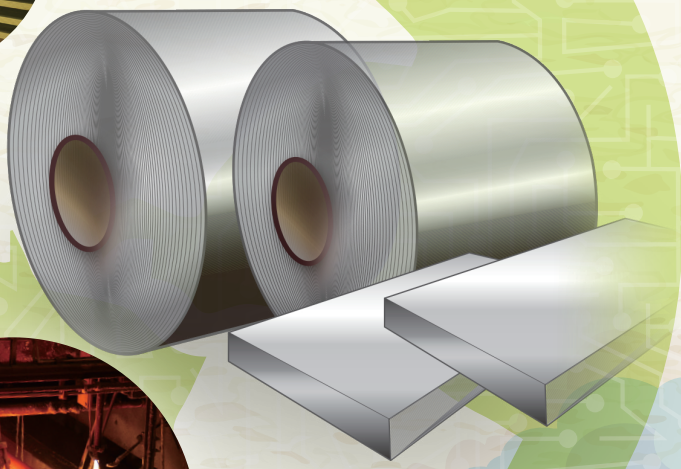
CHINA STEEL

2017

CORPORATE SUSTAINABILITY REPORT



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ChinaSteel

2017 CORPORATE SUSTAINABILITY REPORT

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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. Since 2010, CSC has been publishing annual Sustainability Reports in accordance with the Global Reporting Initiative (GRI) guidance. In 2012, the CSC CSR website was launched for more assessable, transparent, timely, complete, and interactive reporting. Sustainability Reports and the CSR website are important communication channels as well as CSC's integral approaches to continual improvement of sustainable operations.

Standards

The 2017 CSC Corporate Sustainability Report has been prepared in accordance with the GRI Standards: Core option. It also references and corresponds 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, and general disclosure of the steel industry.

Scope

This report covers CSC's operational systems and practices in the 2017 calendar year with a special focus on CSC's management approach and performances on material sustainability topics.

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 to be finalized and approved by the Chairman of the Board for publication. This report was third-party assured by British Standards Institution (BSI) in accordance with AA 1000 AS - Type 1 and GRI Standards: Core option. Financial information was from audited financial reports and non-financial information was collected through management systems subject to annual external ISO 50001, ISO 14001, and OHSAS 18001 audits, amongst others.

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 and Steel R&D Dept., CSC Labor Union, and CSC Group Education Foundation. The Environmental Protection Dept. is in charge of the overall planning, compiling, coordinating, and editing.

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

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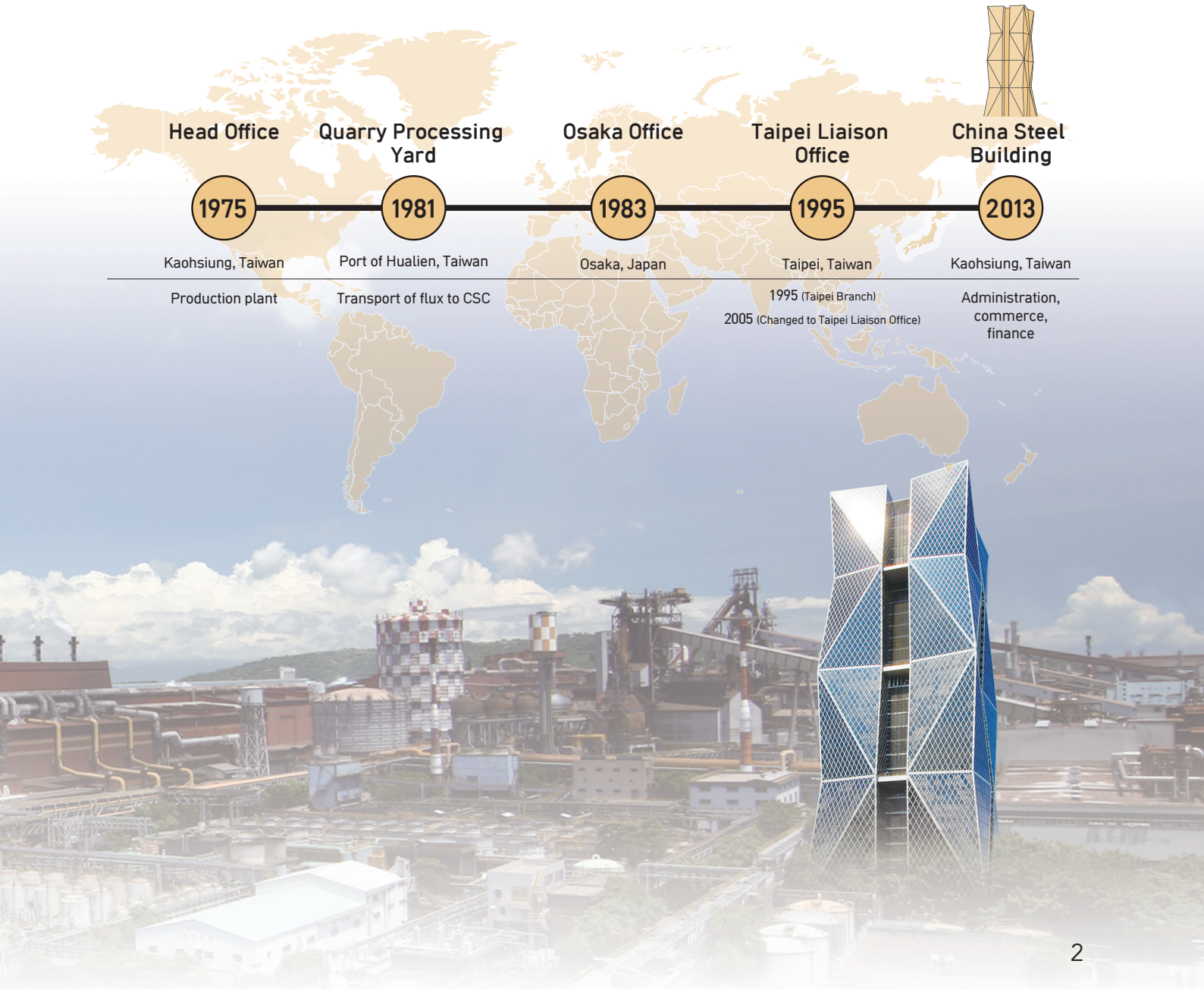
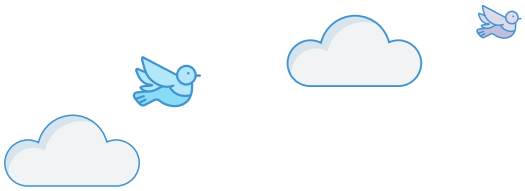
CSC CSR Website

0.2 About CSC

CSC is a global steel corporation with annual production (in terms of crude steel) around 10 million tonnes. According to the report published by World Steel Association (worldsteel), CSC was ranked the 19th among all worldsteel members in terms of crude steel production in 2016. CSC was also ranked the 15th in total 36 tier I steel corporations in the world, via evaluating the factors like expanding capacity, downstream business and so on, by World Steel Dynamics (WSD) in June 2017.

CSC produces a range of products including plates, bars, wire rods, hot and cold rolled coils, electrogalvanized coils, electrical steel coils, and hot-dip galvanized coils. The domestic market takes roughly 69% of CSC's production and the exports take the remaining 31%. CSC is the largest steel company in Taiwan, enjoying more than 50% of the domestic market. In order to enhance its operational synergy, CSC has diversified its businesses in five business areas: steel, engineering and construction, industrial materials, logistics, and services and investments.





2017

Dec. 20, 2017
The Board of Directors approved the initiation of the revamp of the coke ovens (phases I and II).

2013

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.

2010

June 30, 2010
DSC's stage II phase 1 expansion project is completed. CSC Group's capacity reaches 13.36 Mt per year.

2008

Oct. 6, 2008
Dragon Steel Corporation becomes a wholly owned subsidiary of CSC.

2006

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.

1998

June 2, 1998
CSC Group's corporate identity system is formally introduced to the public.

1997

May 31, 1997
Phase IV is completed.
Capacity reaches 8.054 Mt per year.

1995

Apr. 12, 1995
CSC is privatized.

1993

July 15, 1993
Phase IV construction commences.

1988

Apr. 30, 1988
Phase III is completed.
Capacity reaches 5.652 Mt per year.

1984

July 1, 1984
Phase III construction commences.

1982

June 30, 1982
Phase II is completed.
Capacity reaches 3.25 Mt per year.

1978

July 1, 1978
Phase II construction commences.

1977

July 1, 1977
CSC becomes a state enterprise.

Dec. 26, 1977
Phase I is completed, with capacity of 1.5 Mt per year.

1975

Sep. 15, 1975
Head office relocates to Kaohsiung. Plant Site Office closes.

1974

Sep. 1, 1974
Phase I construction commences.

Dec. 26, 1974
CSC stock is listed on Taiwan Stock Exchange Corporation.

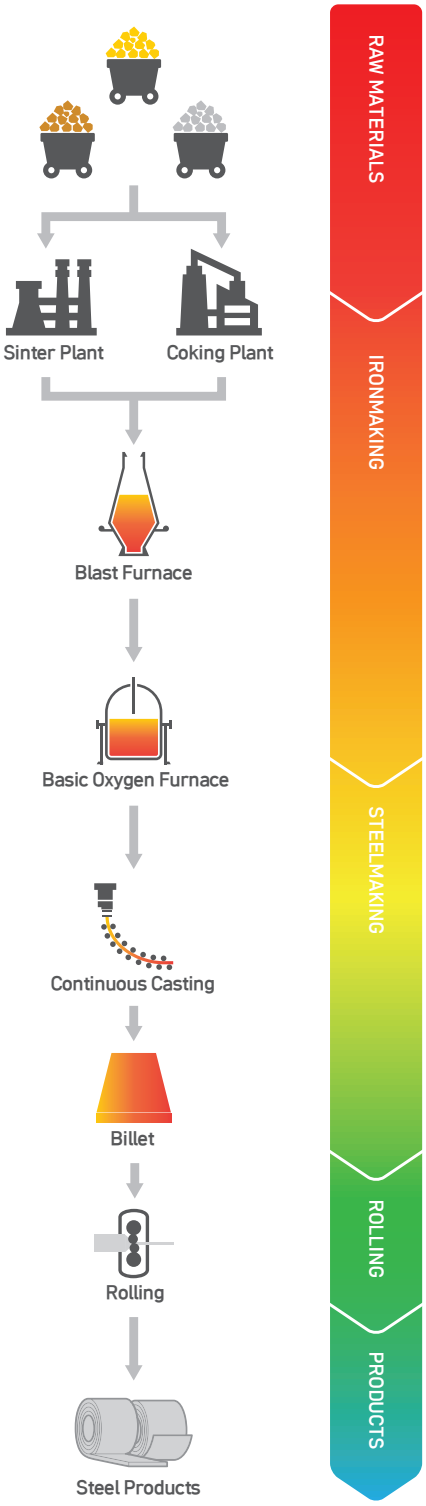
1972

Sep. 16, 1972
Kaohsiung Plant Site Office is established.

