supply from Taiwan Water Cooperation is relatively stable. Therefore, the new water consumption ratio was adjusted.

Management Approach

CSC is located in Kaohsiung, and currently relies solely on a single raw water source. If there is a cut or restriction in water supply, it can cause severe impacts and losses on production and equipment. It commissioned the Tainan Hydraulics Laboratory at National Cheng Kung University to conduct research on “CSC Water Planning and Strategy” in 2011. In 2012, CSC determined its water strategy to be diversifying water sources, and continued to develop a new water source in order to alleviate the risk of cutting off / limiting water supply. Since CSC is located in the two reclaimed water regions where the Water Resources Agency has organized, urban polluted water is chosen as the second water resource for steel plants.

The industrial water used by CSC comes from Gangci Pumping Station. Its water quality does not meet the standard of domestic water, thus it is served as industrial water and supplies CSC 80-100 million liters per day from Fengshan Reservoir. CSC utilized a large amount of reclaimed water from Fengshan Creek in 2020, which accounted for 33% of total water usage. It is expected to increase reclaimed water usage to 50% in 2022, and raw water usage can reduce by 50%. CSC continues to change the corporate image of occupying domestic water. Opinions received related to CSC water usage will be replied and explained by Environmental Protection Department and Public Affairs Department.

CSC has taken the lead in cooperating with the national development of emerging water resources policies and become the first company in Taiwan to have started using a large amount of polluted and reclaimed water. Looking ahead, we will continue our efforts to stabilize the water source used for productions, practice circular economy, fulfill social corporate responsibilities and create a harmonious community.

Year[I]		2019	2020	2021
Water Intensity [II] (t/tCS)	Target value	4.90	4.80	4.60
	Actual Value	4.53	5.06[III]	--
New Water Intensity (t/tCS)	Target value	4.00	3.60	3.50
	Actual Value	3.57	3.58	--

Note: I. For better quality of our report, there were several data revised comparing to 2018 due to the calculation or coverage scale revised.
Note: II. Calculation of water intensity = (new water + reclaimed water-sold steam) ÷ annual output of crude steel. Calculation of new water intensity = (new water-sold steam) ÷ annual output of crude steel.
Note: III. In 2020, the efficiency of waste water purifiers in the plants decreased, and the urban reclaimed water cannot stably provide water due to the oil pollution upstream, and to respond to the COVID-19, the No. 2 blast furnace renovation project was implemented earlier starting from July to December 2020. The water intensity was thus increased.

Multiple Water Sources through Recycling of Reclaimed Water

CSC has continuously expanded its relevant production lines since 2003. Over the years, it has been encouraging water management and reuse of reclaimed water. In addition to adhering to the governmental policy of “Use sewage reclaimed water to replace industrial water”, CSC signed a purchase agreement with IDB. The water contract was officially signed and on August 23, 2018, reclaimed water from Fengshan Creek was trial introduced, and the full water supply officially began on August 23, 2019. The daily water supply has increased to 41 million liters, accounting for about 33% of CSC's daily water consumption.

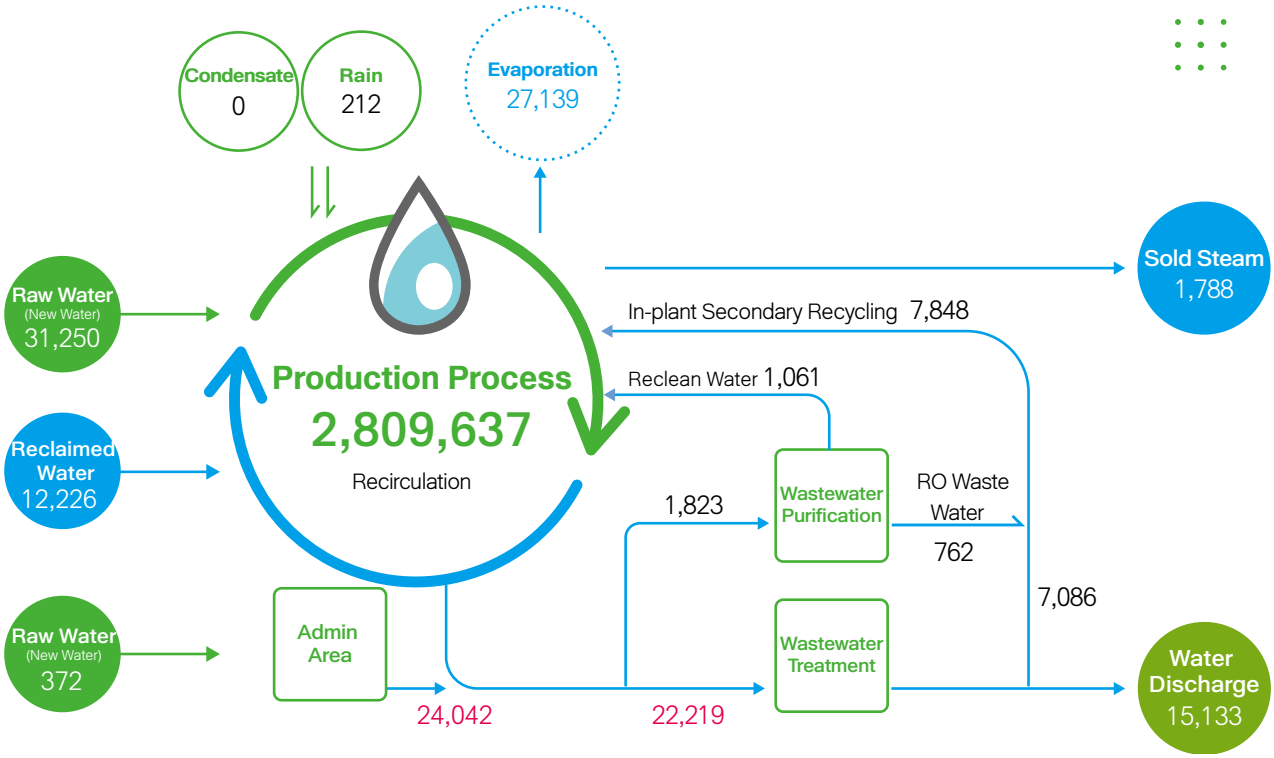
- Fengshan Creek Reclaimed Water Recycling Demonstration Project: Starting from August 2018, CSC is able to introduce approximately 22 million liters of reclaimed water daily, and about 41 million liters of reclaimed water have been introduced daily since September 2019, which significantly lowers the stress from water scarcity.
- Linhai Sewage Treatment Reclaimed Water Demonstration Project: Following the formal operation of the water supply from the Fengshan Creek reclaimed water, the “Linhai Sewage Treatment Reclaimed Water Demonstration Project” was formed. CSC is expected to introduce another 20 million liters of reclaimed water supplied by the project every day. The water supply is expected to begin at the beginning of 2022.

The main source of reclaimed water is collected from Kaohsiung City's domestic sewage, which is deaminated with nitrogen, and treated with UF and RO. After statistics from the entire year of 2020, CSC has imported 12,226 million liters of Fengshan Creek reclaimed water (reclaimed water that should be attributed to a third party). Coupled with water recycling from the production process, new water consumption has been significantly reduced by about 12% compared to last year. In 2020, the average daily new water consumption of CSC has decreased by about 86.8 million liters, and the new water consumption per unit of steel billets is 3.58 tonnes/tCS, which is equivalent to last year.

For more details [Water] https://www.csc.com.tw/csc_e/hr/csr/env/env10.htm

Water Balance 2020

Unit: million liters / year



Note: The reclaimed water and tap water mentioned above are both fresh water.

Year [I] Unit : Million liters	2018	2019	2020
Production Process Water Recirculation [II]	2,800,744	2,795,892	2,809,637
Processing Water Recycling Rate	98.5%	98.4%	98.4%
New Water Withdrawal	39,894	36,077	31,622
Urban Reclaimed Water [III] Usage	3,422	9,075	12,226
Water Discharge	14,791	15,152	15,133
Water Consumption [IV]	28,525	30,000	28,715

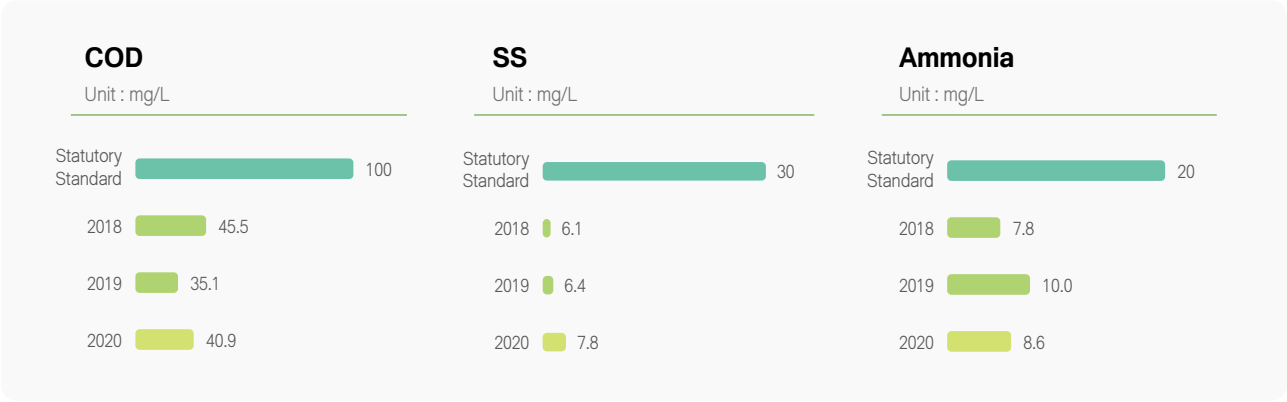
Note: I. For better quality of our report, there were several data revised comparing to 2018 due to the calculation or coverage scale revised.
Note: II. Processing water recycling rate = production process water recirculation ÷ total water use in process x100%, total water use in process do not include admin area raw water.
Note: III. CSC has 4 original water pools with a total water storage capacity of 177 million liters, which has been maintained at a high water level throughout the year. The Fengshan Creek Reclaimed Water was implemented in 2018, and the supply of reclaimed water reached 41 million liters per day. During the Taiwan Water Corporation's water outage, the flexibility of the water supply in the plant can be improved to reduce the risk of water limitation / stoppage.
Note: IV. Water Consumption=Total Water Withdrawal-Water Discharge, the Total Water Withdrawal=New Water Withdrawal+ Urban Reclaimed WaterUsage.

Water Pollution Prevention

CSC's main tasks of water pollution control are managing existing equipment and building backup facilities to improve water quality, and improve rainwater drainage performance by monitoring and managing.

The CSC wastewater processing facility has the capacity to process 79.6 million liters/day of wastewater to effluent standards and discharge it into the ocean through Yanshuigang River. In addition, a wastewater collecting pool which can carry 40 million liters wastewater runoff (36 million liters/day) processes wastewater runoff from heavy rain to the effluent standards and discharges it into the ocean through the Yanshuigang River, effectively reducing the pollution brought by wastewater runoff.

In 2020, the total discharge was 15,133 million liters, the Chemical Oxygen Demand (COD) and Suspended Solids (SS) were 40.9 mg/L and 7.8 mg/L, which are more superior than statutory effluent standards. EPA announced “Industrial Effluent Standard Draft” in June 2013, which includes the coking industry in industries with high ammonia nitrogen. In response to the new requirements of this regulation, the plan is to start from two aspects: upstream process reduction and downstream wastewater treatment. CSC filed a reduction plan with upstream process reduction (NH_3-N from 800-1,000 mg/L to <300 mg/L) and downstream wastewater treatment (NH_3-N from 300mg/L to <20 mg/L). The reconstruction of the COD removal basin and two nitrification basins were completed in 2015 and 2016, and the reconstruction of the denitrification basin was completed in February 2017. The improvement project completed the functional test in September 2017 and the ammonia concentration in the discharge water was 9.1 mg/L. In 2020, the concentration of ammonia nitrogen in the discharge water is 8.6 mg/L, which is all far superior to the statutory standard (ammonia nitrogen <20 mg/L).



For more details [Soil and Groundwater] https://www.csc.com.tw/csc_e/hr/csr/env/env11.htm

For more details [Toxic Substances] https://www.csc.com.tw/csc_e/hr/csr/env/env11.htm#env-poi

Material Topic

5.3 Climate Change Response

Corresponding UN SDGs

Corresponding Taiwan’s SDGs (T-SDGs) : Core Objective 12

Benefit Highlights in 2020

Highlights

Participated in the CDP water project and obtained the management level (B), which was better than the average of the metal smelting industry (C) and the Asian average (D).

Honored as one of the best performers in all industrial voluntary GHG reductions in 2020 by IDB, MOEA. CSC was selected as one of the best performers for the 8th consecutive year.

The GHG Offset project for “Hot-charge rolling energy-saving” was also reviewed and approved by EPA.

5.3.1 Climate Change Risks and Opportunities (TCFD)

Meaning for CSC

CSC puts emphasis on climate change and carbon reduction issues, and establishes corresponding mechanisms efficiently to evaluate risks and opportunities related to climate change. CSC makes Group countermeasures and strengthens the cooperation among domestic and international peers, green industry, suppliers, and academic institutes in the hope of reducing the impacts of climate change on the industry. CSC also prevents impacts with systematic structure.

Management Approach

World Economic Forum published the Global Risks Report 2020, and predicted that among the five biggest long-term risks in the following decade, “extreme weather”, “failure of climate change mitigation”, and “natural disaster” are the top three risks, with “failure of climate change mitigation” ranking at the top. This demonstrates the importance of climate change. CSC values climate change issue a lot. Therefore, in May 2020, CSC held a CSC Group energy and environmental meeting. At the meeting, CSC President instructed the Finance Division and Production Division to adopt Task Force on Climate-related Financial Disclosures (TCFD). This action was later approved in June 2020 by the Execution Team of Corporate Governance and Sustainability Committee, and reported to the Corporate Governance and Sustainability Committee in July. Five Directors jointly approved the action.

CSC TCFD Framework

Governance

- Corporate Governance and Sustainability Committee: Sustainable Environmental Development Unit is established under the Committee. Every year, at least two meetings are held. The unit reports, on a half-year basis, the performance result of the current year and the implementation plan for the next year. The performance result and the implementation plan are further reported to the Board of Directors. In 2020, the Corporate Governance and Sustainability Committee also reported the climate change and related issues to the Board of Directors.
- CSC regularly holds two energy and environmental meetings every year, which are hosted by the President. The meetings aim to discuss how the Group can comprehensively save energy and reduce GHG emission.
- Energy Conservation Committee: CSC establishes the Energy Conservation Committee, which is chaired by VP of Production Division. Three teams are formed to promote energy-saving and carbon reduction tasks in the Group. Regular meetings are held to regulate CSC energy policies, which are approved by the Chairman of the Board. Regulatory amendments can be carried out when necessary.

Strategies

- Identify climate change-related risks and opportunities through cross-department discussion.
- Evaluate potential impacts on operation and finance from the risks and opportunities of climate change.