1971

Dec. 3, 1971
China Steel Corporation is officially registered, with head office located in Taipei.

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 processes. 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. Dry distillation 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.

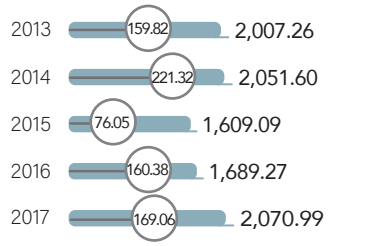
0.3 Sustainability Performance Overview

Economic Aspect Environmental Aspect Social Aspect

Revenues and Net Profit

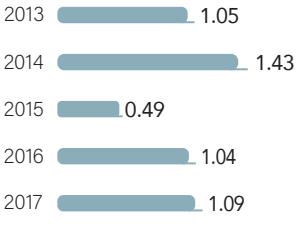
Revenues Net Profit

(100 MM NTD)



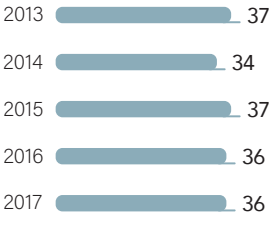
EPS

(NTD)



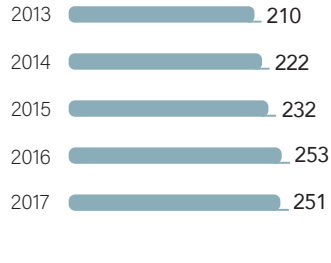
Liabilities to Assets Ratio

(%)



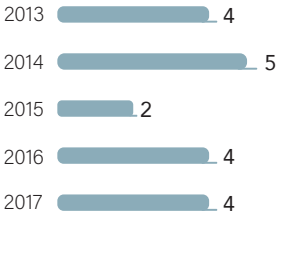
Long-Term Capital to Fixed Assets Ratio

(%)



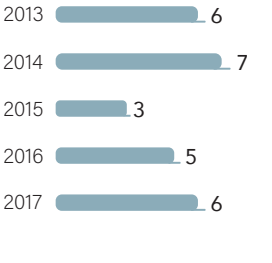
Return of Assets

(%)



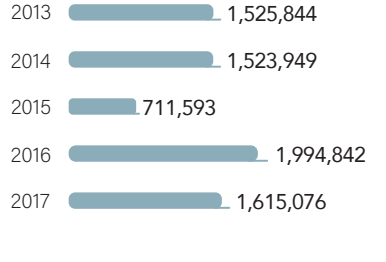
Return on Equity

(%)



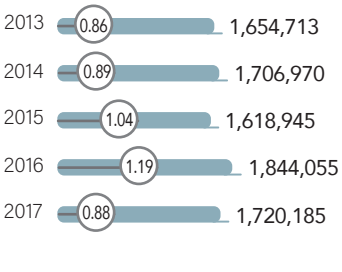
Income Tax

(k NTD)



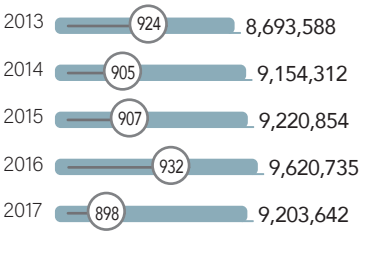
R&D Expense

k NTD %



Production and Productivity

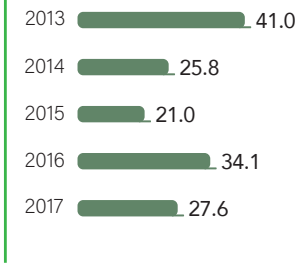
tCS tCS/man-year



MM or M: million; k: 1,000; tCS: tonne Crude Steel; t: tonne

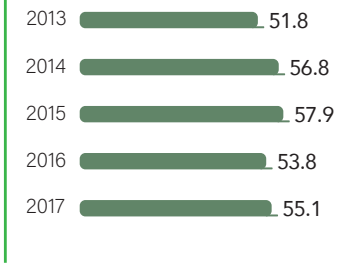
Investment on Energy and Environment

(100 MM NTD)



Self-generated Electricity

(%)

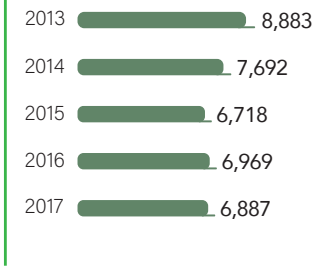


NOx Emissions

(t)

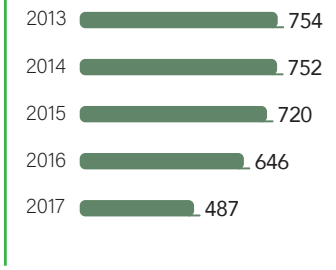
SOx Emissions

(t)



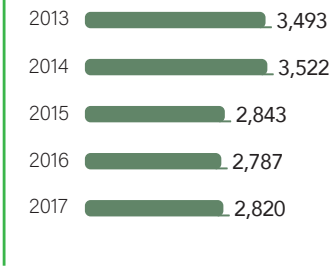
VOCs Emissions

(t)



Particulate Emissions

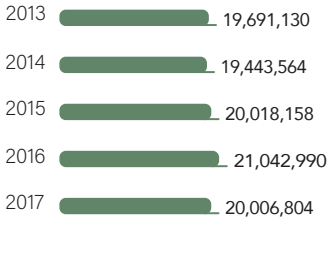
(t)



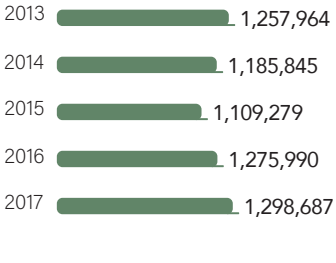
GHG Emissions

(tCO_2e)

Scope 1

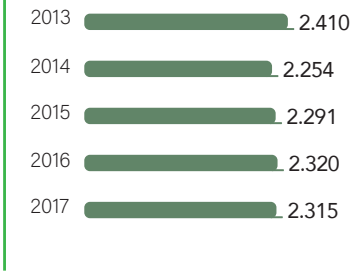


Scope 2



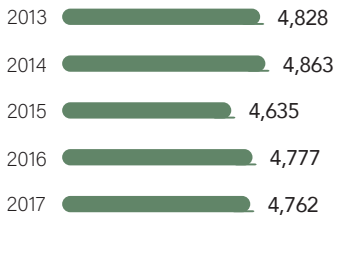
GHG Intensity

(tCO_2e/tCS)

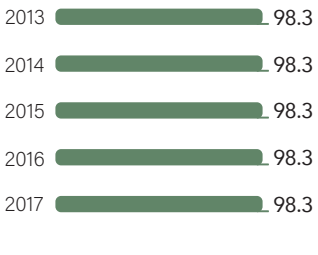


Economic Aspect | Environmental Aspect | Social Aspect

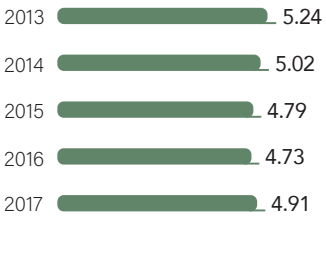
Raw Water Usage
(10 k t)



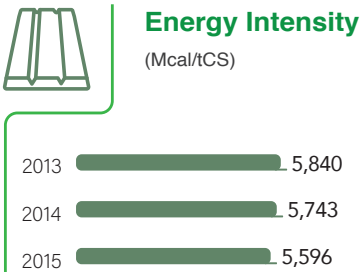
Water Recycling Rate
(%)



Water Intensity
(t/tCS)*

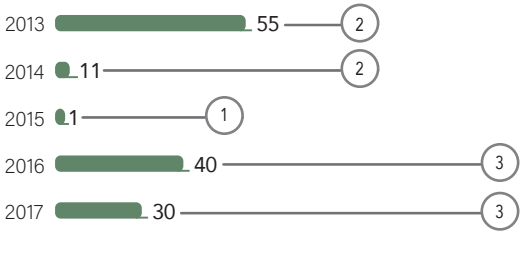


Energy Intensity
(Mcal/tCS)



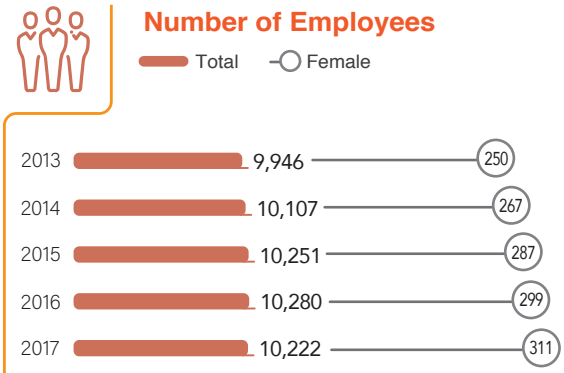
Environmental Violations and Fine

10 k NTD | Count



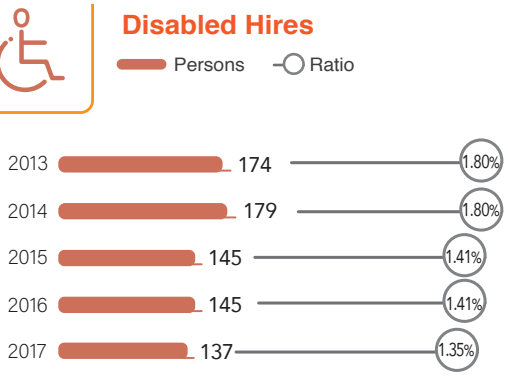
Number of Employees

Total | Female



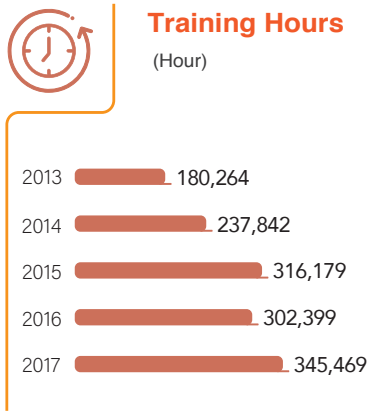
Disabled Hires

Persons | Ratio

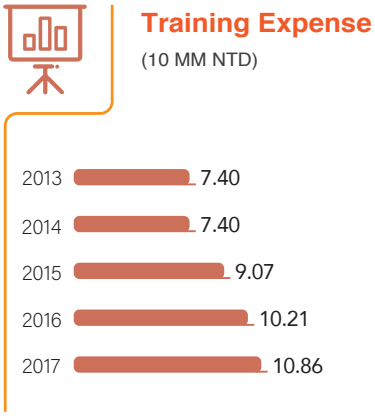


*: Deducting steam sales

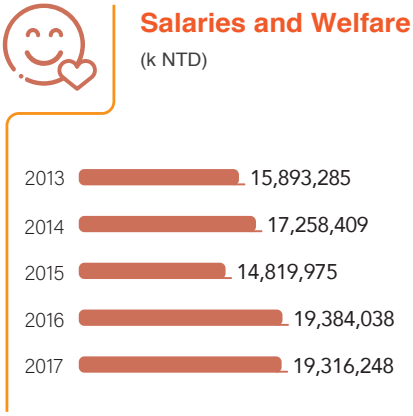
Training Hours
(Hour)



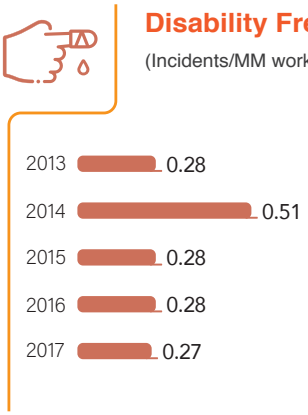
Training Expense
(10 MM NTD)



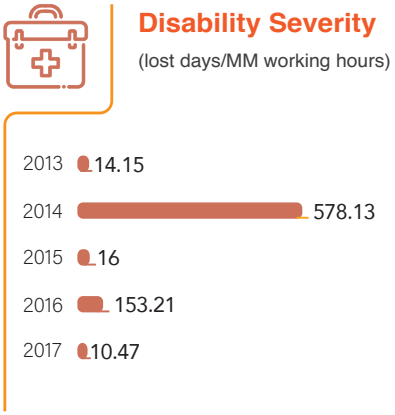
Salaries and Welfare
(k NTD)



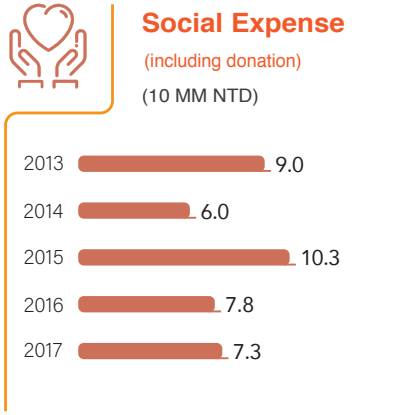
Disability Frequency
(Incidents/MM working hours)



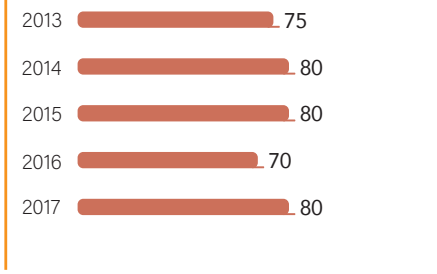
Disability Severity
(lost days/MM working hours)



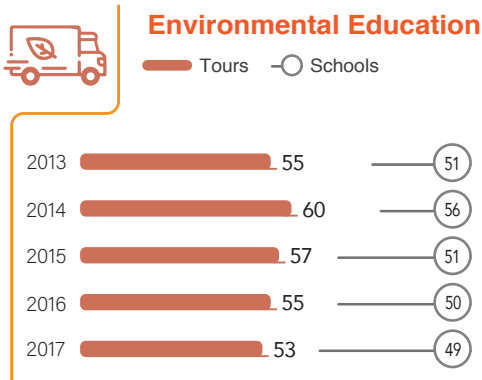
Social Expense
(including donation)
(10 MM NTD)



CSC Group Education Foundation Manpower
(Persons)



Environmental Education Bus



Recognitions

- Dow Jones Sustainability Indices (DJSI) Industry Leader in the steel sector and member in DJSI-World and DJSI-Emerging Markets
- RobecoSAM Gold Class Sustainability Award
- Constituent of FTSE4Good Emerging Index
- Constituent of MSCI Taiwan ESG Leaders Index
- Constituent of TWSE Corporate Governance 100 Index
- Constituent of FTSE4Good TIP Taiwan ESG Index

- Best IR in materials sector of IR Magazine Award - Greater China
- Leadership level for CDP Climate Change and Water
- "The Most Prestigious Sustainability Awards - Top Ten Domestic Corporates", "Corporate Sustainability Report Award - Traditional Manufacturing", "People Development Award", "Sustainable Water Management Award", "Supply Chain Management Award", "Climate Leader Award", "Growth through Innovation Award "Manufacturing", and "Circular Economy Leader Award" of Taiwan Corporate Sustainability Awards
- "Award for Model of Sustainability for Business Group" from BSI

- "Authorized Economic Operator (AEO)" from Customs Administration, Ministry of Finance
- "2017 Golden Trade Award" from Ministry of Economic Affairs

- "2017 Water Saving Achievement Award" from Water Resources Agency, Ministry of Economic Affairs
- "2017 Energy Saving Golden Medal Award" for No.3 Rolling Mill from Ministry of Economic Affairs
- "2017 Industrial GHG Voluntary Reduction, Commendable Unit" from Industrial Development Bureau, Ministry of Economic Affairs
- Green Power Mark for subscription of 3GWh green power in 2017 from Ministry of Economic Affairs
- "King of Auction" Special Award and Excellence Award of 2017 Taipower Demand Bidding Measures
- "2017 Model Environmental Protection Responsible and Technical Staff" from Environmental Protection Administration
- "Commendable Unit of Green Procurement" from Environmental Protection Administration
- "Commendable Unit of Green Procurement" from Kaohsiung City Environmental Protection Bureau
- "2017 Annual Water Environment Patrol Award" from Kaohsiung City Environmental Protection Bureau
- "2017 Carbon Reduction Action Premium Award" from Kaohsiung City Environmental Protection Bureau

- "2017 CEMS Assess Award" from Kaohsiung City Environmental Protection Bureau
- "2017 Excellent Construction Worksite" (for the Circle Line Turnkey Project Second Phase of Kaohsiung Light Rail Transit) from Kaohsiung City Environmental Protection Bureau

MEMBER OF
Dow Jones Sustainability Indices
In Collaboration with RobecoSAM

ROBECOSAM
Sustainability Award
Gold Class 2018

FTSE4Good

CDP
DISCLOSURE INSIGHT ACTION

GREEN POWER
綠電標字第1061001270號

/ Taiwan Corporate Sustainability Awards /

/ 2017 Energy Saving Golden Medal Award /

1

SUSTAINABLE OPERATION

1.1 Message from Top Management
1.2 Operation Concepts
1.3 Sustainability Directives
1.4 Stakeholder Engagement
1.5 Material Topics

1.1 Message from Top Management

Chairman
Chao-Tung Wong

President
Jih-Gang Liu

Steel is fundamental in achieving circular economy and building a low-carbon society. As an aspiring leader of the steel industry in Taiwan, CSC upholds its Values, "Teamwork, Entrepreneurial approach, Down-to-earthness, Pursuit of innovation," while attending to global developments on sustainability such as the UN Sustainability Development Goals (SDGs). CSC examines and advances corporate regulations to furthermore fulfill corporate social responsibilities. In 2012, CSC developed the CSC Corporate Social Responsibility Policy; in 2017, CSC set Corporate Social Responsibility Practice Principles.

Facing the challenges of the global steel market in 2017, CSC continues its efforts to the three pillars of sustainability. The highlights include:

Implementing Industry 4.0

CSC promoted intelligent production-sales and completed the five R&D plans in line with operation and development strategies and industrial trends to strengthen the technological foundation for sustainable development.

Extending circular economy

In addition to promoting district energy and resource integration, CSC initiated the BOF slag utilization promoting project to integrate resources of the CSC Group and expand the utilization of slag resources.

Green Energy Development

With an installed capacity of 25.39 MWp, CSC's rooftop photovoltaic (PV) system is Taiwan's largest for a single plant site. It is expected to provide 3,770 kWh of electricity and reduce 20,000 t carbon emissions per year.

Energy and Environmental Protection

A total of 122 energy saving projects were completed in 2017, reducing carbon emissions by 120,000 t. CSC also proactively responded to the administrative environmental policy by curtailing output of main processes, scheduling annual maintenance in winter, and increasing investments in environmental protection equipment. The windbreak net construction project for the southern side of the raw material storage yard was completed in Dec. 2017, 6 months ahead of schedule.

Water Resource Management

Not only did CSC reach 98.3% in process water recycling rate, CSC proactively supports the administrative policy as the first and biggest corporate user of reclaimed municipal wastewater. CSC also proposed a daily use demand of 20,000 t to Linhai Sewage Treatment Plant Water Reclamation Project, increasing the total use of reclaimed water to 64,000 t per day in 2022 and furthermore significantly reducing the demand for raw water.

Succession and Inheritance

CSC continued to draft short, mid, and long-term workforce and succession planning with the focus on elaborating corporate culture, advancing knowledge management, strengthening competency development, and building a friendly and safe workplace.

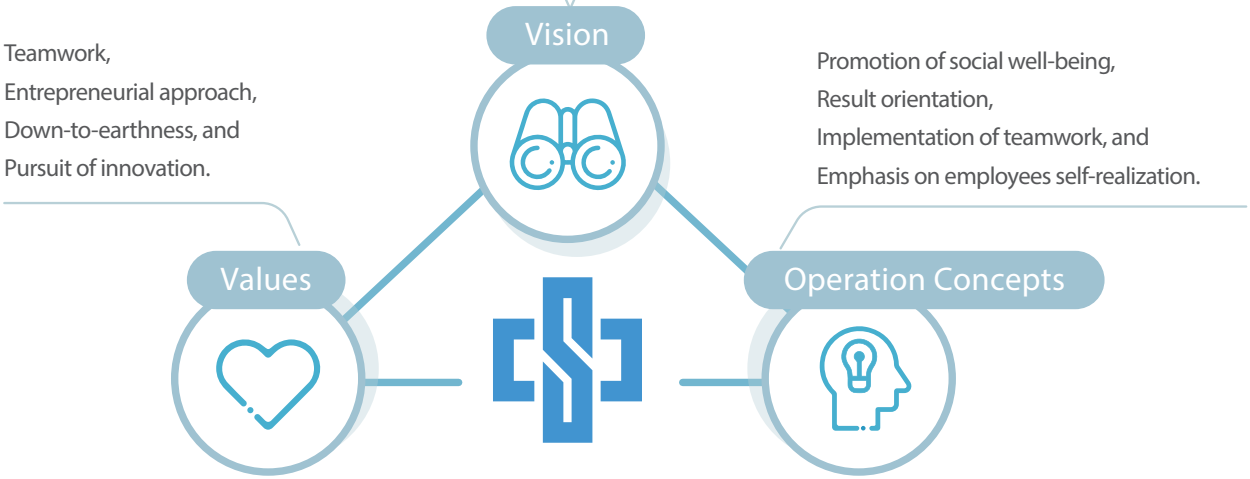
With the efforts of the managing team and all employees, in 2017 CSC was recognized locally and globally for its sustainable practices and information disclosure. The honors include Dow Jones Sustainability Indices (DJSI) Industry Leader in the steel sector and member in DJSI-World, leadership levels in CDP Climate Change and Water, constituent of the FTSE4Good Emerging Index, the MSCI Taiwan ESG Leaders Index, the FTSE4Good TIP Taiwan ESG Index, and Taiwan Corporate Sustainability Awards.