Risk Management

- Identify and prioritize climate change-related risks and opportunities through TCFD team discussion and cross-department discussion.
- Come up with countermeasures based on the result.

Metrics and Targets

- CSC performed the first GHG inventory operation in accordance with international standards (ISO 14064) in 2006, and is subject to third-party verification every year. A verification statement is required.
- Scope 3 emissions have been estimated by the Environmental Protection Dept. since 2015 and a third-party verification agency has been entrusted to verify and obtain a verification statement since 2016.
- Seek possible opportunities to reduce GHG emissions based on the inventory result.
- Set up short-, mid-, and long-term goals in terms of energy management, water resource, and resource circulation management.

In 2020, CSC implemented the Taskforce on Climate-related Financial Disclosures (TCFD). After referring to the TCFD implementations in global and domestic steel companies, and after countless internal discussions, in September 2019, CSC became the first steel company in Taiwan that signed up to support TCFD, with the approval of the Chairman of the Board. CSC implements TCFD by holding 17 TCFD related meetings in 2020. To identify risks and opportunities of climate change, six internal meetings were held with the participation of relevant units. By disclosing information using the TCFD framework, investors are able to understand CSC's efforts in combating climate change.

2020 Result of CSC Identifying Climate Change-related Risks and Opportunities.			Opportunities
Transition Risks	Policy and Legal	Operating cost increases due to the regulatory amendment of GHGs and renewable energy.	• Continue to promote district energy integration to improve energy efficiency. • The GHG reduction credits may become a low-carbon product. • CSC Group has implemented solar power projects with total electricity reaching 84.8MW, and offshore wind farm projects with total electricity reaching 300MW is carrying out.
			• Reduce CO_2 emission by extracting carbon resources as raw chemicals from by-product fuel. • Continue to invest in low-carbon process R&D work.
	Market	Customers' steel demands change due to climate change.	• Develop and produce top-class electromagnetic steel sheets, steel for wind power and high-strength steel, etc., in response to changing demand for steel. • Develop and produce high-performance steel products with the potential for carbon reduction in the industry chain to achieve life cycle carbon reduction contributions.
		Material supply and cost rise due to extreme climate.	• Promptly monitor the supply and demand of steel products and raw material markets; Hold regular meetings to increase raw material inventory, expand material sources, and adjust storage locations.
Physical Risks	Acute	Order preparation postpones due to extreme climates such as typhoons and floods.	• Initiate emergency plan and set up a cross-departmental team to execute dispatching operations.
	Chronic	Extreme climate heightens the risks of electricity limitation and water shortage, which affect production.	• Renew the conventional cogeneration equipment; Implement waste heat recovery facilities, Increase power generation efficiency. • Adopt urban reclaimed water and diversify the water resources.
		Rising sea level causes high frequency of plant flooding, which affect production.	• Generally build a new warehouse to increase the floor. • Safety assessment and reinforcement of the wharf structure.

5.3.2 GHG Management

Meaning for CSC

Due to high GHG intensity, the steel industry becomes the focus of public attention when it comes to climate change and carbon reduction. CSC promptly sets up control mechanism, evaluates the risks arouse, and discovers the opportunities to mitigate the impacts.

Target

Short-term Goals (1~2 Years)	Mid-term Goals (3~5 Years)
✓ Taking 2018 as the base year, reducing emissions by 1% each year.	✓ Achieve a 7% reduction in GHG emissions by 2025 vs. 2018.

Management Approach

GHGs control is highly emphasized in Taiwan, with relevant regulations being amended. Some regulatory revisions and amendments (e.g. carbon fee) make enormous impacts on CSC production and operation. Therefore, CSC not

only emphasizes legal compliance as its basic principle, but identifies risks according to the regulatory revisions and amendments, optimizing internal countermeasures continuously to mitigate impacts.

Strengthening the control is expected to increase the company's operating cost. Meanwhile, indirect potentials exist (e.g. carbon credits), which may create revenue for the company. CSC has its own Corporate Governance and Sustainability Committee directly under the Board of Directors. It is the top authority for CSC sustainability development. The meeting is held every half a year. The CSC Energy conservation, Carbon Reduction and Neutral Promotion Unit under the Committee holds meetings every 2 months, and additional meetings are held as needed, discussing issues like carbon management.

» **Organizational GHG inventory (Scope1.2)**

- CSC performed the first GHG inventory operation in accordance with international standards (ISO 14064) in 2006. In order to ensure that the GHG inventory data complies with the principles of Measureable, Reportable and Verifiable (MRV), we subject to internal audits and third-party verification every year. CSC then acquires a verification statement and reports to the national GHG Registry.

» **Other indirect GHG emissions (Scope 3) inventory**

- By the GHG emission status of the overall supply chain, we try to find potential reduction opportunities according to the results of the inventory. The relevant organizations such as the Carbon Disclosure Project (CDP) encourage industries to take the initiative and carry out the inventory of scope 3 emissions. The Environment Protection Dept. conducted scope 3 inventory from 2015. CSC's GHG management is extended to the supply chain so as to strengthen and expand the level of management.

For more details [Green Product], please refer to Chapter 3.4.1
For more details [The Scope 3 Emission] https://www.csc.com.tw/csc_e/hr/csr/env/env3.htm

» **Carbon credits management and GHG offset project**

- CSC has formulated the “Carbon credit Trading and Management Regulations” with reference to the relevant regulations of the EPA and international practices, and incorporated related operations into the environmental management system (ISO 14001). The Environment Protection Dept. applies for ERCs to the competent authorities. By the end of 2019, CSC's GHG early action project had earned ERCs, with the current remaining 4.5187 million tCO_2e. For the GHG offset project for transportation mode change at quarry in Hualien, monitoring is continuously carried out to track the reduction result. 2nd reduction application is expected to be submitted in 2021. The GHG Offset project for the “Hot charge rolling energy-saving” was approved by EPA. The calculation period started in July 2020. 1st reduction application is expected to be submitted in 2021.

» **GHG Voluntary Reduction**

- Since 2005, CSC has been cooperating with IDB and a total of 1,280 reduction projects were implemented and the cumulative reduction reached 1.875 million tCO_2e / year. Due to our outstanding performance in reducing emissions, CSC has been awarded by IDB over the years and was honored as one of the best performers in 2020.

Implementation Results

Unit: tCO_2e	2018	2019	2020 (IV)
Scope 1	20,805,771	20,351,815	18,318,428
Scope 2	1,294,689	1,181,783(II)	1,260,769
Total emission(I)	22,100,460	21,533,598	19,579,197
Scope 3 Total (III)	14,021,934	11,434,160	11,114,462

Note: I. The boundary of CSC GHG emissions refers to the Operation Control Approach and calculates with the Emission Factors Methodology. GHG include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride and nitrogen trifluoride. After completing the brand new CSC China Steel Building in 2013, we adjusted our GHG inventory boundary in accordance with ISO 14064-1 and redefined our base year to 2014. The GHG emissions of 2014 is 20,629,824 tCO_2e, based on the GWP value from the IPCC's Fourth Assessment Report. The source of the coefficient includes the emission coefficient management table announced by the EPA, the World Steel Association coefficient, and the estimated emission coefficient of the carbon content measured by the plant.

Note: II. The data of scope 2 is caculated based on the electricity emission factor of 2019.

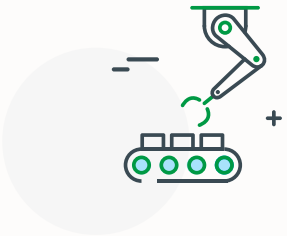
Note: III. The 15 categories of scope 3 GHG emissions calculation follow the GHG Protocol Guidance. CSC's “Fuel-and-energy-related activities”, “Waste generated in operations” and “Business Travel” had been verified by third-party.

Note: IV. This item will be revised according to GHG emission factor of electricity announced by BOE.

For more details [Scope 3 CO_2 Emission] https://www.csc.com.tw/csc_e/hr/csr/env/env3.htm

5.3.3 Process Improvement

CSC has been devoted to process improvement, which includes production development, energy saving technology implementation, energy efficiency optimization, energy generation improvement, pollution reduction and operation development. The methods are:



Improve process

CSC tried to introduce "hydrogen injection in blast furnace." This technology injects hydrogen into a working blast furnace through a blower pipe to replace coal. By estimation, a blast furnace generates 27.5 kg of water vapour, with 21% of carbon dioxide reduced. CSC plans to build a thermal simulator for blast furnace to conduct this technology. CSC plans to build continuous production line demonstration (50kg/h level) in 2024 to demonstrate and evaluate the techniques required for commercial operation of DRI. It is hoped to realize low carbon steelmaking process through the DRI.

Reduce fuel consumption

CSC mainly applies oxygen combustion in ladle preheating station and completes system design and component manufacturing. The project is now under operation. It is expected to lower natural gas usage in 2021, when the project starts to operate. Cold-rolling plants have developed and applied RT energy-saving devices to lower the fuel consumption. Intelligent operation has also been included in the #2 blast furnace intelligent module, to ensure stable and low fuel consumption operation of hot stoves.

Save energy

CSC applies permanent magnet shaft coupling to Flue Gas Desulfurization (FGD) cooling water circulating pump in the 2nd Power Plant, and reduces the use of pump power with control system; CSC establishes NO.6 and NO.7 steam turbine cooling water volume control technology in Power House to increase self-generated power. CSC builds air compressor system with constant pressure and constant current control technology, intelligent adjustment technology, energy-saving technologies for air compressor and cooling water system connection. These have effectively reduced the proportion of air compressor void power, and saved more than 2 million kWh of electricity; CSC also develops the optimization improve the refrigeration capacity of a single ton of steam and reduce the use of steam.

For more details [Process Improvement] https://www.csc.com.tw/csc_e/hr/csr/env/env3.htm

For more details [Green Life] https://www.csc.com.tw/csc_e/hr/csr/env/env12.htm

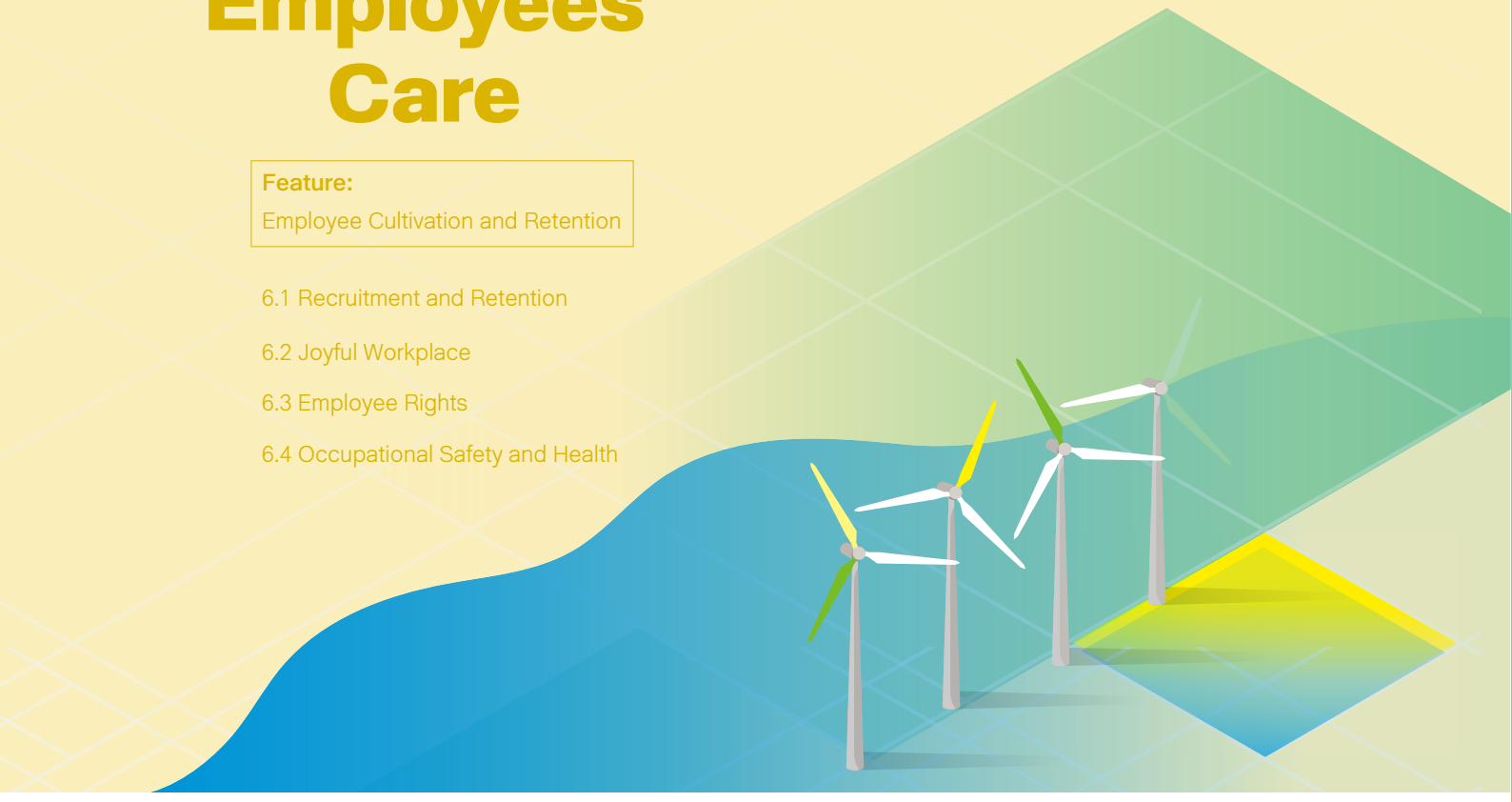
For more details [Green Building] https://www.csc.com.tw/csc_e/hr/csr/env/env7.htm

6

Chapter

Employees Care

Feature:
Employee Cultivation and Retention



Feature

Employee Cultivation and Retention

Employees are an important asset of CSC. CSC puts emphasis on new employee training, management training, AI talent cultivation, E-learning & knowledge management, and professional training.

Employee Cultivation

New employee training and management training

For new employee training, “mentorship system” is adopted, and the new employees can gain professional abilities through training courses arranged. For management training, CSC holds management skills training courses to prepare mid-level and above supervisors for the future. The performance evaluation system is thoroughly adopted for the management team. For reserved senior executives, CSC has collaborated with the top universities in Taiwan to hold CSC management training courses since 2012. CSC's corporate culture and leadership are included in the curriculum.

AI Talent Cultivation

Intelligentization is one of the key developments for CSC. To facilitate the adoption of AI in company operations, AI talent training courses have been organized in collaboration with professional institutes and academic institutes. The courses include:

1. **AI core training :** CSC trains employees to become data engineers to meet the Company's application needs. More than 100 people have undergone the training, and the number is increasing.
2. **AI basic training :** CSC regularly holds AI basic training to teach the professionals in the steel industry about AI technology and its applications. More than 500 people have undergone the training, and the number is still increasing.
3. **Keynote speeches :** To follow the trend around the globe, CSC regularly invites AI professionals for keynote speeches.