The steel market outlook is cautiously optimistic for 2018. Solidifying its competitive advantage, CSC set the 2018 business directives:

and mapped out its five-year operation and development strategies for the steel business. CSC aspires to lay the building blocks for next-generation Taiwan steel industry and stride towards the corporate vision of a trustworthy steel company of global distinction that pursues growth, environmental protection, energy saving and value innovation.

1.2 Operation Concepts

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



1.3 Sustainability Directives

Under the CSC Operation Concepts and in the spirits of the worldsteel Sustainable Development Charter, CSC developed the Corporate Social Responsibility Policy in 2012. In 2017, CSC set Corporate Social Responsibility Practice Principles so as to furthermore proactively carry out sustainability practices.

CSC reviews corporate regulations and practices against local and international CSR guidelines and as the business environment changes. The SDGs announced by the UN in 2015 encompass critical, global sustainability issues for the next 15 years. CSC examined the CSR Policy and found it to correspond to the SDGs. In view of industrial/regional characteristics and existing performance indicators and with the use of SDG Selector and the steps of SDG Compass, CSC's significant contributions and approaches towards the SDGs are summarized below.


CSR Policy
Persist in energy saving and emission reduction and adopt renewable resources to build a low-carbon society
Strengthen competitiveness and create shareholder profit to ensure corporate sustainability
Meet customer requirements and enhance service advantage to achieve co-prosperity
Take care of employee welfare and create a premium environment to facilitate employee development
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
Enhance industrial safety practice to eliminate occupational hazards and practice environmental protection to improve pollution-reduction performances

SUSTAINABLE DEVELOPMENT GOALS

⊙ Achievements ■ Methods

SDG	Targets	Ch.	Highlights
3 GOOD HEALTH AND WELL-BEING	Good health and well-being	6.4	⊙ In 2017, 5,848 participated in health promoting activities and 4,504 received special health examinations.
	Reduce traffic accidents		■ Reinforce traffic violation warning and inspections in- and near- plant and raise traffic safety awareness of employees.
4 QUALITY EDUCATION	Vocational training	6.1	⊙ By the end of 2017, 147 had been recruited via various industry-academy cooperations.
	Lifelong learning	6.3 7.3 7.4	■ Invites retirees to CSC activities and lectures. ■ CSC Group Education Foundation develops and implements education activities and business upon holistic social education. ⊙ In 2017, 14,000 participated in 11 categories of activities targeted for students and the general public.
5 GENDER EQUALITY	Gender Equality	6.1 6.2	■ Equal basic salary for male and female employees of the same position and grade.
6 CLEAN WATER AND SANITATION	Sustainable management of water	5.2	■ Enforce effective water management and use of recycled water. ⊙ Reached 98.3% in process water recycling rate. ■ The first to support the administrative policy as the first and biggest corporate user of recycled municipal wastewater.
7 AFFORDABLE AND CLEAN ENERGY	Sustainable energy	3.4	■ Develop renewable energy including solar power and wind power.
	Improve energy efficiency	5.2	⊙ In 2017, 122 energy saving projects were completed, saving 358,318 Gcal.
8 DECENT WORK AND ECONOMIC GROWTH	Sustainable economic growth	1.2 3.4 4.2	⊙ In 2017, orders for premium products of 5.348 Mt reached 108% of the annual target.
	High value-added sectors		
	Employment and equal pay	6.1 6.2	■ Employees are hired only by expertise and by experience.
	No child labor		⊙ In 2017, there was no violation of human right or discrimination regarding employee hires. ⊙ In 2017, the starting points for base- and professional- level employees were 27,100 and 36,600 per month, respectively.
	Workplace safety	4.1 6.4	⊙ In 2017, work environment inspection was completed on 3,123 testing points, 5 enterprise-wide emergency drills were held, and safety observation and audit of site managers totaled 48,913 times.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	Resilient infrastructure	3.4	■ Continue promoting the 3 ongoing light rail projects: Danhai, Kaohsiung, and Ankeng.
	Innovation	3.3	■ Product development, product application, process development, enabling technology, and energy conservation and environment protection are the major research objectives for the iron and steel field of R&D.
	Sustainable industries	4.2 4.4	■ Construct industry ecological network to ensure effective use of energy and resources so as to improve operating condition and competiveness. ⊙ In 2017, the CSC-centered industry ecological network included 20 enterprises.

SUSTAINABLE DEVELOPMENT GOALS

⊙ Achievements ■ Methods

SDG	Targets	Ch.	Highlights
11 SUSTAINABLE CITIES AND COMMUNITIES	Sustainable cities and communities	7.2	■ Sponsor the greening and beautification of roads in Kaohsiung City. ■ Encourage employees to commute by Kaohsiung Rapid Transit (KRT). ⊙ In 2017, 4,951 monthly KRT cards were sponsored and 72,854 persons were served with free shuttle bus services from KRT R3 Station to CSC.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	Efficient use of resources	4.4	■ Promote District Energy Integration to increase energy efficiency, reduce resource consumption, and lessen environmental impact. ⊙ In 2017, 1.683 Mt steam sales reduced 0.386 $MtCO_2$.
	Waste management	5.2	⊙ Achieved zero solidification landfill in 2001.
	Sustainability reporting	0.1	■ Publish annual Corporate Sustainability Reports and use the CSC CSR website for more assessable, transparent, timely, complete, and interactive reporting.
		3.4	■ Calculate and obtain verifications for carbon and water foot prints. ⊙ In 2017, the carbon footprint (CFP) of vehicles' control arm with CSC's QT and NQT steel was included in the official CFP database and was awarded with Carbon Foot Award by Taiwan EPA.
	Sustainable education	5.3 7.4	■ Use CSC EIP to raise employee awareness of environmental marks, electricity and water saving, and green construction materials.
13 CLIMATE ACTION	Resilience and adaptive capacity	5.2	■ Contribute to external carbon reduction for downstream and steel-using end customers with green products. ⊙ In 2017, 3.814 Mt green products helped save energy and reduce carbon emissions to an estimated 7.095 Mt. ⊙ The CFP of vehicles' control arm with CSC's NQT steel, 5.26 $kgCO_2e/kg$, was verified to save 0.87 $kgCO_2e/kg$ compared to QT steel.
	Climate change education	7.4	⊙ In 2017, Environmental Education Bus brought science education to over 6,000 participants with 53 9tours and 80 volunteers.
15 LIFE ON LAND	Protect biodiversity	7.2	⊙ Participate in River Watch of the KSEPB to patrol Yanshuigang River 3 times a day. ⊙ 286 tree species and 80 bird species.
16 PEACE, JUSTICE AND STRONG INSTITUTIONS	Reduce all forms of corruption	2.4	■ Continue ethical conducts through inheritance of corporate culture and prevent malpractice with regulations and various control mechanisms.
17 PARTNERSHIPS FOR THE GOALS	Partnerships	4.2	■ Initiate the first stage of industry upgrading in 2006 and the second stage in 2017. ⊙ Launched 16 R&D alliances with 66 companies and 8 academic institutes.
		4.3	■ Participate in activities organized by domestic and international industry unions, institutes, and associations. ⊙ Member of worldsteel, SEAISI, WorldAutoSteel; participate in the meetings of the OECD steel committee under the instruction of the MOEA

1.4 Stakeholder Engagement

CSC values the rights and opinions of its stakeholders and sets public, direct communication channels by which corresponding CSC departments are able to promptly understand and address stakeholder expectations and interests. These include annual corporate reports (Annual Report, Operation Report, Sustainability Report), timely online reporting (via the corporate website, CSR website, etc.), and the channels shown below. 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 shareholders, employees, customers and traders, governmental authorities, suppliers, steel industry peers, contractors, reporters, local communities, NGOs/NPOs, and academic researchers.

* : Engagement with unspecified frequency occurs whenever necessary.

Employees	Concerned Topics	① Employee Welfare and Salary ② Operating Financial Performance ③ Labor/Management Relations
	Communication Channels	//Board representation by CSC Labor Union (all times) //Management-Labor Union Committee meeting (every month) //Departmental communication meeting, Labor Safety and Health Committee meeting (every 2 months)//Pension Fund Supervisory Committee meeting (every 3 months) //Top management-Labor Union council members communication meeting, Stock-holding Trustees Committee meeting (every 6 months) //Human Resources Development Committee meetings (every year) //Collective agreement with CSC Labor Union (every 3 years) //Rewards and Punishments Review Committee
	Engagement Highlights in 2017	Started the negotiation on the Fifth Collective Agreement with CSC Labor Union on Oct. 20
Contractors	Concerned Topics	① Occupational Safety and Health ② Employee Welfare and Salary ③ Labor/Management Relations
	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 trainings
	Engagement Highlights in 2017	Communicated and promoted safety and health issues monthly Ensured outsourcing unit price and common contract terms amendments Trained contractors in safety regulations and certified for technical proficiencies as required for appropriate task execution
Customers and Traders	Concerned Topics	① R&D/Product Quality ② Customer Services Management ③ Customer Satisfaction Survey
	Communication Channels	//Production-sales meeting (every 3 months) //Customer satisfaction survey (every year) //Customer feedback through exposition //R&D alliances, workshops, market investigation, visits, interviews //Processes customer feedback and adopt for improvement of products and services quality //Assists customers with process improvement and materials use
	Engagement Highlights in 2017	39 joint production and marketing meetings for import and 4 for export Improved results of Customer Satisfaction Survey 12 sessions of domestic and international technical seminars and workshops, 103 visits to key customers, 515 man-days for overseas technical missions 12 cases of industrial material usage trend surveys, 15 items of new products development, 24 items of new auto material certification 41 cases of market quality feedback for in-plant quality improvement 168 cases of customers' process improvement
Individual Shareholders	Concerned Topics	① Operating Financial Performance ② Sustainable Development strategy ③ R&D/Product Quality
	Communication Channels	//Free service line (+886-0800-746-006) and email (f1000@mail.csc.com.tw) (all times) //Publicly discloses operating revenues and preliminary result on the Market Observation Post System and CSC website (every month) //Convenes shareholders meeting in the second quarter and adopts e-voting with full shareholder participation in the voting process and announces results on Market Observation Post System and CSC website (every year) //Issues online and paper versions of Annual and Operation Reports (every year)
	Engagement Highlights in 2017	Sixth year of e-voting adoption, utilization rate increased to 54.20% of total issued shares and over 90% for foreign investors
Institutional Shareholders	Concerned Topics	① Operating Financial Performance ② Sustainable Development strategy ③ R&D/Product Quality
	Communication Channels	//Announces monthly operating results and list prices (every month) //Communicates with domestic and international institutional shareholders through visits, conference calls, and video conferences //Participates in domestic and international investor conferences
	Engagement Highlights in 2017	More than 100 receptions and conference calls for domestic and foreign institutional shareholders Participated in 6 investor conferences

Suppliers	Concerned Topics	① Occupational Safety and Health ② Environmental Policy/Management System ③ Labor/Management Relations
	Communication Channels	//Participates in workshops (averages 20 per month) //Visits, forums, provisions of safety design specifications //Local supply partnerships
	Engagement Highlights in 2017	Discussed specifications, terms, and price Visits for production and quality status Communicated and discussed market information Assessed and awarded suppliers for local purchase
Governmental Authorities	Concerned Topics	① Air Pollutants Management ② Operating Financial Performance
	Communication Channels	//Calls on legislators, councilors, and governmental authorities to communicate and propose rational regulations and policies //Conferences, forums, public hearings, training courses, visits //Participates in communication meetings, seminars, and assessment by authorities //Works with the authorities to hold activities related to investors
	Engagement Highlights in 2017	Communicated with legislators and government authorities on rational industrial liabilities for waste disposal Attended public hearings related to Water Pollution Control Act, Air Pollution Control Act, Waste Disposal Act
Local Communities	Concerned Topics	① Environmental Policy/Management System ② Air Pollutants Management ③ Community Involvement and Charity
	Communication Channels	//Visits and negotiation through the Public Affairs Dept. //Visits and negotiation through CSC Labor Union //Visits and negotiation through CSC Group Education Foundation //Visits and negotiation through CSC employee clubs
	Engagement Highlights in 2017	360 visits and negotiation through the Public Affairs Dept.
Steel Industry Peers	Concerned Topics	① Gender equality ② Corporate Governance ③ Labor Practices
	Communication Channels	//Participate in meetings held by the Taiwan Steel & Iron Industries Association, worldsteel, SEAISI //Bilateral and multi-lateral communications, official visits and meetings
	Engagement Highlights in 2017	7 company-level communications with JFE, NSSMC, BaoSteel, Shougang, and Anshan Iron Steel Group
Reporters	Concerned Topics	① Operating Financial Performance ② R&D/Product Quality ③ Air Pollutants Management
	Communication Channels	//Press releases //Spokesperson interviews
	Engagement Highlights in 2017	63 press releases 25 spokesperson interviews
NGOs/NPOs	Concerned Topics	① Sustainable Development strategy ② Waste Management
	Communication Channels	//Participates in forums, workshops and meetings held by professional associations, institutes, and guilds
	Engagement Highlights in 2017	Participated in "Earth Hour" lights-off activity Visited opinion leaders to communicate environmental management strategies Participated in Chinese National Federation of Industries, Taiwan Steel & Iron Industries Association, Taiwan Association of Soil and Groundwater Environmental Protection
Academic Researchers	Concerned Topics	① R&D/Product Quality ② Air Pollutants Management ③ Energy Management
	Communication Channels	//Progress review of Engineering Research Center and Industry and Academia Alliance (every 2 months) // Progress review of Joint Research Laboratory (every 3 months) //Mid-term report of outsourced researches, research instruction (every 6 months) //Proposal and final reports of ERC, JRL, and outsourced researches (every year) //Keynote speeches
	Engagement Highlights in 2017	9 keynote speeches by local and international experts and scholars 105 outsourced researches 10 research instructions by local and international experts and scholars

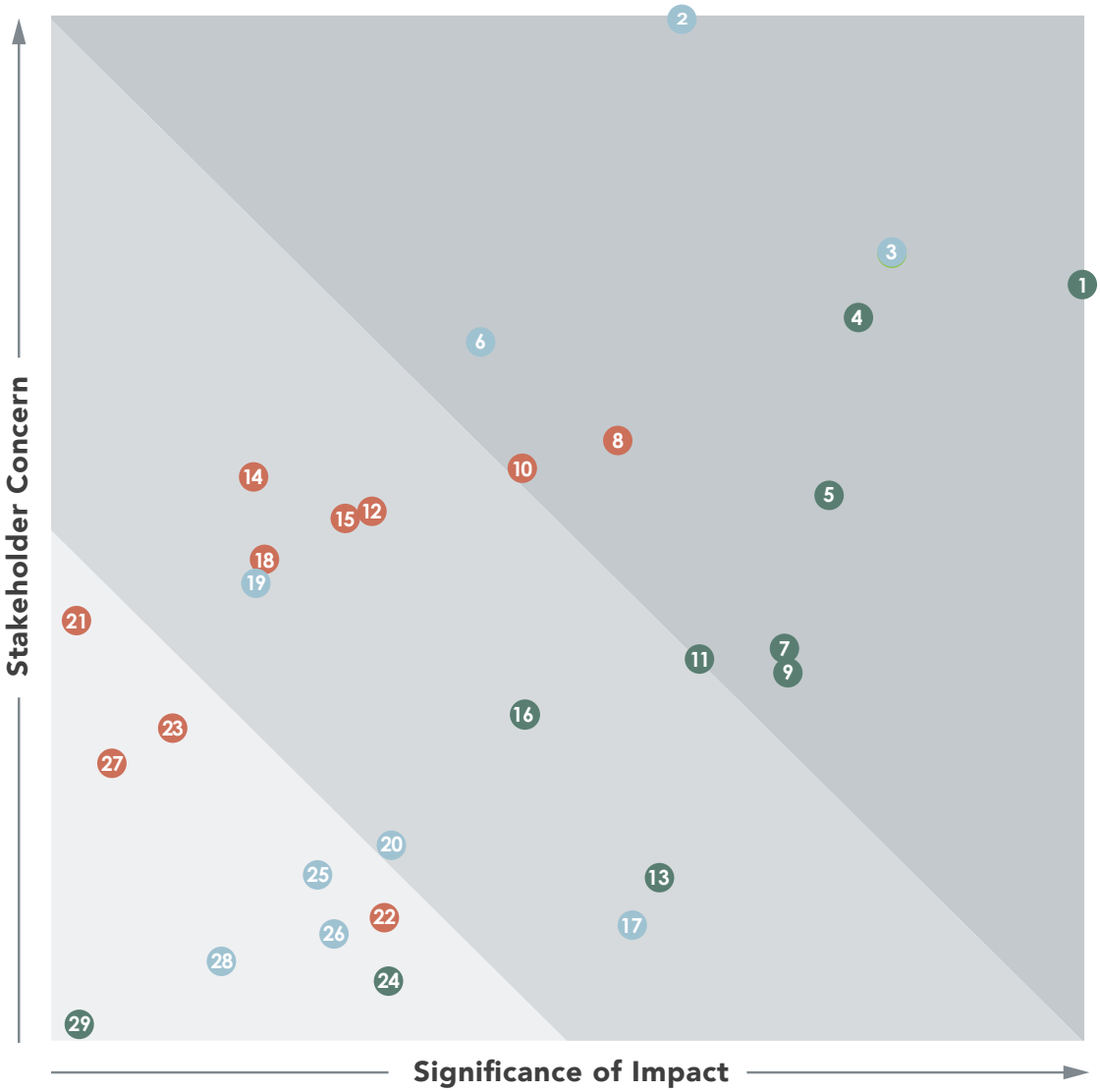
1.5 Material Topics

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, sustainability context, materiality, and completeness to identify issues of materiality through review and identification, prioritization, and validation. For topics of high stakeholder concern and high impact, CSC discloses its management approach and performances in this report and online. These serve to provide context and reflect CSC's impact in the value chain and serve as means for comprehensive examination and continual improvement.

Review and Identification	Prioritization			Verification and Disclosure
CSC compiles a list of sustainability topics based on the corporate vision and CSR Policy and considering GRI Standards and Mining and Metals Sector Supplement, SDGs, and stakeholder feedback.	Survey	Media Analysis	Expert Forum	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.
	462 responses in 2017	907 news pieces analyzed in 2017	2 forums convened in 2017	
29 topics for 2017				13 material topics in 2017

Survey

Survey is open all year round on the CSC CSR website to collect the concern levels of stakeholders for each sustainability topic. Specifically as part of the report preparation process, stakeholders were invited by CSC departments to participate in the 2017 survey from 7 Dec. 2017 to 5 Jan. 2018. Stakeholder concern was then weighed based on AA1000SES assessment results. For each topic, the impact of CSC was evaluated by all departments in the sense of economic, environmental, and social impacts and considering the probability of impact. The topics are plotted by the concern of stakeholders and the significance of impact into a materiality matrix.



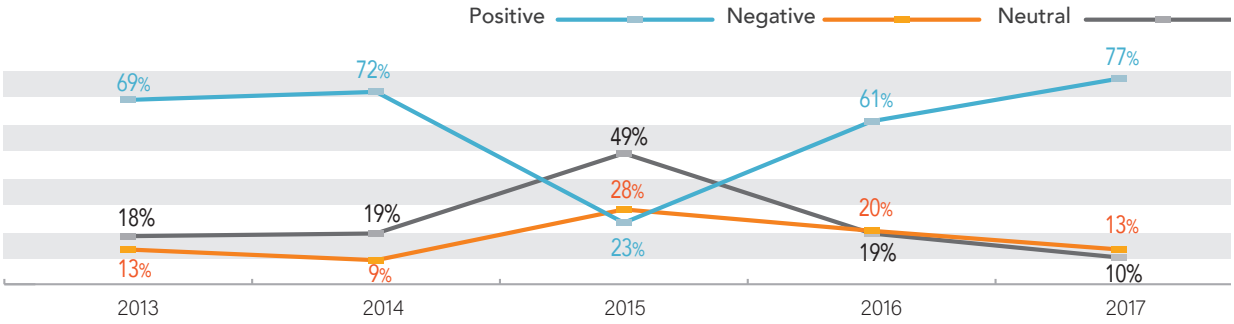
1 Air Pollutants Management
2 Operating Financial Performance
3 Sustainable Development Strategy
4 Waste Management
5 Environmental Policy/ Management System
6 R&D/Product Quality
7 Water Management
8 Occupational Safety and Health
9 Hazardous Substance Management
10 Labor/Management Relations
11 Energy Management
12 Employee Welfare and Salary
13 GHG Emissions Management
14 Community Involvement and Charity
15 Talent Recruitment and Retention
16 Raw Materials Management
17 Corporate Governance
18 Labor Practices
19 Codes of Conduct/Ethics
20 Risk Management
21 Gender Equality
22 Stakeholder Engagement
23 Career Development and Training
24 Product Carbon Footprint
25 Customer Services Management
26 Supply Chain Management
27 Employee Satisfaction Survey
28 Customer Satisfaction Survey
29 Biodiversity

Economic Aspect
Environmental Aspect
Social Aspect

1-11: Topics of high concern and impact are thoroughly disclosed in this report and online.
12-20, 21-29: Topics of low to medium concern and impact are disclosed to the corresponding degree.