Knowledge management system and knowledge forums

As the retirement rate is on the rise, CSC has built a knowledge management system to facilitate knowledge handover. The “knowledge management platform” has operated since 2003. Each unit puts process knowledge into documents and makes E-learning courses, which are all available on the platform. In addition, CSC organizes knowledge forums every year to let each unit has the opportunity to share the outcome of implementing knowledge management.

Employee Retention

Attractive salary, leaves, and training subsidy

Other than an annual bonus, CSC offers an earnings bonus based on the Company's earnings condition of that year, which is equivalent to 3.6 months of salary. A performance bonus is also provided based on personal performance. After a new employee passes the probation, salary raise will be given. Before reaching the approved level of the position, salary adjustment will be given in July when the mid-year evaluation takes place. The adjustment ranges from 1% to 8%, which is highly related to working performance. An annual salary adjustment will be carried out according to their yearend performance grade. The average percentage of annual salary adjustment for the past 10 years is around 2%. CSC offers leaves in more categories than the regulations (including children's wedding hosting leave, marriage leave, maternity leave, special leave for new employees, etc.). CSC also offers further training subsidies, foreign language learning subsidies, and provides online English and Japanese learning lessons.

Scenario Simulation Platform

Scenario simulation

Professional training - BOF VR training simulator

Converter tapping control is an important process in BOF oxygen blowing. The liquid steel that has undergone blowing weighs 250 tonnes, and the temperature can reach up to 1,650℃. The heedless operation may cause steel leaks, equipment destruction, and production suspension. The cooling, cutting, and delivery processes that follow also contain fundamental danger. As a world leader in the steel industry, CSC adopts new technology to help employees to gain more experience. By combining visual system and simulation training, new employee training can be shortened while the training quality can be enhanced.

Employee benefit

To carry out the corporate responsibility, CSC satisfies employees' needs by offering various facilities (employee canteen, employee restaurant, the dormitory for single employees, and gym, etc.) and services (employee family activities, club activities, credit and loan service, group insurance (including family members), festivity bonus, newborn bonus, scholarship, emergency care and subsidies, year-end lottery, flexible welfares, group travel subsidies, and appointed store discount, etc.)

Employee finances

In addition to an abundant salary and a working environment with complete welfare, CSC also cares about the employees even when they retire. CSC has adopted employee finance since 1998. 90% of the employees are CSC's shareholders. Employees are able to save a maximum of 10% of their salary to a trust account. CSC offered another 20% of the amount saved for each employee. The total amount will be used to buy CSC's stocks. The cumulated stocks after an employee retire will become his/her second pension fund.

Promote talent exchange between companies within the Group

In line with the international development of the Group, the talent cultivation and development are arranged based on the Group scale. Employees can not only transfer from the parent company to a subsidiary, but also from one subsidiary to another. Employees' rights can be protected by adopting leave without pay or technical service. Those with extraordinary performance and with transfer experience will be considered for the promotion in the first place.

6.1 Recruitment and Retention

CSC creates a happy workplace, ensures a safe working environment, and protects employee rights with a sound system to attract and retain talents. The employees are allowed to give full scope to their talents in the right positions to keep the competitiveness of the company. CSC strictly follows the Labor Standards Act and never hires underage employees. To ensure the basic human rights of employment equality, employees are hired only based on expertise and experience. Discrimination based on ethnic origin, thought, religion, political affiliation, place of origin, place of birth, gender, sexual orientation, marital status, appearance, disability, or past labor union membership is prohibited. In 2020, no incident involving human rights abuse or discrimination was reported.

The management approach to talent recruitment and retention is mainly for the purpose of meeting the approved manpower requirements on time, on budget, and on spec. The operating strategy is reviewed on a quarterly basis. At present, in addition to public recruitment, there are also several channels for professionals such as expert recruitment (PhDs or legal counsels), recruitment from foreign trade associations (business students), recruitment from funded master's programs of industry-academia collaboration (engineering students). Same as professionals, entry-level employees are not only sought from public recruitment, but also from the special recruitment scheme for indigenous people. The current important goals and objectives are: Full usage, the right person in the right place, in-service training, further research and diversified development.

By the end of 2020, the CSC workforce consisted of 18,519 people, of whom 9,961 were regular employees (9,620males and 341 females), 8,518 were contractors (8,092 males and 426 females; mainly maintenance and operations contractors), and 40 were dispatched workers (2 males and 38 females, mainly for paperwork and general affairs). The contractors account for a large proportion of the CSC workforce mainly because CSC's industrial structure has many short-term outsourcing projects.

The average age of employees was 44 and the average tenure was 17.21 years. All of the regular employees are from Taiwan, no foreign employees were hired. CSC is an integrated steel plant. There are more male employees than female employees due to the industrial characteristic, resulting in an unbalanced gender ratio. However, CSC remains steadfast in building a diverse workplace. The female employee ratio rises every year. In the production functions, such as administration, finance, and planning, there are a total of 370 employees, with female employees reaching 104 people, accounting for 28%.

For more details [Contractor Management] https://www.csc.com.tw/csc_e/hr/csr/par/par5.htm#par-Coop

Event	Category	2018		2019		2020	
		Employees	Ratio (%)	Employees	Ratio (%)	Employees	Ratio (%)
Total		**10,424**	**100%**	**10,230**	**100%**	**9961**	**100%**
Gender	**Male**	10,091	96.81%	9,889	96.67%	9620	96.58%
	Female	333	3.19%	341	3.33%	341	3.42%
Region	**Kaohsiung**	10,267	98.49%	10,082	98.55%	9815	98.53%
	Taipei	3	0.03%	2	0.02%	15	0.15%
	New Taipei	54	0.52%	54	0.53%	57	0.57%
	Hualien	16	0.15%	19	0.19%	16	0.16%
	Overseas	84	0.81%	73	0.71%	58	0.58%
Age	**18-29**	1,289	12.37%	1,356	12.36%	1,330	13.36%
	30-39	3,145	30.17%	3,060	30.17%	3,054	30.66%

Event	Category	2018		2019		2020	
		Employees	Ratio (%)	Employees	Ratio (%)	Employees	Ratio (%)
Age	40-49	1,614	15.48%	1,885	15.49%	2,158	21.66%
	50-59	1,960	18.80%	1,787	18.80%	1,626	16.32%
	≥60	2,416	23.18%	2,142	23.18%	1,793	18.00%
Education	Doctorate	184	1.77%	185	1.80%	184	1.85%
	Master	1,940	18.60%	1,959	19.15%	1,948	19.56%
	Bachelor	3,836	36.80%	3,962	38.73%	4,151	41.67%
	Junior college	1,067	10.24%	991	9.69%	920	9.24%
	Senior high/ Vocational	3,245	31.13%	3,027	29.59%	2,684	26.95%
	Junior high	127	1.22%	96	0.94%	71	0.71%
	Primary	25	0.24%	10	0.10%	3	0.03%

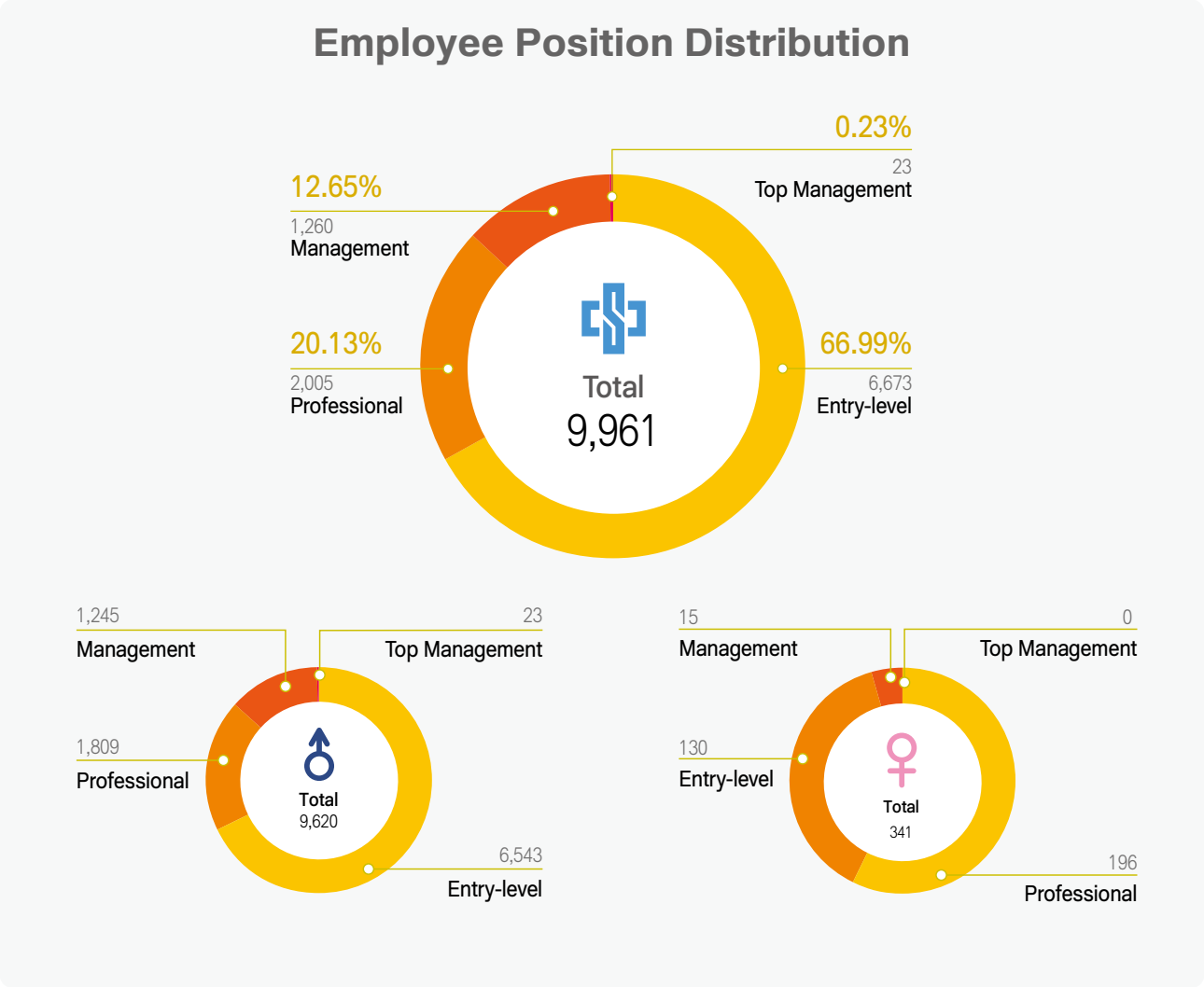
6.1.1 Workforce

The total number of new employees in 2020 was 406, mainly in the 18 to 32-year-old age group from the southern region of Taiwan, which helped increase local youth employment opportunities. From 2011 on, an average of 532 people have been employed each year, and the number of new hires is expected to stay the same until 2021. The new hire turnover rate was 3.69% in 2020.

New Hires Distribution in 2020							
Year		2018		2019		2020	
New Hires Distribution		Employees	Ratio (%)	Employees	Ratio (%)	Employees	Ratio (%)
Total		**852**	**8.17%**	**389**	**3.80%**	**406**	**4.08%**
Gender	Male	816	7.82%	365	3.57%	392	3.94%
	Female	36	0.35%	24	0.23%	14	0.14%
Region	Northern	35	0.34%	12	0.12%	13	0.13%
	Central	110	1.06%	27	0.26%	22	0.22%
	Southern	692	6.64%	344	3.36%	370	3.71%
	Eastern	11	0.11%	4	0.04%	1	0.01%
	Others	4	0.04%	2	0.02%	0	0%
Age	18-29	505	4.84%	276	2.70%	244	2.45%
	30-39	312	2.99%	106	1.03%	141	1.42%
	≥40	35	0.34%	7	0.07%	21	0.21%

Note: General Employees Rate = number of new hire ÷ total regular employees x100%

6.1.2 Workforce Structure



6.1.3 Turnover

The personnel change, resignation, and retirement of employees are handled according to relevant CSC regulations. Regular employees can apply for retirement at the age 65 or for voluntary retirement at an earlier age with reference to the Labor Standards Act. Personnel change is discussed by the line manager with the employee before the change and will be announced only after and with employee consent. In the case of difficulties in labor service performance arising from a personnel change, employees may request for termination of employment contract or file a grievance within 24 calendar days of personnel change. If grievance is rejected, employees can request for termination of employment contract within 7 calendar days of grievance rejection.

Directions for Handling Employee Voluntary Resignation and Retirement and Directions for Handling Compensations for Retirement, Relief, Occupational Accidents, and Layoffs institutionalize the application for voluntary resignation and retirement. In 2020, the attrition number is 658, with an attrition rate accounting for 6.61%. Among them, the number of employees above 60 years old is 589, and the main reason for attrition is retirement.

General Employees Attrition / Attrition Rate							
Category	Event	2018		2019		2020	
		Employees	Ratio (%)	Employees	Ratio (%)	Employees	Ratio (%)
General employee attrition number		**591**	**5.67%**	**591**	**5.78%**	**658**	**6.61%**
Gender	Male	579	5.55%	577	5.64%	643	6.46%
	Female	12	0.12%	14	0.14%	15	0.15%
Region	Northern	7	0.07%	5	0.05%	6	0.06%
	Central	9	0.09%	18	0.18%	3	0.03%
	Southern	572	5.49%	566	5.53%	645	6.48%
	Eastern	3	0.03%	2	0.02%	3	0.03%
	Others	0	0%	0	0.00%	1	0.01%
Age	18-29	15	0.14%	15	0.15%	20	0.20%
	30-39	12	0.12%	22	0.21%	27	0.27%
	40-49	3	0.03%	4	0.04%	9	0.09%
	50-59	19	0.18%	13	0.13%	13	0.13%
	≥60	542	5.20%	537	5.25%	589	5.92%

Note : General employee attrition rate = number of turnover ÷ number of total regular employee x 100%

Maternal Leave and Parental Leave

CSC policies regarding maternal leave and parental leave comply with government regulations.In 2020, the rate of employees returning to work after maternal/parental leave is 100%, which shows the friendliness and the adaptability of colleagues when they return to the workplace.

For more details [Maternal Leave and Parental Leave] https://www.csc.com.tw/csc_e/hr/csr/em/em10.htm

6.2 Joyful Workplace

For more details [Joyful Workplace] https://www.csc.com.tw/csc_e/hr/csr/em/em2.htm

6.2.1 Compensation Management

Employee remuneration includes basic salary (base salary, meal allowance, and allowance for special work environments or special maintenance), year-end bonus, and production / sales profit bonus. Employees are remunerated based on their duty, current market wage standards, the company financial status, and organizational structure. Pay is determined without gender-based differences, and the basic salary paid to women and men of the same position and level is the same. However, the pay grade of the same position may vary due to difference in seniority because of the link between salary and tenure. For employees of the same position and the same tenure, pay is the same regardless of gender. The average remuneration of regular employees in non-managerial positions (senior management level and below) is 1.195 million TWD, and median is 1.184 million TWD.