Media Analysis

CSC collects and analyzes relevant news pieces of mainstream and local media. By content, economic new coverage is the majority for 2017, and investment and the economy are the focus of positive and negative economic coverage. Negative coverage for 2017 accounts for 13% of total coverage. Main negative coverage topics, 1 Air Pollutants Management and 2 Operating Financial Performance, are regarded as material topics for this report.



Expert Forum

CSC invites industrial and academic experts to exchange ideas on various issues. Key points raised in the 2017 expert forums include inheritance of experience and extension of CSR strategies and activities. These correspond to 23 Career Development and Training and 26 Supply Chain Management and are regarded as material topics for this report.

Material Topics and Value Chain Context

The materiality analysis for 2017 yielded 13 material topics, corresponding to 1 GRI Standards general disclosure, 10 GRI Standards specific topics, and 2 CSC-specific topics. The management of these topics stems from CSC Values and Operation Concepts and is incorporated into the CSR Policy and risk management strategies. By aspect, the economic topics are managed by annual business directives and targets; the environmental topics and the social topic, Occupational Safety and Health, are by the ESH Policy; the other social topics are by 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.

	Material Topic	Ch.	Topic-specific GRI Standard	Value Chain Impact Boundary		
				Upstream	CSC	Downstream
1	Air Pollutants Management*	5.2	GRI 305 Emissions		V	
2	Operating Financial Performance*	3.1	GRI 201 Economic Performances		V	
3	Sustainable Development Strategy*	1.1/1.3	(GRI general disclosure)		V	
4	Waste Management*	5.2	GRI 306 Effluents and Waste		V	V
5	Environmental Policy/Management System*	5.1	(CSC-specific topic)		V	
6	R&D/Product Quality*	3.2/3.3/4.2	(CSC-specific topic)		V	
7	Water Management	5.2	GRI 303 Water		V	V
8	Occupational Safety and Health*	4.1/6.4	GRI 403 Occupational Health and Safety	V	V	
9	Hazardous Substance Management*	3.2	GRI 416 Customer Health and Safety	V	V	V
10	Labor/Management Relations*	6.2	GRI 402 Labor/Management Relations		V	
11	Energy Management	4.4/5.2	GRI 302 Energy		V	V
23	Career Development and Training	6.3/7.3	GRI 404 Training and Education		V	
26	Supply Chain Management	4.1	GRI 308 Supplier Environmental Assessment GRI 414 Supplier Social Assessment		V	

Note: Topics that are material for 2016 and 2017 are denoted by*. There were no significant changes in topic boundaries.

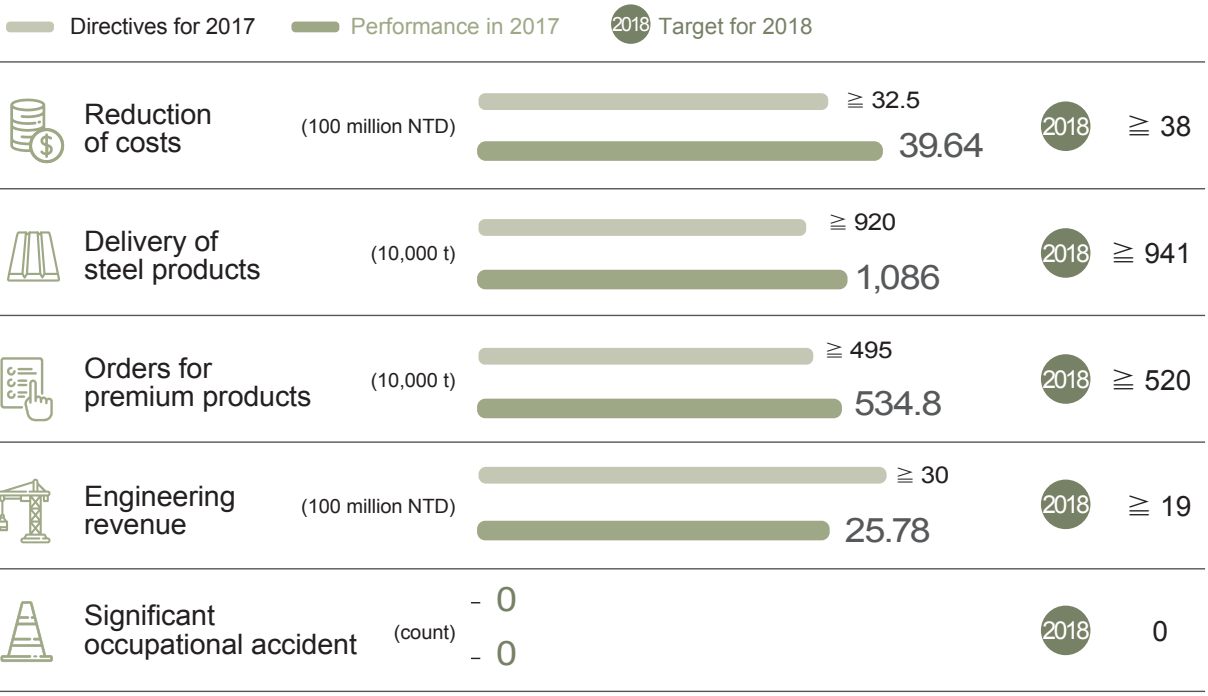
2

CORPORATE GOVERNANCE

2.1 Strategies and Targets
2.2 Organization Chart
2.3 Board of Directors
2.4 Ethical Conduct
2.5 Risk Management

2.1 Strategies and Targets

2.1.1 Annual Directives and Performances



Directives for 2017	Performances in 2017	Directives for 2018
Reaching the Summit with Production and Sales of a Modular Structured Smart Factory	Established the Intelligent Production-Sales Promotion Committee, launched the Industry 4.0 development project to promote intelligent production-sales, and set the focus on sales, production, intelligent service, intelligent quality control, and export sales integration to be the 5 major axes that further improve on-time delivery rate and customer satisfaction. In 2017, the delivery of 10.86 Mt steel products achieved 118% of the annual target.	Smart Manufacturing to Improve Production and Sales Efficiency
Creation of a Comparative Advantage by Increasing Profits and Cutting Expenses	Promoted "Cost Reduction Activities" to raise all employees' awareness of cost and systematically and scientifically reduce cost. In 2017, the total cost reduction of 3.96 billion NTD achieved 122% of the annual target.	Energy Consumption Reduction to Promote Circular Economy
Succession of Innovation to Make a Brand-new Start	Cooperated with business development strategies and industrial trends to complete the 5 R&D main plans (core technologies of electric vehicle industry, smart production technologies, environmental protection and emission reduction technologies, development of key industrial materials, and development of key materials for the 5+2 industries) to strengthen the technology foundation for sustainable development. In 2017, orders for premium products of 5.348 Mt (46.98%) achieved 108% of the annual target.	Innovative Technology to Enhance Grade and Quality
Increasing Value of the Light Rail and Wind Power Businesses	Continued to promote the 3 ongoing projects (Danhai, Kaohsiung, and Ankeng Light Rails) and carefully assessed the expansion of new rail projects. Developed No. 29 offshore wind farm and built the Xingdagang underwater basic production line. In 2017, the engineering revenue of 2.578 billion NTD achieved 85.9% of the annual target. The target was not achieved because the owner of the Danhai Light Rail (Dept. of Rapid Transit Systems, New Taipei City) requested to change the project contract, resulting in the extension of the construction period.	Inheritance and Advance the Core Values

2.1.2 Operation Strategies

2.1.3 Response to Major Impacts

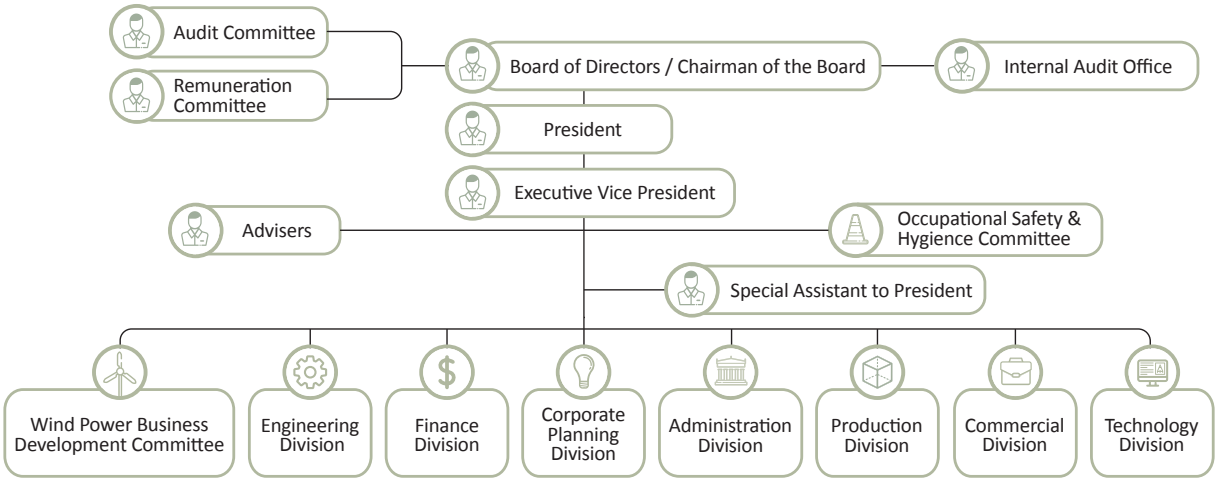
The estimations of global economy growths by International Monetary Fund (IMF) are 3.7% and 3.9% in 2018 and 2019, respectively, mainly due to across-the-board US tax cut that might boost regional investment and benefit its trading partners. However, IMF warns that global economy may be harmed in case of financial market downturn. Moreover, inflation will prompt Fed to hike interest rate that accelerates global financial tension and is negative to debt-laden nations. On top of warning over overheating financial market, IMF also adds soaring protectionism, geopolitical conflicts, and extreme weather which will put global economy at risk.