Event	2019	2020	Increase / decrease rate[II]
Number of full-time non-managerial employees[I]	10,199[III]	10,127[IV]	-0.705%
Average remuneration of full-time non-managerial employees	1.444 million TWD	1.119 million TWD	-17.24%
Median remuneration of full-time non-managerial employees	1.437 million TWD	1.184 million TWD	-17.61%

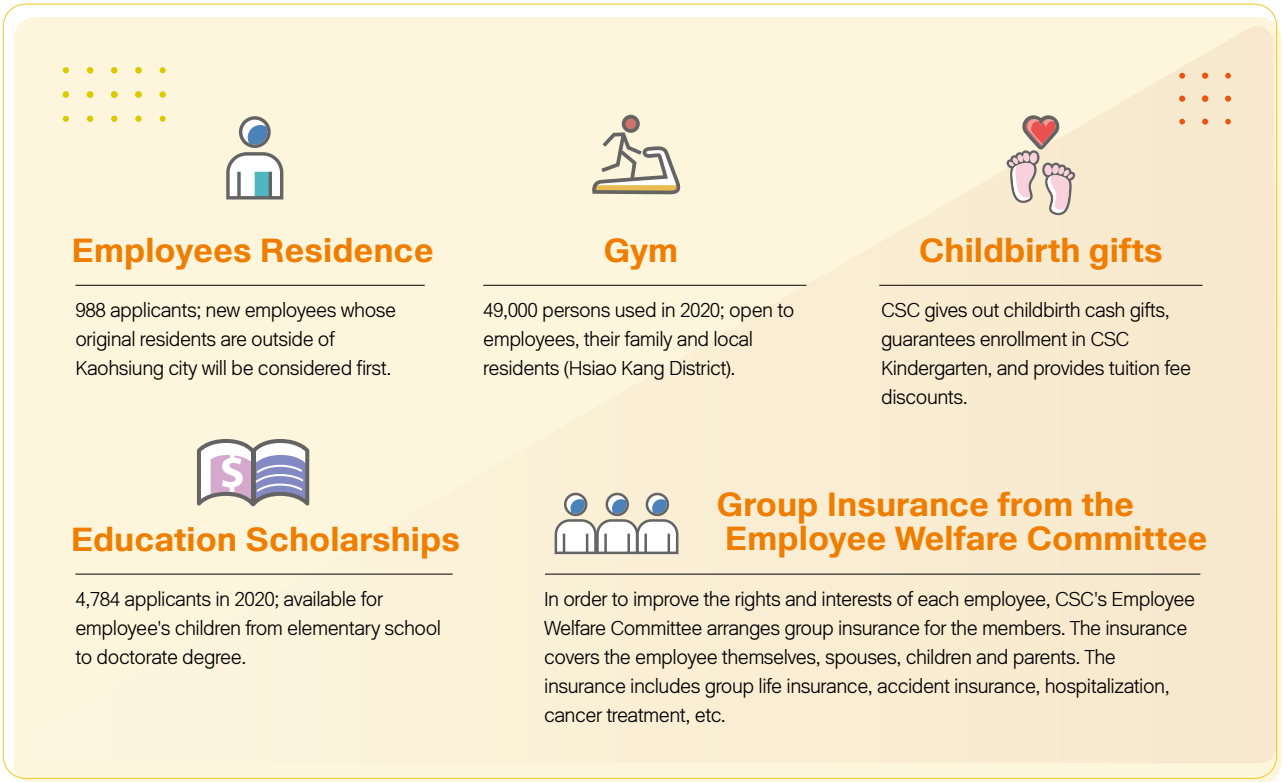
Note : I. Full-time non-managerial employees include employees under Assistant Vice President.
Note : II. Remuneration difference in 2019 and 2020 is due to reduced profit that leads to less bonus.
Note : III. Revised the number of full-time non-managerial employees in 2019.
Note : IV. The number includes the employees in any month of 2020 (2020.01-2020.12).

Salary Adjustment Based on Performance

7-12 years after a new hire enter CSC, salary adjustment will be given based on personal performance. Adjustment range is from 1% to 8%, varying with one's performance. Those qualified will receive annual salary adjustment according to their yearend performance grade. The average percentage of annual salary adjustment for the past 10 years is around 2%. Due to COVID-19 in 2020, the first three quarters of revenue for CSC dropped. However, since August, CSC has shown a turn from loss to profit. After considering the overall operation and negotiating with employees, CSC adjusted employee salary 3% higher. New hires were adjusted by 5%-6% higher. CSC became the first steel company in Taiwan to carry out salary raise in 2020. This demonstrates CSC's care towards new hires.

6.2.2 Welfare

CSC Employee Welfare Committee is comprised of 27 members from the employers and employees, which provides welfare facilities such as employee convenience shop, cafeteria, resort, single dormitory, gym, commute bus, laundry service and library. CSC Employee Welfare Section handles welfare services and conducts satisfaction investigation; the average score for satisfaction was 85.4 in 2020 (higher than the average score in 2019, which was 85.2.)



6.2.3 Work-life Balance

Regulations on employee leaves are superior to regulatory standards

Leave	Number of day	Explanation
Children's Wedding Hosting Leave	2	Not clearly stated in current regulations
Marriage Leave	9	Superior to the 8-day leave stated by the Labor Standards Act of the Ministry of Labor
Leave for Antenatal Appointments	6	Superior to the 5 days stated by the Labor Standards Act of the Ministry of Labor
Special Leave for New Employees	One day annual leave will be given after 3 months of employment	Superior to the 3-day leave given for new employees after 6 months of employment stated by the Labor Standards Act of the Ministry of Labor.
Funeral Leave	1-14	Depending on whom the funeral is for, the number of days may vary. If the funeral is held for a (foster) parent or spouse, 14 days are given, which is superior to the 10-day leave stated by the Regulations of Leave-Taking of Workers of MOL

Family Activities - held by CSC

CSC enacted Family Activities Regulations. CSC invited employees and their families to join hiking, trekking, and other outdoor activities. 9,820 people applied in 2020, accounting for 97.18% of eligible applicants. This encouraged domestic travel during the pandemic.

Year-end Raffle

To avoid mass gathering that encourages the spread of the COVID-19, CSC suspended several activities in 2020. Yet to show the company's care towards employees, and to appreciate employees' effort throughout the year, CSC arranged a year-end raffle in 2020. Online live streaming was adopted. The award is traveling coupons provided by travel agency to encourage employees to boost domestic economy through consumption. In addition, the year-end party in each unit still carried on to keep up the morale.

Matchmaking - organized by CSC and Labor Union of CSC

Three matchmaking activities were held in 2020 for unmarried CSC employees. It is hoped that through this activity, unmarried employees can broaden their friend zones, and build family if possible, improving the vibe within the organization and group effort.

Family Hiking Activity - organized by CSC Labor Union

CSC Labor Union organizes Family Hiking Activity every year to provide leisure and entertainment for union members and their families, as well as CSC's Welfare Committee members and their families. The number of applicants in 2020 exceeded 34,000 at a record high. Due to the COVID-19, the hiking activity was suspended. Therefore, in order to prevent the spread of the pandemic while protecting labors' rights, souvenirs are still available, and the lunchboxes were delivered in brand stores, which avoided mass gathering.

Club Activities

CSC actively encourages employees to participate in club activities. By the end of 2020, CSC Employee Welfare Committee had set up 43 clubs in total and leisure sports venues.

6.2.4 Services for Retired Employees

In response to the coming retirement wave, CSC Retirees Services Section was established to provide retirees services regarding health, finances, partner, leisure, and friendship. CSC Retirees Services Section mainly supports soon-to-be-retiring employees to recognize their rights and plan a balancing life after retirement. For retirees to contribute to society, the Services Section encourages them to attend senior citizens learning centers or voluntary activities. In addition, CSC Retirees LOHAS Society was established in 2014 by CSC Group retirees for healthy lifestyles and social welfare activities

6.3 Employee Rights

Material Topic

6.3.1 Labor Relations

Corresponding UN SDGs

Corresponding Taiwan's SDGs (T-SDGs) : Core Objective 8

Benefit Highlights in 2020

Highlights

100%

Labor Union of CSC covers 100% of employees with membership qualifications.

The Labor Union of CSC represents as one of member both in the CSC's board and the Corporate Governance and Sustainability Committee.

266

In 2020, 266 communication seminars (5,500 participants) were held across factories and 12 labor-management negotiation meetings took place.

Meaning for CSC

The harmony and stable development of labor relations is the key to sustainable operations of the company. CSC strictly abides by domestic and foreign labor and human right standards, attaches great importance to labor-management relations, and looks forward to creating a friendly and harmonious work environment to enhance competitiveness.

Target

Short-term Goals (1-2 Years)	Mid-term Goals (3-5 Years)	Long-term Goals (5 Years and More)
Legal compliance, full implementation of human resource management.	Diverse and fluent communication channel for employees Employee care and harmonious labor relations.	Collective agreements, stable and harmonious labor relations

Management Approach

CSC values the employee-employer relationship. Periodic labor-management meetings are held monthly and 12 were held in 2020 in order to promote employer-employee cooperation as well as increase work efficiency. In addition, each factory (office) (including second-level units of subordinate departments) arranges seminars to discuss questions and share opinions with employees every 2 to 3 months according to the regulations. By gathering everyone's opinions, reasonable solutions can be found in order to build cohesion among all employees. In 2020, 266 communication seminars were held by all factories/departments and the total number of participants was 5,500.

In addition to the labor-management meetings and seminars with directors and management, employees can also be reflected their opinions through the following channels:

Grievance System/Hotline	For employees who feel their rights have been violated, or when their problems are not reasonably solved after they have followed the standard administrative procedures to file complaints about difficulties in work.
Labor Union of CSC	Members can submit the complaint to the union.
Occupational Safety & Hygiene Committee	Regarding safety, health, environmental protection, etc.
Employee Welfare Committee	Employee Welfare and Benefits.
Employees' Retirement Reserve Fund Supervisory Committee	Storing, using, and managing retire reserve funds.
Sexual Harassment Grievance Committee	The Committee is responsible for handling sexual harassment complaints in the workplace, and providing a work environment where employees, contract workers, interns and job seekers do not have to worry about sexual harassment.

Collective Agreements

CSC values employer-employee relationships. To maintain unobstructed communication channels, to ensure fair and decent labor conditions, to provide a dependable reference, and to develop a stable and harmonious relationship, CSC signed the 1st Collective Agreement with CSC Labor Union on 14 Feb. 1997. The collective agreement, which covers all Labor Union of CSC's members (100% of full-time employees with membership qualifications), came up for review every 3 years, and this set a milestone for employer-employee harmony and settlement of affairs. With articles and concept superior to relevant legal requirements, CSC's Collective Agreement has since become a benchmark for other labor unions.

5th collective agreement was held on August 15, 2019. In the meeting, labor benefits that are better than the regulations were added, which includes one day plus in wedding leave, main wedding leave, and maternity leave to meet the needs of members in different age groups. Meanwhile, this revision aims to be in line with national policy to raise fertility. It is hoped that the employer and employees, through stable labor relations, can create a positive and friendly workplace to enhance corporate competitiveness.

6.3.2 Labor Union of CSC

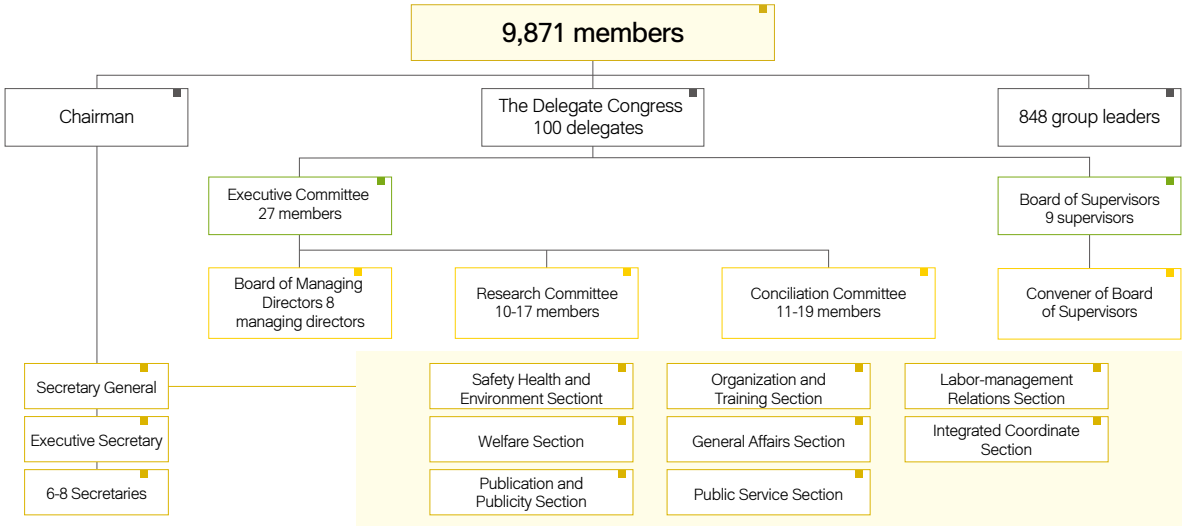
A healthy labor union can speak for employees and make suggestions for the company, so as to strive for a decent work environment, benefits, and career development for employees. The labor union helps to promote balanced development of business operations and extend social involvement of the company. Labor Union of CSC was founded on December 30, 1980. Its vision is to “develop CSC business, boost teamwork, protect member welfare, improve members' living, and enhance members' knowledge.” It is the Union's mission to make members to be proud of CSC, and feel safe and sound under the protection of CSC.

Organization

The Delegate Congress is the highest authority of the Union, with 100 delegates elected by members from departments at each plant site. During adjournment, the Executive Committee is responsible for union affairs. The Executive Committee consists of 27 council members elected by delegates; the Executive Committee has one chair that is directly elected by the union members and represents the union and handles regular committee matters. The Secretariat and 8 functional groups implement union affairs. There is also a Board of Supervisors that supervises the operations of the Executive Committee.

Membership is compulsory for all qualified employees, excluding managers of certain sections such as the manager of the Employment Section (Human Resources Dept.) and the Guard and Fire Brigade (General Affairs Dept.), who are deemed as the representatives of the employer. At present, The Union members have covered all the employees who are qualified to join the Union.

The Labor Union of CSC Organization Framework



Committee seats assigned to union members

- Labor Relations Committee (10)
- Rewards and Punishment Review Committee (4)
- Pension Fund Supervisory Committee (10)
- Safety & Health Committee (15)
- Employee Stock Ownership Trust Committee (3)
- Complaint Committee for Sexual Harassment in the
- Workplace (3)
- Employee Representative Board (1)
- Employee Welfare Committee (15)
- Employee Complaint Committee (2)

The Union participate in external organizations

- Kaohsiung City Confederation of Trade Union (12)
- Kaohsiung Municipal Machinery Workers’ Union (13)

Involvement in Corporate Governance

CSC holds periodic labor-management meetings and sets one seat for the labor representative on the Board. Since 31 May 2001, industrial democracy has been realized as the union was selected as the labor representative on the Board. The union later joined Corporate Government and Sustainability Committee in 2019, playing an active role in corporate governance.