World Steel Association predicts that the steel demand in 2018 is better than 2017 that underpins steel industry positively. However, the rising protectionism, controversial EU immigration policy, North Korea nuke threat, and Free Trade Agreement (FTA) renegotiation are wild cards. Steel demand in the Middle East is going slow due to low oil price, regional tension, high inflation, etc.

For the sales target for 2018, CSC is set to increase orders by establishing marketing channels, increasing overseas sales spots, and stabilizing customer relations. For increasing orders of high end products, CSC continues to strengthen customer relations, increase the supply of high-end and strategic steel products, dislodge production equipment bottlenecks, increase new equipment, and replace old equipment.

Potential Major Impacts	CSC Countermeasures
Steel capacity exceeds the demand in global markets.	Improve the ratio of high-end products to segment the market.
	Establish strategic partnership with important clients to expand market.
	Setting production bases, sale spots and coil centers in regional economic cooperation systems.
International trade protectionism keeps happening all over the world: the EU, the USA, China, and emerging economics 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 such as India.
	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.
Speedy development of global logistics causes the offshoring of downstream industries and reduction of domestic steel demand.	Actively seeking investment opportunities in downstream steel mills and other steel consuming industries.
China has changed into a net-export nation in steel. The global steel trade is filled with pressure.	Exporting high value-added and niche steel products.
FTA of other countries and FTA between China and South Korea will affect the export competitiveness of Taiwan	Assisting the government in FTA promotion.
BOF slag reutilization channels were blocked.	Enhancing self-management and control flow of BOF slag utilization and reversing the public misunderstanding of BOF slag.
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 Company Act and CSC's regulations, independent and non-independent directors are nominated and elected separately. There are currently 10 directors in the Board of Directors, of whom 3 are independent directors, 9 are male directors and 1 female director. The ages of directors are between 52 and 73.

Title	Name
Chairman	Chao-Tung Wong
Director	Feng-Sheng Wu
Director	Jih-Gang Liu
Director	Horng-Nan Lin
Director	Shyi-Chin Wang
Director	Cheng-I Weng
Director	Chao-Chin Wei

Title	Name	Major Education and Current Position
Independent Director	Min-Hsiung Hon	Ph.D. in Materials Science and Engineering, North Carolina State University, U.S.A. Emeritus Chair Professor, Department of Materials Science and Engineering, National Cheng Kung University
Independent Director	Shyue-Bin Chang	Ph.D. in Mechanical and Aerospace Engineering, Cornell University, U.S.A. Chair Professor, Dean of College of Mechatronic Engineering, and Dean of College of Informatics, Kao Yuan University
Independent Director	Lan-Feng Kao	Ph.D. in Accounting, National Cheng Kung University Professor, Department of Finance, National University of Kaohsiung

Note: Dec. 31, 2017. For details of the latest directors, please visit http://www.csc.com.tw/csc_e/cg/bi.html

Board's Important Resolutions

2017/03/22	Appropriation of distributable earnings for 2016; Date and venue for CSC's 2017 shareholders' meeting.
2017/05/10	Adjustment of employees' salary; Change of management positions to be effective on June 1, 2017.
2017/09/20	Fund endowment for CSC Group Education Foundation; Change of managerial personnel.
2017/12/20	CSC will invest 2.767 billion NTD in the project of revamping the iron ore and coal transport system and demolishing the existing transport equipment; Change of managerial personnel with effective date Jan. 1, 2018.

Committees of the Board

Audit Committee

The committee is composed of all Independent Directors. Its main responsibility is to assist the Board in overseeing integrity of the company's financial statements, independent auditors' 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 6 meetings in 2017.

- CSC's internal auditors have sent the audit and follow-up reports to the committee members periodically. To provide the Independent Directors with sufficient information, the internal auditors have also attended the quarterly meetings of the Audit Committee. The communication channel between the committee and the internal auditors functioned well in 2017.
- CSC's independent auditors have attended the quarterly meetings of the committee and discussed with the committee members about financial statements. According to their professional judgment, the independent auditors may request to communicate with the committee members in quarterly meeting or with Independent Directors in one-on-one meeting.

For attendance status and highlights of the communications, please visit http://www.csc.com.tw/csc_e/cg/bof.html

Remuneration Committee

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

2.4 Ethical Conduct

2.4.1 Regulations and Implementation

Avoiding Conflicts of Interest

The CSC Code of Ethics for Directors strictly stipulates avoiding conflicts of interest and sets anti-corruption principles. In addition, by Rules Governing the Conduct of the Board of Directors, if there is a conflict of interest for any director with respect to any agenda item 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. The Code of Ethics for First-Level Mangers and Above and the Ordinance for Avoiding Conflict of Interests specify the principles and penalty for employees.

Preventing Malpractice

CSC deems soliciting, accepting, and agreeing to accept bribes or other improper benefits from suppliers or stakeholders as serious misconducts. According to the Principles of Integrity and Ethical Management, all the directors, managers, and employees of CSC should not directly or indirectly provide, promise, ask or accept improper benefit, or violate integrity and laws

during commercial activities. According to the Political Donations Act, it is illegal for CSC to contribute to political donations. Political donations of CSC personnel are also bound by the Act and company regulations. In addition, CSC takes the following precautions:

Organizational Regulations	Stipulate moral requirements of CSC such as the Ethics Protocol for First-Level Mangers and Above, the Ordinance for Avoiding Interest Conflict, CSC Group Employees Ethics Standard.
Employee Training	New employees are trained on ethical practice and organizational regulations. Promotion of corporate culture is accessible to all employees through the CSC Semimonthly Journal and website.
Risk Assessment	The Internal Audit Office (IA) assesses risks and develops annual audit plans based on the assessments, complying with the Financial Supervisory Commission regulations.
Self-inspection	Every year, 44 departments, 8 divisions (including Wind Power Business Development Committee), and 24 subsidiaries compile self-inspection reports to be reviewed by IA and presented to the President.
Complaint Channels	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. Information is also noted in the procurement inquiry (in the e-commerce system) for reporting of malpractice, bribery, and fraud. Complaints are collected and processed by IA. In 2017, 33 cases were received, all carefully examined and processed with the cooperation of all units. No case was with major drawbacks or serious loss of corporate profits.
Countermeasures against Misconduct	All cases of misconduct are reviewed by the Rewards and Punishments Review Committee and dealt with accordingly.

Socializing Guidelines

- CSC Rules Governing Gifts, Benefits, Banquets, and Social Activities Operations provide guidelines for the engagement of CSC employees in socializing activities. Items of value offered by stakeholders during business interactions, unless otherwise specified, shall be rejected or returned. If failed to be returned, the items shall be reported and sent to the General Affairs DepÅt. for handling.
- IA collects lobbying cases and reports to the Chairman and in the board meetings. In 2017, 22 cases were collected, all incorporated into auditing reports for tracking and emailed to independent directors.
- CSC Rules Governing CSC Employee Participation in Business Related Banquets provide guidelines for the participation of CSC employees in banquets for the development of external relationships.

2.4.2 Internal Auditing and Correction

The Internal Audit Office (IA) is under the Board of Directors. The chief auditor reports audit performances to the Audit Committee on a regular basis and attends the board meeting to report the status of internal control. Main purposes of internal auditing are to assist the Board and managers 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.

Correction and Operation

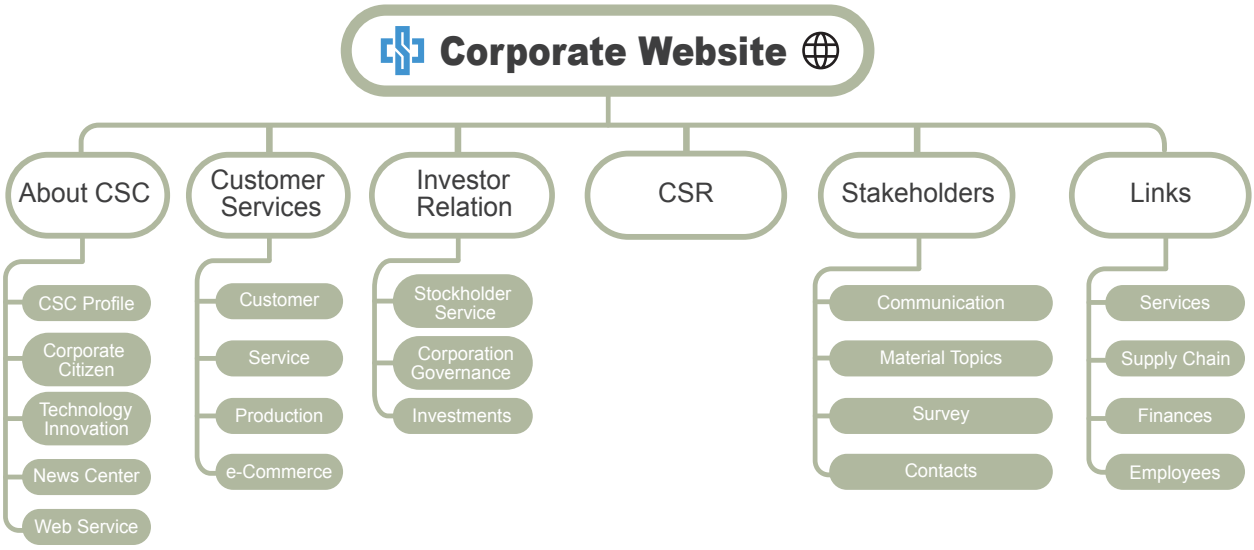
- Control key points of 8 operations: IA requested that related units revise internal control procedures and control key points of 8 operations, and assisted subsidiaries to revise their regulations for internal control systems, practice details of internal auditing, and procedures of internal control self-assessment in 2017.

- Internal control system: IA reviewed internal control system self-assessment reports of divisions and subsidiaries in 2017 and prepared a summary report combining all reviews. The summary report serves as the primary basis for evaluating the overall efficacy of all internal control systems and to produce internal control system statements.
- 8 transaction cycles: Audit items of 2017 include the procedure of 8 transaction cycles, crosschecking functions between systems, compliance with Financial Supervisory Commission regulations, and internal control systems of subsidiaries. A total of 52 auditing reports and 468 suggestions of improvement were proposed, subject to timely improvement measures by audited units and subsidiaries and filing in the CSC IA management system for follow-up. Audit items are submitted to supervisors and independent directors for review.

2.4.3 Information Transparency

CSC regards information disclosure as an essential element of corporate governance. To ensure transparency of information, CSC makes filings through designated 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 hotline, spokesperson, and designated media contact.