Pursuit of Labor Rights and Benefits

The Labor Union of CSC pursues labor rights and benefits in a rational and peaceful manner, including labor-management meetings, seminars with directors and management, and collective bargaining.

External Exchange and Cooperation

Apart from fighting for union members' rights and enhancing service quality, the Union frequently interacted with other unions and participated in the Labor Day Parade organized by the Taiwan Confederation of Trade Unions many times to express the concern.

For more details [Human Rights Protection] https://www.csc.com.tw/csc_e/hr/csr/em/em3.htm
For more details [Competency Development] https://www.csc.com.tw/csc_e/hr/csr/em/em6.htm

Material Topic

6.4 Occupational Safety and Health

6.4.1 Occupational Safety

Corresponding UN SDGs

Corresponding Taiwan's SDGs (T-SDGs) :
Core Objective 3 · 8 · 9

Benefit Highlights in 2020

Highlights

Zero fatality.

Full-time employee disabling injury frequency rate was 0.14, which was the lowest in the past 6 years.

CSC carried out 248 training sessions on occupational safety and 8,919 trainees participated.

CSC assisted CSC group subsidiaries and government units to organize industrial safety training, with a total of 93 sessions and 1,698 trainees

The promotion of the "Factory Traffic-safety Improvement Plan" improved traffic safety in factories.

In November 2020, Somatosensory Training Center passed the system evaluation of talent development quality management for professional training institute conducted by Workforce Development Agency, Ministry of Labor.

Meaning for CSC

A sound labor system is intertwined with a nation's development. The management quality of occupational safety and health affects the safety and health of workers as well as the supply of labor; it is also one of the important factors for corporate sustainability. Therefore, countries around the world are increasingly stricter with occupational safety and health requirements. By working with all employees and contractors, CSC implements good occupational safety and health management in hopes of maintaining a safe work environment.

Target

Short-term Goals (1-2 Years)	Mid-term Goals (3-5 Years)	Long-term Goals (5 Years and More)
Zero fatality. Employee Disabling Injury Frequency Rate (FR) ≤ 0.2. Contractor Disabling Injury Frequency Rate (FR) ≤ 0.3.	Zero Fatality. Employee Disabling Injury Frequency Rate (FR) ≤ 0.18. Contractor Disabling Frequency Injury Rate (FR) ≤ 0.3.	Zero Fatality. Employee Disabling Injury Frequency Rate (FR) ≤ 0.16. Contractor Disabling Frequency Injury Rate (FR) ≤ 0.3.

Management Approach

The occupational safety and health management in CSC is mainly based on the occupational safety and health management system (ISO 45001 & CNS 45001). With the continuous improvement of the PDCA, the “Occupational Safety and Health Committee (OSH Committee)” also convenes meetings regularly to review the performance indicators of each unit, improve the working and environmental safety of colleagues, and promote health care.

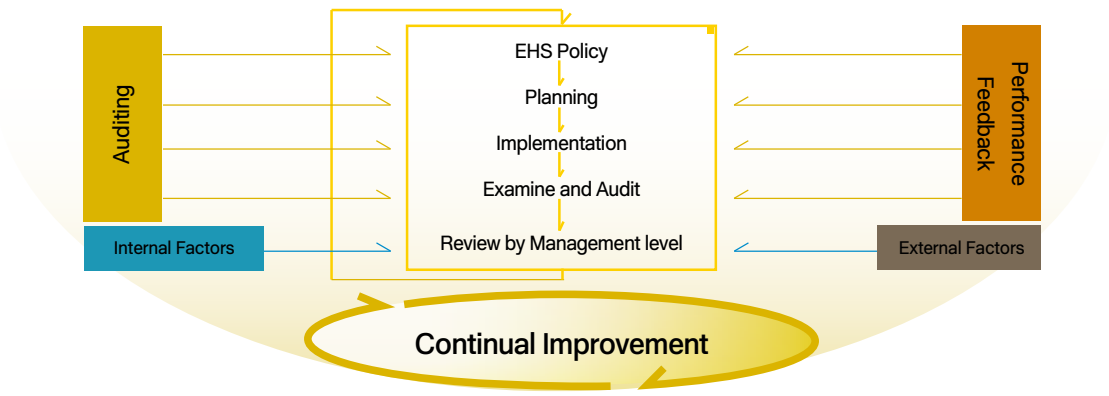
There are two performance indicators for assessing occupational safety and health: One is an active indicator such as near miss incidents or proposal of safety and health; the other is a passive indicator such as accident experience, administrative sanction, and audit results. Apart from compliance with occupational safety regulations, CSC has increased the frequency of health check-ups with more tests added, and requested each employee to take the somatosensory training. These measures, superior to the current legislation, can help increase employees' safety awareness and promote health caring.

For more details [Contractor Occupational Safety and Health Management], please refer to 4.1.4

Safety and Health Management System

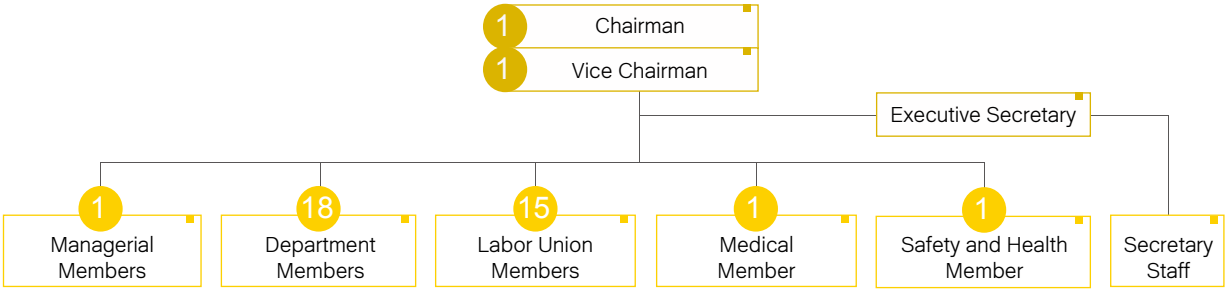
For continual improvement on our management in occupation safety and health, CSC introduced the occupational safety and health management system (OSHMS) in 2000, and obtained certifications on OHSAS 18001 (2002) and TOSHMS (2008, TOSHMS is also known as CNS 15506). The scope of safety and health management system applies to all employees and workers in CSC. Contractors have to follow the CSC safety regulations as well. Each department shall take hazard identification and risk assessment first and carry out corrective actions according to the results. Furthermore, the effectiveness of the actions would be assessed through performance indicators. To comply with the new ISO 45001:2018/ TOSHMS(CNS 45001:2018), CSC revised the current regulation and obtained the new certification from BSI in June 2020.

CSC Occupational Safety and Health Flow Chart



Occupational Safety & Hygiene Committee

CSC President serves as the Chairman, and the Executive VP serves as the vice chairman in the committee. There are 15 representatives from CSC Labor Union, account for 34% of all committee members. The Committee holds bi-monthly meetings and disclosures OSH management performances at the shareholder annual report for public review.



Liability and Grievance Mechanism

Each factory and department convenes a meeting with Occupational Safety and Health Committee every month to communicate opinions and publicize company policies. If the relevant opinions are company-related, they can be raised during the quarterly communication session between the OSH Committee and Safety & Health Planning Engineers.

Annual Goal for OSH							
Year	2018		2019		2020		2021
Performance	Target	Performance	Target	Performance	Target	Performance	Target
Employee Disabling Frequency Rate (FR)	0.2	0.32	0.2	0.18	0.2	0.14	0.18
Number of Employee Disabling by Traffic Accidents in Commute	9	18	9	16	9	21	9
Contractor Disabling Frequency Rate (FR)	0.3	0.78	0.3	0.83	0.3	0.31	0.3
Zero major occupation accident	Zero Fatality	Failed	Zero Fatality	Achieved	Zero Fatality	Achieved	Zero Fatality

Action Plan

Safety and health management is a key project for CSC. The prevention of occupational hazards relies on the attention and active participation of all employers and employees. The key to the success of safety and health management is whether it can be implemented, that is, whether the planning, execution, control, and evaluation of safety and health management are effective.

» Safety Culture

- The goal of occupational safety management is to instill safety awareness and knowledge into every employee and form a so-called “workplace safety culture”. Employees are inspired to improve the environment and equipment by Employee Suggestion Program and Quality Control Circle. Employees and contractors formulate the workplace safety procedures after discussions and together ensure the compliance with the procedures. CSC offers “Non-disabling Reward.” If the company can reach 5 million man hours without disabling events, employees will be rewarded. The bonus raises as the non-disabling man hour accumulates. This encourages employees to value more about workplace safety.

Policy

Safety policy statement, organization management, and resources provision.

Management

Building the corporate system framework by with responsibility, control of safe practices, licenses and training, rewards and punishment, audits, improvement results, and promotion of safety concerns plans.

Individuals

Changing employee safety concept and improving personal safety culture with trainings, employee involvement, safety concerns, health caring, and interactive communication.

» Training and Publicity

- Improving employees' mentality, awareness and ability to safety and health is CSC's key point in on occupational safety education and training. CSC's digital management of the safety and health training management system allows instant updates of data and online enquiries, thus making the management, control and assessment of safety and health training more effective. In addition, CSC actively promotes bottom-up Safety SOP Revision to let employees and contractors involved in the actual operations formulate the workplace safety procedures.
- CSC set up the “Somatosensory Training Classroom” for somatosensory training in 2009. With scenarios simulating the on-site environment and equipment, employees can combine theory and practice by experiencing the simulation in person and understand the hazards in workplace. In 2020 November, Somatosensory Training Center passed the system evaluation of talent development quality management for professional training institute conducted by Workforce Development Agency, Ministry of Labor. Since employees in CSC are requested to take the somatosensory training. The training rate among new hires is 100%. Besides its employees, CSC also assists its subsidiaries, government agencies and external units in conducting relevant training or visits in order to strengthen occupational safety awareness and fulfill corporate social responsibility. CSC assisted the group's subsidiaries in organizing 44 training sessions with a total of 655 trainees, and assisted government agencies and external units in organizing 49 sessions, with a total of 1,043 trainees.
- On top of that, CSC cooperated with the Industrial Technology Research Institute to design and develop an immersive system for defensive driving. Users can use this system and simulate the possible traffic condition in safe circumstances. Trainees have to identify if a driving action is appropriate or not to strengthen the learning outcome. The project started on July 24, 2020, and is expected to be finished in August 2021.

Trainee	Course	2019		2020	
		Classes	Persons	Classes	Persons
Employees and Contractors	On-the-job training for radiation protection staff, radiation staff and inspection staff for radioactive steel building materials	4	439	4	416
	Transportation Safety Training	8	775	6	468
	Basic training on safety management of explosion-proof electrical equipment	4	324	2	119
	TS Certification Introduction and flameproof safety training	--	--	2	115
	Production safety basic training	--	--	2	169
	New work permit seminar	--	--	6	534

Trainee	Course	2019		2020	
		Classes	Persons	Classes	Persons
Employees	Somatosensory Training	76 (4 types)	661	63 (4 types)	629
	ISO 14001/CNS 15506/OHSAS 18001 Internal auditor training	4	136	1	32
	ISO 45001 Transition Promotion Meeting	16	478	1	31
	Occupational Safety and Health Act	67 (14 types)	2,461	61 (11 types)	2,099
	Safety Inspection of Hazardous Machines and Equipment Seminar	4	366	--	--
Contractor	Training for replacing contractor certificates	54	2,314	63	2,855
	Somatosensory training for replacing contractor certificates	11	75	1	11
	Training for supervisors in contractor high-hazard operations	8	183	36[I]	1,441

Note: I. This course started in August 2019. Since December 2019, the registration approach was changed from on-site registration to appointment registration based on demand. Students become qualified managers only after passing the test. The passing rate was 75%. Thus the course sessions increased.

» Abnormality Control and Prevention

- Safety Observation and Audit: For early detection and correction of unsafe work behavior and improvement of work environment and equipment, site managers are asked to patrol work sites regularly. Employees, contractors, and the work environment are reviewed with reference to the 5-step procedure: Decide, Stop, Observe, Act, and Report" which are subject to timely encouragement and correction. In 2020, safety observation and audit of site by managers (including site inspection) totaled 92,673 times.
- Near Misses: After a near miss occurs, the responsible department, personnel, or contractor should register the near miss at Near Miss Report Registration on the CSC EIP online system. After the approval of section or plant manager, the case is referred to the Occupational Safety and Hygiene Dept. for confirmation, documentation, publication, or announcement on the EIP. In 2020, 3,778 near misses were reported (including 1,328 falls, 611 collisions, 400 falling objects, 569 commuting-related, and 870 others). Potential hazards were reviewed and improved for prevention.
- Prevention of Occupational Diseases: There are some health hazards such as high temperature, noise and dust are inevitable in the production process of traditional industries. Doctors in Occupational Medicine will pay a visit to the plant when abnormalities are found. Through training, personal protective equipment and inspection, the risk of exposure to health hazards is greatly reduced. There have been no cases of occupational diseases among employees in recent years.

  Note: Occupational diseases are determined by the Occupational Safety and Health Administration (OSHA), Ministry of Labor.

» Work Environment Inspection

- By the"Regulations for Implementing Work Environment Monitoring", CSC entrusts the monitoring agency which is recognized by Occupational Safety and Health Administration to implement work environment monitoring. We evaluating whether or not it acts in compliance by monitoring report. In 2020, work environment inspection was completed on 2,994 testing points (including areas and personnel), all following the inspection plan. Subjects for inspection include noise, wet bulb globe temperature (WBGT) index, carbon dioxide, chemical substances, and dust.

Implementation Results

The accidents were reviewed and improved. The units where the accidents happened carried out investigations and proceeded with correction actions after finding the reasons. In normal situations, CSC strengthens reinforced physical training, management by wandering around (MBWA), occupational safety diagnosis, bottom-up safety measures taken by entry-level employees and / or the Union team leaders, near miss reporting management, 5S self-management, self-protection, mutual protection, and mutual supervision, in order to continue improvement.

Year	2018		2019		2020	
Category	Employee	Contractor	Employee	Contractor	Employee	Contractor
Working Hours	22,055,926	20,458,205	21,947,172	20,543,012	21,801,886	25,417,493
Death Toll	2	2	0	0	0	0
Disabling	5	14	4	17	3	8
Minor injuries	14	16	23	18	18	18
Medical treatment	16	10	15	16	17	13
Mortality rate(I)	0.09	0.10	0	0	0	0
Serious injury rate(II)	0.23	0.68	0.18	0.83	0.14	0.31
Disabling Frequency Rate(III)	0.32	0.78	0.18	0.83	0.14	0.31
TRIFR(IV)	1.68	2.05	1.91	2.48	1.74	1.53

Note: I. Mortality rate means the number of deaths per million working hours, the formula: Number of deaths caused by occupational injuries x 1,000,000 ÷ Working hours.
Note: II. Serious injury rate means the number of disabling (exclude deaths) per million working hour, the formula: Number of disabling caused by occupational injuries x 1,000,000÷ Working hours.
Note: III. Disabling Frequency Rate (F.R.) means the number of disabling (include deaths) per million working hour, the formula: Number of disabling caused by occupational injuries x 1,000,000 ÷ Working hours.
Note: IV. Total Recordable Injury Frequency Rate, TRIFR means the number of total recordable injury (include deaths, disabling, minor injuries and medical treatments) per million working hour, the formula: Number of total recordable injury x 1,000,000 ÷ Working hours.

Occupational Accident statistics

Total Disabling		
Category	Employee	Contractor
Falling	1	0
Pinch	1	1
Scald	1	2
Collision	0	2
In-plant Traffic Accidents	0	1
Objects Drop	0	0
Others	0	2
Minor Injuries		
Category	Employee	Contractor
Falling	6	4
Pinch	5	6
Rolling	0	1
Cut & Bruise	3	4
Improperaction	0	0
Scald	0	0
Collision	2	2
In-plant Traffic Accidents	1	1
Objects Drop	0	0
Others	1	0
Medical treatment		
Category	Employee	Contractor
Falling	4	2
Pinch	3	1
Rolling	0	0
Electric shock	0	0

Medical treatment		
Category	Employee	Contractor
Cut &Bruise	2	3
Improperaction	1	0
Scald	2	3
Collision	1	0
In-plant Traffic Accidents	2	0
Objects Drop	0	0
Others	2	4

Legal Compliance

The occupational safety and health management system requests company commitment to legal compliances and identification of relevant laws and regulations. CSC distributes relevant EHS legal requirements to related departments for identifying applicable and precautionary measures. In 2020, there were 54 on-plant inspections, conducted by Kaohsiung Labor Standards Inspection Office (KLSIO) and 1 notice was issued.

	2018	2019	2020
Issuer	KLSIO	KLSIO	–
Count / Fine (TWD)	8 / 910,000	2 / 220,000	0

In 2020, there was no violation that was punished by the Kaohsiung City Government Labor Standards Inspection Office. After analyzing the safety and health goals that did not meet the standards in 2020, the following improvements will be made:

Increase inspection frequency

Among all the inspections in 2020 carried out by Safety & Hygiene Dept., there were 835 conformity cases, 109 recommendations and 82 nonconformity cases, which helped with the treatment and improvement of on-site hygiene and safety. CSC will increase the frequency of inspection in 2021. Every month, the Safety & Hygiene Dept. will also carry out on-site inspections targeted at each plant and office, regular constructions, or high-risk / specific operations.

In order to improve the performance of factories with a history of poor occupational safety, an “Increasing Inspection Effectiveness Project” is planned for 2020. The supervision and inspection engineers of the Safety & Hygiene Dept. carry out the inspections, annual surveys, temporary fault inspections, and key operations of the inspection units. They also have come up with weekly audit plans and audit priorities, review the work environment and behaviors, visit the inspection area irregularly, understand and assist the audit, and implement the project until the performance of the plant is improved. As of December 31, 2020, a total of 3,925 violations were found. These violations will be tracked until improvements have been completed.

Enhance safety and health management

In 2021, to prevent workplace hazards and strengthen safety management, CSC will continue to promote compliance with traffic rules and workplace safety rules and launch “Activities of Five Directions Check for Safety” within production departments; also, high-level managers visited job sites and participated in zero disaster activities.

	Disabling injury (including contractors)	Commute injury (including contractors)	Injury with medical assistance (including contractors)
2018	19	30	26
2019	21	41	31
2020	11	36	30
Difference	-47.6%	-12.2%	-3.2%

Case Highlights

Inspection Effectiveness Improvement

Staff from the Industrial Safety & Hygiene Department and two external inspection personnel conduct the daily inspection in plants. The supervision and inspection engineers of the Safety & Hygiene Dept. carry out the inspections, annual surveys, temporary fault inspections, and key operations of the inspection units. They also have come up with weekly audit plans and audit priorities, review the work environment and behaviors, visit the inspection area irregularly, understand and assist the audit, and implement the project until the performance of the plant is improved. Morning meeting is held by the Industrial Safety & Hygiene Department in the next day attended by level-1managers to review the inspection result in the previous day and make improvement report.

From December 5, 2019 to November 13, 2020, the project discovered 3,648 violations, all of which were all improved and strictly followed by the inspection engineer of the Industrial Safety & Hygiene Department. Comparing the injuries in 2019 and 2020, the number was effectively reduced.

6.4.2 Health Care

CSC Clinic handles labor health protection matters for on-site, all inclusive services such as health management, occupational disease prevention, and health promotion. Our main responsibilities include first aid, health examinations, health management and promotion activities, and medical and health services for employees. In addition to health examinations and analysis/classification of examination results, Occupational Medicine doctors will carry out occupational suitability assessments on-site, including competency assessments for injured/sick workers fitness, making suggestions for job re-assignment or adjustment. CSC has developed an online health management system which is connected with the Safety and Health Management System. Apart from making appointments with the professional team, it can also send notifications about health check-up appointments to employees and remind the employees of the abnormal results. In addition, with the help of the internal occupational safety database, the health management online system can follow employees in special working environment, who require special health check-ups, and regularly keeps track of the health of employees working in a high-risk work environment. In 2018, 60 AEDs (Automatic External Defibrillators) have been added to each plant, and AED operation education and training for first-aid personnel have been conducted to strengthen CSC's emergency network.

- **Medical Services**

  CSC Clinic employs professional medical and nursing teams from KMUH, KMSH, Kaohsiung Veterans General Hospital and Kaohsiung Armed Forces General National Army Hospital to provide the primary diagnosis/treatment, chronic disease prevention, and basic medical services. The number of people that came for help in 2020 was 38,032. Having close relationship with local hospitals, the clinic provides referral service for patients. In addition, in 2020 we renewed three old medical instruments in order to increase the quality of medical services. These include a glycated hemoglobin analyzer, an electronic height and weight scale and a digital dental X-ray machine.

- **Health examination**

  To provide proper care for employees, CSC Clinic offers employees health check-up, so employees don't have to go to another hospital. The health exam items and the health exam frequency are superior than the current regulations. Medical personnel conduct health management based on the result of the check-up. CSC provides health check-

up tests focused on common cancers such as lung cancer, liver cancer, and colorectal cancer, CSC has also added side view of the scope of chest X-ray, abdominal ultrasound, quantitative immunoassay and fecal occult blood tests in the hope of early detection and early treatment. CSC further takes health management measures based on the results of health examinations and provides consulting, suggestion, diagnosis, referral and other services. In 2020, 8,482 employees received employee health check-ups. In 2020, 3,470 employees participated in these additional exams, of whom two people (operations with loud noise) were included in level 4 health management and were re-evaluated by occupational medical professionals.

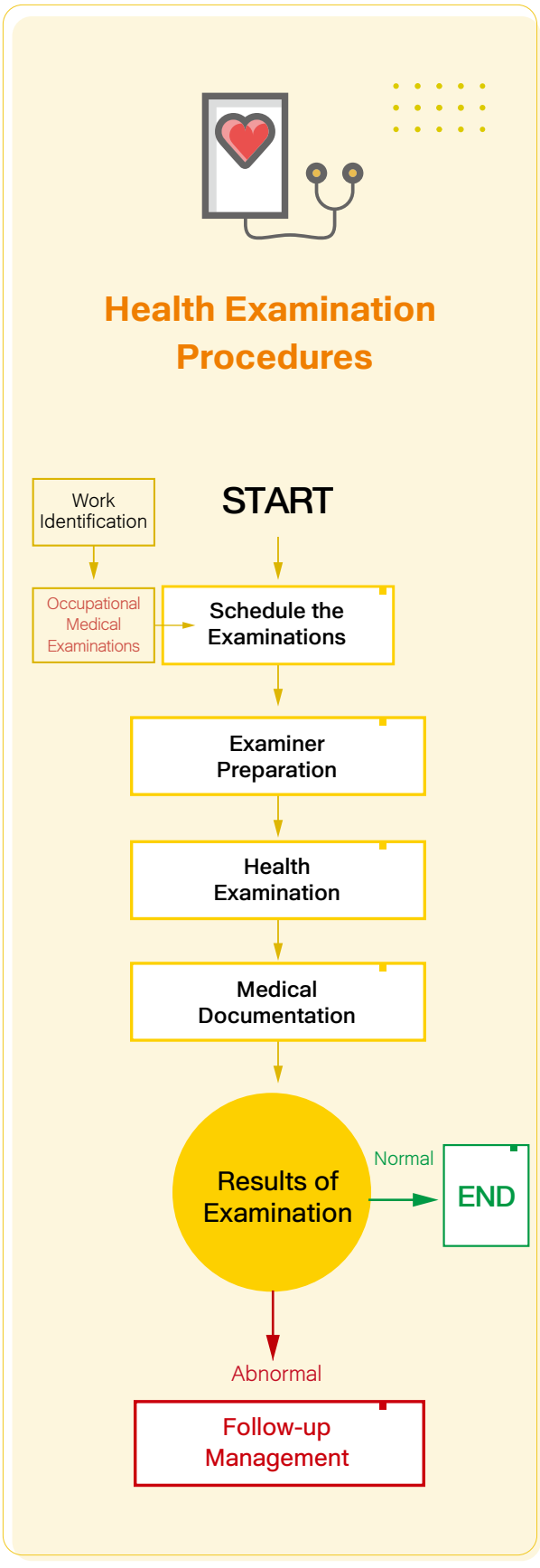
Psychological counseling

CSC has hired consultant psychologists to provide on-site services since 2014 to help employees to face and deal with problems or distress. In 2020, 337 consultations were provided. Over the years, a total of 1,574 consultations have been provided to help employees. In addition, from 2020 onward, psychological counseling has been included in the mandatory courses for new supervisors. This is to enhance the supervisors' ability to take care of the mental health of their colleagues.

Health Management Plan

The CSC Clinic promoted a number of health promotion activities (including lectures) in 2020 and a total of 4,629 participants. Certain colleagues with high body fat and cholesterol levels are advised to increase awareness on health management. In 2020, due to COVID-19, health promotion activities such as weight loss projects and fitness examination were cancelled.

Participants of Health Promotion Activities			
Event	**2018**	**2019**	**2020**
Fitness test	386	705	-
Health Lecture Series	1,388	457	26
Flu Vaccination	806	560	1,093
Weight Loss Plan	618	624	-
Women's Cancer Screening	556	565	578
Oral cancer screening	439	352	226
InBody body composition analysis	634	706	808
Others (Nutrition counseling, sports instruction, High class health checkup, cardiovascular screening, blood donation, etc.)	856	1,317	1,898
Total	5,683	5,286	4,629



7

Chapter

Social Participation

7.1 Concepts and Management

7.1.1 Concepts of Participation

Proactivity and Responsibility

CSC actively fulfills its corporate responsibility by being responsible for the safety, health, remuneration, fringe benefits, equal rights, and training of employees and personnel of contractors.

Diversity

In addition to focusing on the rights and interests of the shareholders, employees, contractors, and local residents, CSC also offers dissuasion to the government about the country's public policies and international-related issues.

Local First

CSC places great emphasis on the quality and safety of the local environment, paid business income tax and environmental fees to the Kaohsiung City Government, and facilitated the development of the local areas.

Accountability

Being a benevolent corporation, CSC conducts a lot of charitable activities with the assistance of its related departments, the union, clubs, and the CSC Group Education Foundation.

7.1.2 Multi-involvement and Commitment

Diversified Social Involvement

Job Category	Organizer	Diversification
Central and Local Public Affairs	Public Affairs Dept.	✓ Good neighborliness, social care, and participation in emergency relief. ✓ Positive interactions between public representatives, administrative agencies, the media, and opinion leaders.
Social Education	CSC Group Education Foundation	✓ Promote general education and application in steel. ✓ Sponsoring activities regarding science and technology, social education, arts and culture, etc.
Social Care and Art Activities	CSC, the CSC Group Education Foundation, Labor Union of CSC, and employee clubs	✓ Post-disaster emergency relief and reconstruction. ✓ Caring for the disadvantaged. ✓ Caring for the ecological environment. ✓ Enhancement of humanistic quality and cultivation of art.
Human Rights and Workforce Development	Human Resources Dept.	✓ Negotiate and formulate reasonable workplace policies.
Safety and Health	Industrial Safety & Hygiene Dept.	✓ Prevent incidents and diseases derived from the corporate operation. ✓ Prevention of occupational accidents and epidemic diseases. ✓ Domestic and international exchanges.
Labor Policy	Labor Union of CSC	✓ National labor rights, benefits, and welfare policies. ✓ Exchanges, collaboration, and interactions with other union groups
Environmental Protection	Utilities Dept. and Environmental Protection Dept.	✓ Cooperate with the Energy-Saving Technology Counseling Team promoted by Kaohsiung City to provide enterprise energy-saving technology diagnostic services. ✓ Promote knowledge exchange on environmental protection through visits. ✓ Participate in the water environment patrol team promoted by the government to ensure sustainable water resources.

For more details https://www.csc.com.tw/csc_e/hr/csr/soc/soc2.htm

7.1.3 Expenditures of Social Responsibility

Event	Summary	Amount of 2018	Amount of 2019	Amount of 2020
Social charity donations	Social and local charitable support and assistance of relief in emergencies	69.09 million TWD	78.90 million TWD	55.56 million TWD
Donations to the CSC Group Education Foundation	Implementation of cultural education and promotion of education and nurturing of new talent in steel-related fields	11.06 million TWD	7.63 million TWD	0 (I)
Donations for institutes and associations	Sponsorship for seminars and conferences	1.575 million TWD	1.54 million TWD	1.405 million TWD
CSC Retirees Services Sec.	Retiree benefits reserve	14.31 million TWD	14.09 million TWD	15.11 million TWD
Total		96.035 million TWD	102.16 million TWD	72.075 million TWD

Note: I. Many activities were suspended in 2020 due to the pandemic. After the evaluation of the foundation, the 2019 balance was enough to support 2020 activities, thus there was no donation to the CSC Group Education Foundation in 2020.

7.2 Local First

7.2.1 Community Care

To fulfill its corporate social responsibility, CSC has continued to take action to provide care and assistance to the nearby communities for their development and sponsor charitable activities in Hsiao Kang for decades. It upholds the concept that what is taken from the society must be returned to it, and sincerely takes concrete action to care about and contribute to the society, communities, and disadvantaged groups from the aspects of environment protection, community care, and charity.

- CSC offers funds for social relief of emergencies and gifts of money during the Taiwan traditional festivals to assist low-income families in Hsiao Kang.
- According to “the Guidelines for new recruitment", the candidates who are Hsiao Kang residents are given a certain percentage of bonus points in their written tests when applying for positions in CSC.
- CSC provides merit scholarships for students and tuition assistance to students from low-income families in Hsiao Kang.
- CSC organizes activities for underprivileged groups to foster public care.
- The CSC Employee Welfare Committee operates a CSC Kindergarten, which recruits children from employees of CSC group companies as well as residents in the nearby areas.
- CSC offers summer school programs for elementary and middle school students, giving priority to children from disadvantaged families in order to promote harmony in local communities.
- CSC organizes Steel Adventure activity. In response to coronavirus prevention, 52 fresh graduating classes from 13 elementary schools in Hsiao Kang District adopted an online learning method to enhance environment and science literacies.

7.2.2 Cultural Heritage

For more derails [Cultural Heritage]
https://www.csc.com.tw/csc_e/hr/csr/soc/soc7.htm

In order to preserve the local cultural heritage, CSC adheres to the concept of “Proactivity and Responsibility, Diversified involvement, Local First, and Accountability”, and invests resources for continuing cultural heritage in students, using education to create a profound impact on society and diversity. With unique characteristics of the local area, students can pass on the local culture through artistic activities such as music, films, and folk art starting from a young age.

Filial piety appreciation ceremony at Ganghe Elementary School

Filial piety appreciation ceremony at Mingyi Junior High School

Indigenous Musical Assets

CSC hopes that the indigenous musical assets can be passed on and let more people know the indigenous culture of Taiwan. Pingtung's local groups, the Feather Art of Drum and Dance, the Puzangalan Children's Choir, among others, were invited to participate in the stage performances to promote the local minority culture.

Passing on traditional virtues and craftsmanship

Merit Scholarship Ceremony : To promote the traditional merit of filial piety, CSC holds the ceremony of Hsiao Kang District Merit Scholarship Ceremony every year. Due to the COVID-19 in 2020, the mass gathering was halted. The ceremony was held in respective schools instead to advocate the Chinese tradition.

Nanan Elementary School's Traditional Art Development: Nanan Elementary School has long been committed to promoting Shadow Puppetry and the performance of Sizhu (silk and bamboo) instruments with excellent results. CSC sponsored their traditional art development activities in the 2020 academic year to help inherit and preserve art heritage and culture.

Nanan Elementary School- From the Director : With the support of the CSC Group Education Foundation, Nanan Elementary School is able to promote shadow puppetry and Sizhu to inherit and preserve art heritage and culture.

Nanan Elementary School has been invited to participate in international exchange activities, and receive outstanding performance in national competitions.

Culture integration with film

Local Micro Movie Workshop: CSC cooperated with Formosa TV to hold the third session of micro movie workshop at Xibu Junior High School, Dashu District on November 28, 29, and December 6, 2020. The workshop topic was “Dashu, Fantasy.” Students got to know more about the local history and culture, while learning

new technology. Students had to make a short video in the end to capture their hometown in their own perspectives. Seven films were made and broadcasted in the final performance, where local leaders came to watch.

Sponsorship of the Kaohsiung Film Festival 2020

The cinema selected appropriate films and gave away free tickets to junior high school students in the Hsiao Kang District to promote arts and cultural activities. In addition to helping students develop international perspectives and developing artistic and cultural literacy, it is also expected that the diverse films presented during the film festival could allow the imagination of young students to run free.

Cultivate the Arts and Cultural mind of the citizens

Steel City Literati: 5 sessions were held in 2020, with more than 1,700 people participated. Experts from sectors such as medical, health, family, culinary art, and traditional stand-up comedy were invited to present lectures at the China Steel Building. It also provided commemorative publications for local residents and helped enhance the culture that belongs to Kaohsiung.

7.3 The CSC Group Education Foundation

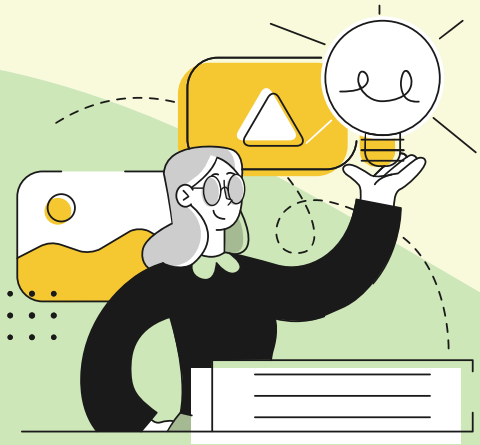
CSC, as a leader in Taiwan's steel industry, established the CSC Group Education Foundation in 2006 through the CSC board of directors to further expand and implement corporate social responsibility. The board of directors of the foundation was formed by cross-sector experts. It is a national non-profit organization and has established a good international image for the group companies so far.

CSC Group Education Foundation aims to promote education and cultivate talents in steel-related fields, care for ecological conservation, enhance the humanistic spirit, and pursue sustainable development as its mission to promote the concept of holistic education.

Event	Amounts of 2018 (10,000 TWD)	Amount of 2019 (10,000 TWD)	Amount of 2020 (10,000 TWD)
Administrative expenses	68	78	76
Expanded activities related to steel	125	111	34
Grants to the nurturing of research talent	181	170	129
Promotion of sustainable development of the environment	633	593	458
Promotion of educational activities of arts	652	531	355
Other charitable educational affairs	176	112	46
Total	**1,835**	**1,595**	**1,098**

Highlights of 2020

Promote steel-related educational activities



CSC Camp

CSC Camp has been held since 2008. The camp was suspended in 2020 due to the pandemic, yet from January 18 to 22, 2021, the camp was resumed featuring “Green and intelligent steel plant.” 43 students from 31 different departments in 15 schools were selected to join the camp. Their final performance was shared on the CSC Camp Facebook fan page.

For more details [CSC Camp Facebook fan page] https://reurl.cc/2bEp9r

Steel Journey Activity

Steel Journey Activity was organized along with the Public Affairs Dept. of CSC in mid-May 2020. The online learning system was designed in response to the COVID-19 for students to overcome different obstacles. With remote learning, students get to have rewards if winning high scores.

King of Wisdom Summer Camp

In July 2020, in collaboration with the CSC Public Affairs Dept., the “King of Wisdom Summer Camp” was held in The Affiliated Hospitality Senior High School of National Kaohsiung University of Hospitality and Tourism. Information sessions on slag, turning BOF slags into the decoration, and quizzes with prizes were arranged. A total of 100 students from the Hsiao Kang District participated, and some seats were saved for the disadvantaged students.

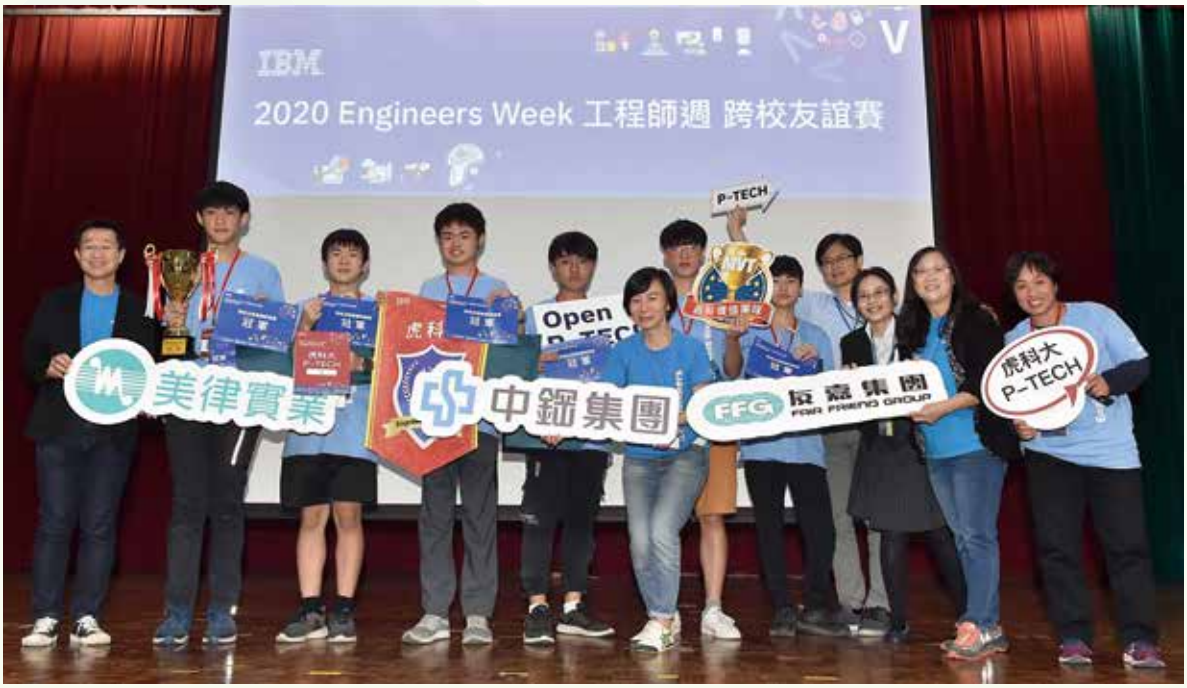
Provided relevant courses on circular economy in the steel industry

1. The CSC Group Education Foundation assisted National Kaohsiung Normal University, CHC Resources and Dragon Steel Corp. in holding two seminars on “Circular economy - reutilization of blast furnace slag”, with a total of 80 teachers participated. The course involved the introduction to circular economy, a tour of the CSC plant, a visit to CHC's blast furnace slag Museum, and a DIY activity to let the participants know more about CSC's commitment to circular economy and the utilization of slag resources.
2. In 2020, CSC offered a course on steel production processes at public universities such as National Sun Yat-sen University, National Taiwan University, National Cheng Kung University, National Tsing Hua University, and National Chung Hsing University. The teachers and students involved in the course visited CSC and Dragon Steel Corp. A total of 245 students participated in this course.

Environmental Education Tour Bus

CSC's Environmental Education Tour Bus arrived 10 schools in 2020 and was impacted by the coronavirus. When the bus arrived a school, time was a critical factor that affects the content of the lecture. Therefore, to enhance its impact on environmental education, the open question was implemented in the learning sheet to allow students to have discussions with teachers. On top of that, online learning was adopted this year. Through the online learning resource and quizzes and prizes, students get to learn actively about environmental education and general knowledge on steel.

Engineers Week (EWeek) - Popular Science Education Activities.



The theme this year was “technology disease control, and the Youth can help.” 64 CSC engineers and several IBM employees have volunteered at this event. This year, students from the National Kaohsiung University of Science and Technology were first invited to join the activity. Throughout this activity, students discovered the technology needed during the outbreak, and sought their learning momentum. The activities were held in Linyuan Senior High School, Feng-shan Senior Commercial & Industrial Vocational School, Feng-Shan Senior High School, and Chimei Senior High School. The winning teams could represent the school to participate in the “EWeek National Friendship Tournament” and compete with 15 high schools and vocational schools.

For more details [Other non-profit education affairs]
https://www.csc.com.tw/csc_e/hr/csr/soc/soc.htm

8

Chapter

Appendix

Appendix 1 GRI Standards Content Index

General Disclosures					
GRI Standards	Disclosure		Page	Chapter	Note
GRI 102: General Disclosures 2016	Organizational Profile				
	102-1	Name of the organization	1	0.1	
	102-2	Activities, brands, products, and services	51	3.2/3.3	No banned products or services
	102-3	Location of headquarters	2	0.2	
	102-4	Location of operations	2	0.2	
	102-5	Ownership and legal form	2	0.2	
	102-6	Markets served	52	3.2	
	102-7	Scale of the organization	5	0.3.1	
	102-8	Information on employees and other workers	102	6.1	All employees are full-time and regular.
	102-9	Supply chain	62	4.1	
	102-10	Significant changes to the organization and its supply chain	-	No significant change	
	102-11	Precautionary Principle or approach	40	2.6	
	102-12	External initiatives	17	1.3	
	102-13	Membership of associations	69	4.3	
	Strategy				
	102-14	Statement from senior decision-maker	14	1.1	
	102-15	Key impacts, risks, and opportunities	33/41	2.1.2/2.6.2	
	Ethics and Integrity				
	102-16	Values, principles, standards, and norms of behavior	16/38	1.2/2.5	
	Governance				
	102-18	Governance structure	35	2.2/2.3/2.4	
	Stakeholder Engagement				
	102-40	List of stakeholder groups	23	1.4	
	102-41	Collective bargaining agreements	109	6.3	
	102-42	Identifying and selecting stakeholders	23	1.4	
	102-43	Approach to stakeholder engagement	23	1.4/1.5	
	102-44	Key topics and concerns raised	23	1.4	
	Reporting Practice				
	102-45	Entities included in the consolidated financial statements	-	2020 Annual Report	
	102-46	Defining report content and topic Boundaries	29	1.5	
	102-47	List of material topics	29	1.5	

General Disclosures					
GRI Standards	Disclosure		Page	Chapter	Note
GRI 102: General Disclosures 2016	102-48	Restatements of information	-	-	Explanation to all the restatement are denoted in the report.
	102-49	Changes in reporting	29	1.5	
	102-50	Reporting period	1	0.1	2020 calendar year
	102-51	Date of most recent report	-	June 2020	
	102-52	Reporting cycle	-	Annually	
	102-53	Contact point for questions regarding the report	1	0.1	
	102-54	Claims of reporting in accordance with the GRI Standards	1	0.1	
	102-55	GRI Standards content index	-	Appendix 1	
	102-56	External assurance	-	Appendix 3	

Topic-specific Disclosures - Material Topics					
GRI Standards	Disclosure		Page	Chapter	Note
Operational Financial Performance					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	29/48	1.5/3.1	
	103-2	The management approach and its components	48	3.1	
	103-3	Evaluation of the management approach	48	3.1	
GRI 201: Economic Performance2016	201-1	Direct economic value generated and distributed	50	3.1.2	
	201-4	Financial assistance received from government	51	3.1.3	
GRI 419: Socioeconomic Compliance 2016	419-1	Non-compliance with laws and regulations in the social and economic area	-	-	No violation
Hazardous Substance Management of Products					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	29/54	1.5/3.3.3	
	103-2	The management approach and its components	54	3.3.3	
	103-3	Evaluation of the management approach	54	3.3.3	
GRI 416: Customer Health and Safety 2016	416-1	Assessment of the health and safety impacts of product and service categories	55	3.3.3	100%
	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	-	-	No violation
Green Development *CSC specific topic					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	29/56	1.5/3.4	
	103-2	The management approach and its components	57	3.4.1/3.4.2	
	103-3	Evaluation of the management approach	57	3.4	
CSC indicators		Delivery of premium steel	57	3.4.1	
		The capacity of the solar photovoltaic system	59	3.4.2	The 80MW target has been reached so far.

Topic-specific Disclosures - Material Topics						
GRI Standards		**Disclosure**		**Page**	**Chapter**	**Note**
Air Pollutants Management						
GRI 103: Management Approach 2016		103-1	Explanation of the material topic and its Boundary	29/87	1.5/5.2.3	
		103-2	The management approach and its components	78/88	5.1/5.2.3	
		103-3	Evaluation of the management approach	88	5.2.3	
GRI 305:Emissions 2016		305-6	Emissions of ozone-depleting substances (ODS)	90	5.2.3	AA 1000 AS Type 2
		305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	90	5.2.3	
CSC indicators			SOx, NOx and Par. emission intensity (kg/tCS)	90	5.2.3	
GRI 307: Environmental Compliance 2016		307-1	Non-compliance with environmental laws and regulations	79	5.1	
Waste Management						
GRI 103: Management Approach 2016		103-1	Explanation of the material topic and its Boundary	29/70	1.5/4.4.1	
		103-2	The management approach and its components	70/78	4.4.1/5.1	
		103-3	Evaluation of the management approach	70	4.4.1	
GRI 306: WASTE 2020	**Management approach**	306-1	Waste generation and significant waste-related impacts	70	4.4.1	
		306-2	Management of significant waste-related impacts	70	4.4.1	
	Topic-specific	306-3	Waste generated	72	4.4.1	AA 1000 AS Type 2
		306-5	Waste directed to disposal	73	4.4.1	
CSC indicators			The output of waste per unit of crude steel (kg/tCs)	73	4.4.1	
			The rate of the waste recycled in the plant	73	4.4.1	
GRI 307: Environmental Compliance 2016		307-1	Non-compliance with environmental laws and regulations	-	-	No violation
Energy Management						
GRI 103: Management Approach 2016		103-1	Explanation of the material topic and its Boundary	29/83	1.5/5.2.2	
		103-2	The management approach and its components	78/84	5.1/5.2.2	
		103-3	Evaluation of the management approach	84	5.2.2	
GRI 302: Energy 2016		302-1	Energy consumption within the organization	86	5.2.2	
		302-3	Energy intensity	85	5.2.2	
		302-4	Reduction of energy consumption	87	5.2.2	
Water Management						
GRI 103: Management Approach 2016		103-1	Explanation of the material topic and its Boundary	29/91	1.5/5.2.4	
		103-2	The management approach and its components	78/92	5.1/5.2.4	
		103-3	Evaluation of the management approach	92	5.2.4	
GRI 303: Water and Effluents 2018	**Management approach**	303-1	Interactions with water as a shared resource	92	5.2.4	
		303-2	Management of water discharge-related impacts	92	5.2.4	

Topic-specific Disclosures - Material Topics						
GRI Standards		**Disclosure**		**Page**	**Chapter**	**Note**
GRI 303: Water and Effluents 2018	**Topic-specific**	303-3	Water withdrawal	93	5.2.4	AA 1000 AS Type 2
		303-4	Water discharge	93	5.2.4	
		303-5	Water consumption	93	5.2.4	
CSC indicators			New water intensity (tonnes water/tCS)	93	5.2.4	
			Production process water recirculation	93	5.2.4	
			Processing water recycling rate (%)	93	5.2.4	
			Water quality of water discharge	94	5.2.4	
GRI 307: Environmental Compliance 2016		307-1	Non-compliance with environmental laws and regulations	79	5.1	
Climate Change						
GRI 103: Management Approach 2016		103-1	Explanation of the material topic and its Boundary	29/94	1.5/5.3	
		103-2	The management approach and its components	78/95	5.1/5.3	
		103-3	Evaluation of the management approach	95	5.3	
GRI 305: Emissions 2016		305-1	Direct (Scope 1) GHG emissions	6/97	0.3.1/5.3.2	
		305-2	Energy indirect (Scope 2) GHG emissions	6/97	0.3.1/5.3.2	
		305-3	Other indirect (Scope 3) GHG emissions	97	5.3.2	
		305-4	GHG emissions intensity	6	0.3.1	
Occupational Safety and Health						
GRI 103: Management Approach 2016		103-1	Explanation of the material topic and its Boundary	29/111	1.5/6.4	
		103-2	The management approach and its components	78/112	5.1/6.4	
		103-3	Evaluation of the management approach	112	6.4	
GRI 403: Occupational Health and Safety 2018	**Management approach**	403-1	Occupational health and safety management system	112	6.4.1	
		403-2	Hazard identification, risk assessment, and incident investigation	115	6.4.1	
		403-3	Occupational health services	118	6.4	
		403-4	Worker participation, consultation, and communication on occupational health and safety	65/113	4.1.4/6.4.1	
		403-5	Worker training on occupational health and safety	66/114	4.1.4/6.4.1	
		403-6	Promotion of worker health	118	6.4.2	
		403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	65/115	4.1.4/6.4.1	
	Topic-specific	403-9	Work-related injuries	116	6.4.1	AA 1000 AS Type 2
GRI 419: Socioeconomic Compliance 2016		419-1	Non-compliance with laws and regulations in the social and economic area	117	6.4.1	No violation

Topic-specific Disclosures - Material Topics					
GRI Standards	**Disclosure**		**Page**	**Chapter**	**Note**
Labor/Management					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	29/108	1.5/6.3.1	
	103-2	The management approach and its components	109	6.3.1	
	103-3	Evaluation of the management approach	109	6.3.1	
GRI 402: Labor / Management Relations 2016	402-1	Minimum notice periods regarding operational changes	104	6.1.3	
GRI 406: Non-discrimination 2016	406-1	Incidents of discrimination and corrective actions taken	102	6.1	
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	-	-	0
GRI 409: Forced or Compulsory Labor 2016	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	65	4.1.4	No violation
GRI 419: Socioeconomic Compliance 2016	419-1	Non-compliance with laws and regulations in the social and economic area	-	-	No violation

Non-material Topics					
GRI Standards	**Disclosure**		**Page**	**Chapter**	**Note**
GRI 410: Security practices 2016	**410-1**	Security personnel trained in human rights policies or procedures	63	4.1.3	100%
GRI 411: Rights of indigenous Peoples 2016	**411-1**	Incidents of violations involving rights of indigenous peoples	-	-	No violation
GRI 415: Public policy 2016	**415-1**	Political contributions	39	2.5.1	Prohibition of political contributions
GRI 413: Local Communities 2016	**413-1**	Operations with local community engagement, impact assessments, and development programs	79/122	5.1/7.2.1	-
GRI 401 Employment 2016	**401-1**	New employee hires and employee turnover	103/104	6.1.1/6.1.3	-
GRI 408 Child labor 2016	**408-1**	Operations and suppliers at significant risk for incidents of child labor	65/102	4.1.4/6.1	Prohibition of child labor

Appendix 2 Sustainability Accounting Standards Board (SASB)

Index of Iron & Steel Producers

Sustainability Disclosure Topics & Accounting Metrics						
Aspect	**Topic**	**Code**	**Accounting Metric**	**Page**	**Chapter**	**Note**
Environment	Greenhouse Gas Emissions	EM-IS-110a.1.	Gross global Scope 1emissions, percentage covered under emissions-limiting regulations	97	5.3.2	
		EM-IS-110a.2.	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and analysis of performance against those targets	96	5.3.2	
	Air Emissions	EM-IS-120a.1	Air emissions of the following pollutants: (1) CO, (2) NOx (excluding N_2O), (3) SOx, (4) particulate matter (PM_{10}), (5) manganese(MnO), (6) lead (Pb), and (7) volatile organic compounds (VOCs) (8) polycyclic aromatic hydrocarbons (PAHs)	90	5.2.3	Partial disclosure
	Energy Management	EM-IS-130a.1	(1)Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	86	5.2.2	Partial disclosure
		EM-IS-130a.2	(1)Total fuel consumed, (2) percentage coal, (3) percentage natural gas, (4) percentage renewable	86	5.2.2	Partial disclosure
	Water Management	EM-IS-140a.1	(1)Total fresh water withdrawn, (2) percentage recycled, (3) percentage in regions with High or Extremely High Baseline Water Stress	93	5.2.4	Partial disclosure
	Waste Management	EM-IS-150a.1	Amount of waste generated, percentage hazardous, percentage recycled	72	4.4.1	Partial disclosure
Human Capital	Workforce Health & Safety	EM-IS-320a.1	(1)Total recordable incident rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR) for (a) full-time employees and (b) contract employees	116	6.4.1	Partial disclosure
Business Model & Innovation	Supply Chain Management	EM-IS-430a.1	Discussion of the process for managing iron ore and/ or coking coal sourcing risks arising from environmental and social issues	62	4.1	

Activity Metrics				
Code	**Activity Metric**	**Page**	**Chapter**	**Note**
EM-IS-000.A	Raw steel production, percentage from: (1) basic oxygen furnace processes, (2) electric arc furnace processes	2/82	0.2.2/5.2.1	
EM-IS-000.B	Total iron ore production[I]	82	5.2.1	
EM-IS-000.C	Total coking coal production[II]	82	5.2.1	

Note: I. The scope of production includes iron ore consumed internally and that which is made available for sale.
Note: II. The scope of production includes coking coal consumed internally and that which is made available for sale.

Appendix 3 Assurance Statement

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By Royal Charter

INDEPENDENT ASSURANCE OPINION STATEMENT

China Steel Corporation 2020 Corporate Social Responsibility Report

The British Standards Institution is independent to China Steel Corporation (hereafter referred to as CSC in this statement) and has no financial interest in the operation of CSC other than for the assessment and verification of the sustainability statements contained in this report.

This independent assurance opinion statement has been prepared for the stakeholders of CSC only for the purposes of assuring its statements relating to its corporate social responsibility (CSR), more particularly described in the Scope below. It was not prepared for any other purpose. The British Standards Institution will not, in providing this independent assurance opinion statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used, or to any person by whom the independent assurance opinion statement may be read.

This independent assurance opinion statement is prepared on the basis of review by the British Standards Institution of information presented to it by CSC. The review does not extend beyond such information and is solely based on it. In performing such review, the British Standards Institution has assumed that all such information is complete and accurate.

Any queries that may arise by virtue of this independent assurance opinion statement or matters relating to it should be addressed to CSC only.

Scope

The scope of engagement agreed upon with CSC includes the followings:

1. The assurance scope is consistent with the description of China Steel Corporation 2020 Corporate Social Responsibility Report.
2. The evaluation of the nature and extent of the CSC's adherence to AA1000 AccountAbility Principles (2018) in this report as conducted in accordance with type 1/ type 2 of AA1000AS v3 sustainability assurance engagement and therefore, the information/data disclosed in the report is not verified through the verification process expect for data relating waste recycling, air pollutants, water, and occupational safety topics.

This statement was prepared in English and translated into Chinese for reference only.

Opinion Statement

We conclude that the China Steel Corporation 2020 Corporate Social Responsibility Report provides a fair view of the CSC CSR programmes and performances during 2020. The CSR report subject to assurance is free from material misstatement and its data relating waste recycling, air pollutants, water, and occupational safety topics is materially correct without voluntary omissions based upon testing within the limitations of the scope of the assurance, the information and data provided by the CSC and the sample taken. We believe that the 2020 economic, social and environmental performance information are correctly represented. The CSR performance information disclosed in the report demonstrate CSC's efforts recognized by its stakeholders.

Our work was carried out by a team of (CSR) report assurors in accordance with the AA1000AS v3. We planned and performed this part of our work to obtain the necessary information and explanations we considered to provide sufficient evidence that CSC's description of their approach to AA1000AS v3 and their self-declaration in accordance with GRI Standards: Core option were fairly stated.

Methodology

Our work was designed to gather evidence on which to base our conclusion. We undertook the following activities:

- a top level review of issues raised by external parties that could be relevant to CSC's policies to provide a check on the appropriateness of statements made in the report
- discussion with managers on CSC's approach to stakeholder engagement. However, we had no direct contact with external stakeholders
- interview with 14 staffs involved in sustainability management, report preparation and provision of report information were carried out
- review of key organizational developments
- review of the extent and maturity of the relevant accounting systems for financial and non-financial reports relating waste recycling, air pollutants, water, and occupational safety topics
- review of the findings of internal audits
- the verification of performance data and claims made in the report through meeting with managers responsible for gathering data relating waste recycling, air pollutants, water, and occupational safety topics
- review of the processes for gathering and ensuring the accuracy of data, followed data trails to initial aggregated source and checked sample data relating waste recycling, air pollutants, water, and occupational safety topics to greater depth during site visits

— the consolidated financial data are based on audited financial data relating waste recycling, air pollutants, water, and occupational safety topics, we checked that this data was consistently reproduced
— review of supporting evidence relating waste recycling, air pollutants, water, and occupational safety topics for claims made in the reports
— an assessment of the organization's reporting and management processes concerning this reporting against the principles of Inclusivity, Materiality, Responsiveness and Impact as described in the AA1000AP (2018)

Conclusions

A detailed review against the Inclusivity, Materiality, Responsiveness and Impact of AA1000AP (2018) and sustainability performance information as well as GRI Standards is set out below:

Inclusivity

In this report, it reflects that CSC has continually sought the engagement of its stakeholders and established material sustainability topics, as the participation of stakeholders has been conducted in developing and achieving an accountable and strategic response to sustainability. There are fair reporting and disclosures for economic, social and environmental information in this report, so that appropriate planning and target-setting can be supported. In our professional opinion the report covers the CSC's inclusivity issues and has demonstrated social responsible conduct supported by top management and implemented in all levels among organization.

Materiality

The CSC publishes material topics that will substantively influence and impact the assessments, decisions, actions and performance of CSC and its stakeholders. The sustainability information disclosed enables its stakeholders to make informed judgements about the CSC's management and performance. In our professional opinion the report covers the CSC's material issues.

Responsiveness

CSC has implemented the practice to respond to the expectations and perceptions of its stakeholders. An Ethical Policy for the CSC is developed and continually provides the opportunity to further enhance CSC's responsiveness to stakeholder concerns. Topics that stakeholder concern about have been responded timely. In our professional opinion the report covers the CSC's responsiveness issues.

Impact

CSC has identified and fairly represented impacts that were measured and disclosed in probably balanced and effective way. CSC has established processes to monitor, measure, evaluate and manage impacts that lead to more effective decision-making and results-based management within an organization. In our professional opinion the report covers the CSC's impact issues.

Performance information

Based on our work described in this statement, specified sustainability performance information such as GRI Standards disclosures disclosed in this report, CSC and BSI have agreed upon to include in the scope. In our view, the data and information relating waste recycling, air pollutants, water, and occupational safety topics contained within China Steel Corporation 2020 Corporate Social Responsibility Report are reliable.

GRI Sustainability Reporting Standards (GRI Standards)

CSC provided us with their self-declaration of in accordance with GRI Standards: Core option (For each material topic covered by a topic-specific GRI Standard, comply with all reporting requirements for at least one topic-specific disclosure). Based on our review, we confirm that social responsibility and sustainable development disclosures with reference to GRI Standards' disclosures are reported, partially reported or omitted. In our professional opinion the self- declaration covers the CSC's social responsibility and sustainability topics.

Assurance level

The moderate and partial high level assurance provided is in accordance with AA1000AS v3 in our review, as defined by the scope and methodology described in this statement.

Responsibility

This CSR report is the responsibility of the CSC's chairman as declared in his responsibility letter. Our responsibility is to provide an independent assurance opinion statement to stakeholders giving our professional opinion based on the scope and methodology described.

Competency and Independence

The assurance team was composed of Lead auditors experienced in relevant sectors, and trained in a range of sustainability, environmental and social standards including AA1000AS, ISO 14001, ISO 45001, ISO 14064 and ISO 9001. BSI is a leading global standards and assessment body founded in 1901. The assurance is carried out in line with the BSI Fair Trading Code of Practice.

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Statement No: SRA-TW-2020054
2021-05-11

For and on behalf of BSI:

Peter Pu, Managing Director BSI Taiwan

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