To strengthen corporate governance, Financial Supervisory Commission has instructed Taiwan Stock Exchange Corporate Governance Center, coordinating with Taipei Exchange, to establish Corporate Governance Evaluation System in 2014. CSC's corporate governance performance was continuously ranked top 20% in TWSE listed companies, and achieved top 5% in the second Corporate Governance Evaluation. As a result of the aforementioned excellent performance, CSC was selected as a component of TWSE Corporate Governance 100 Index. CSC is also the constituent of FTSE4Good Emerging Index and FTSE4Good TIP Taiwan ESG Index, showing our strong commitment to corporate social responsibility and corporate governance. In 2017, CSC was awarded the best IR in materials sector of IR Magazine Award - Greater China 2017 as a certificate for CSC's constant communications with investors and successful investor relations management.



2.4.4 Fair Trade

As the crude steel production in Taiwan is lower than demand, a considerable amount of semi-finished and finished steel products is imported every year. After import tariff was reduced to zero in 2004, market competition became fierce, and monopolization no longer exists. In compliance with Taiwan Fair Trade Act, CSC and affiliates do not engage in price fixing. In addition, CSC offers consistent pricing to affiliates as to other customers in accordance with accounting regulations. Overseas subsidiaries and trading partners are treated fairly and equally in terms of commission and service charges, and all transactions with related parties are subject to accounting audits.

2.5 Risk Management

In CSC there are three levels for risk control: Level 1: The responsible departments take the responsibility of risk detection, evaluation, control, and setup of prevention schemes. Level 2: The President and VPs hold committees and meetings for risk assessment and feasibility study for the prevention schemes, while the Legal Office and Internal Audit Office (IA) provide legal opinions and control points setting. Level 3: The Audit Committee and the Board of Directors review and approve the risk assessment and prevention schemes. IA selectively examines and evaluates the risks and report to the Audit Committee and the Board. In CSC, risk control is the responsibility of all employees. It is prevented layer by layer through daily routines and is not only controlled by specific departments. We believe this is the best way to implement risk control.

The Secretariat Dept. leads to set long-term strategies and targets, while the Industrial Engineering Dept. leads to set yearly strategies and targets. Risk assessment is included in the setting and tracking of strategies and targets for each department by the Industrial Engineering Dept. Cross-departmental task forces may be set to perform risk detection, assessment, and prevention. IA periodically audits operational items of business cycles for identification, adjustment, and prevention of risks.

At the beginning of every year, from bottom to the top, each department performs risk assessment for operational tasks and compiles a self-assessment report to be reviewed by IA. Each division performs risk assessment of transaction cycles and compiles a self-assessment report to be reviewed by the President. IA's report and self-assessment reports are sent to the Audit Committee and the Board for review and approval. The risk management in CSC is rigorous and effective.

Type	Potential Risks	Risk Control Strategies and Measures
Finance Risk	Exchange Rate Risk	Adopt hedging operation for foreign currencies of import/export businesses to avoid risk. Monitor the trend of exchange rate and buy or sell currencies adequately to avoid risk. Adopt exchange rate risk avoiding operation soon after foreign capital expenditures. Take out loans of equivalent amounts of foreign currencies for long-term foreign investment.
	Rising Interest Rates	Set a strict tolerance rate for variable interest rate liabilities. Issue corporate bonds to lock the mid-term and long-term capital cost and avoid increasing interest rates. Use low interest rate commercial papers and short-term bank loans for short-term financing. Adopt adjustable fixed rate commercial papers (FRCP) for long-term financing during the time of a relaxed capital market.
	Inflation Risk	Monitor the effect of inflation on company's operation. Since the material price is near the lowest point of recent years, it is unlikely for CSC to face inflation risk.
	Pickup by Customers	Assist customers in increasing bank credit amounts by negotiating with banks for forfaiting of account receivables. Use e-commerce and security mechanisms of digital signatures to simplify payment procedures.
	Service Quality	Monitor the correct operation of e-security mechanisms and computerize financial operations to ensure data accuracy and timelines.
	Capital Utilization Efficiency of CSC Group	Use various indicators to regularly analyze financial structures of group affiliates and set up an alarm mechanism. Conduct real-time monitoring of financial asset values to enhance capital management among group affiliates and improve the capital utilization efficiency.

Type	Potential Risks	Risk Control Strategies and Measures
Production Risk	Economic Recession	Simulate and plan for production and sales situations based on orders estimation. Coordinate cast quota. Adjust blast furnace production and maintenance schedule according to storage capacity. Adjust production line quarterly/yearly maintenance schedule. Adjust storage control limits of raw material shipping schedule according to the production of molten iron. Outsource rolling when necessary.
Market Risk	Concentrated sales	Adopt marketing channel strategy of "mainly domestic sales, export sales as a supplement" and make adjustments according to market changes. Set up overseas coil centers to manage and control marketing channels.
	Imbalanced Production and Sales	Simulate production and sales conditions based on orders received to timely adjust production plans.
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.
	Shipment of Finished Goods	The buyer bears all risks of loss or damage to the goods from the time they have been delivered on board the nominated vessel. For domestic in-land transportation, all the contractors are requested to provide security deposit in bank for guaranteeing goods reach their destination safely.
Raw Material Source Risk	Interruption of Supply	For suppliers: carefully assess and actively develop material sources. For stocks: maintain adequate stocks for production flexibly. 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 business information collection and investigation of plants.
	Material Investment	Choose carefully miners and/or partners for raw materials resources investment, hire advisors to assist with feasibility evaluation, conduct on-site due diligence on the project and miners, convene meetings for comprehensive evaluations, monitor the operation and development of and participate in the decision making of the invested projects and/or companies.
Information System Risk	Information System Abnormality	Standardized operation procedures. Enforce disaster prevention, information safety, monitoring, reporting mechanism, abnormality management, and back up. Carry out training and periodic drills.
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 and Linhai) reclaimed water recycling projects.
	Stricter Regulations	Comply with regulations to ensure the quality of effluent meets standards.

Type	Potential Risks	Risk Control Strategies and Measures
Equipment Maintenance Risk	Machinery Equipment Maintenance	Spare parts maintenance control: Maintain appropriate inventory level. Enhance information management. Promote domestic manufacturing. Maintenance records establishment: Decrease equipment unscheduled downtimes through equipment shutdown and failure management. Knowledge management in maintenance: Design comprehensive recruiting plans and encourage skilled technicians to participate in the apprenticeship program for smooth transitions from the experienced to the younger generations, and use information tools to enhance knowledge management.
	Electrical Equipment Maintenance	Practice the IATF 16949 Standard Maintenance Procedure. Practice the ISO 9000 Standard System Development Procedure. Establish "Information Safety Management Regulations of Production Division" with reference to ISO 17799.
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 energy saving and carbon reduction steel products and perform LCA. Develop new green businesses; participate in local and international cooperative initiatives and activities for carbon reduction, capture and storage, and credit. Promote low-carbon lifestyle to CSC Group.
ESH 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. Enhance risk control and management for resource utilization and products.
	Administrative Justice	Watch for the imposition of various types of environmental and energy taxes to ensure that they are just.
Engineering Management Risk	Internal Management	Develop engineering management system and capital expenditure management system for control and management of labor safety, quality, schedules, and budgets.
	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.

3

VALUE CREATION

3.1 Operational Finance
3.2 Product Quality
3.3 Research Innovation
3.4 Green Development
3.5 Customer Service

3.1 Operational Finance

3.1.1 Cost Control

The steel industry is capital-intensive for production equipment demands huge amount of investment and coal and iron materials account for a high percentage of production cost. To control costs and maintain competitiveness, CSC implements various projects. The initiative of cost saving is an important strategy and a key factor to success for the steel industry. CSC continues to systematically reduce operating costs by using scientific methods on raw materials utilization, process improvement, technology R&D, quality upgrades, management improvement, intelligent production-sales, and Industry 4.0. Divisions monthly review executive results and quarterly reports in Total Quality Management (TQM) Committee and Operational Budget Execution Review meetings for timely improvement.

In 2017, 246 major items of Cost Reduction Activities were planned for implementation with cost reduction target of 3.25 billion NTD. Including the reduction from controllable costs of general affairs, the total cost reduction was 3.96 billion NTD, achieving 122% of the annual target. In 2018, 249 major items of Cost Reduction Activities are planned for implementation with cost reduction target of 3.8 billion NTD.

Cost Reduction Activities

(bi. NTD)	2013	2014	2015	2016	2017	2018
Target	4.08	3.70	3.50	3.80	3.25	3.80
Performance	5.52	4.39	4.84	4.05	3.96	

3.1.2 Business Performances

Operating Revenues

(1,000 NTD)	2016	2017	Increase/Decrease from 2016 to 2017
Sales Revenues	163,894,831	201,669,087	Increased 37,774,256 due to the increase in sales quantity.
Service Revenues	5,032,244	5,429,543	Increased 397,299 due to the increase in construction revenues.
Total Operating Revenues	168,927,075	207,098,630	Increased 38,171,555.

Note: For detailed financial information, please visit ⊕ http://www.csc.com.tw/csc_e/ss/fin_month.htm

Operating Expenses

(1,000 NTD)	2016	2017	Increase/Decrease from 2016 to 2017	Change Rate (%)
Operating Costs	147,174,784	187,568,805	40,394,021	27%
Cost of Goods Sold	143,177,939	181,850,825	38,672,886	27%
Service Costs and Others	3,996,845	5,717,980	1,721,135	43%
Operating Expenses	8,286,601	8,101,943	-184,658	-2%
Total	155,461,385	195,670,748	40,209,363	26%

Net Profile and Earnings

	2015	2016	2017
Operating Revenues (100 mi. NTD)	1,609.09	1,689.27	2,070.99
Net Profit before Income Tax (100 mi. NTD)	83.16	180.33	185.21
Net Profit for the year Tax (100 mi. NTD)	76.05	160.38	169.06
EPS (after Tax; NTD)	0.49	1.04	1.09

Note: Numbers are shown according to IFRSs.

Dividend Distribution

In 2017, earnings available for distribution totaled 18.348 billion NTD, with dividend distribution of 1.4 NTD per preferred share and 0.88 per common share. Dividend distribution and return on investment over the past five years are as follows:

	2013	2014	2015	2016	2017
EPS (NTD)	1.05	1.43	0.49	1.04	1.09
Cash Dividend (NTD)	0.7	1	0.5	0.85	0.88
Stock Dividend (NTD)	0.2	0	0	0	0
Dividend Payout Ratio	85.70%	69.90%	102.04%	81.73%	80.73%

Note: Dividend distribution of 2017 will be in effect after approval of shareholder meeting on 21 June 2018.

	2013	2014	2015	2016	2017
P/E Ratio (NTD)	11.27	17.98	46.47	20.96	22.86
P/D Ratio (NTD)	16.03	25.71	45.54	25.65	28.32
Cash Dividend Yield	6.24%	3.89%	2.20%	3.90%	3.53%

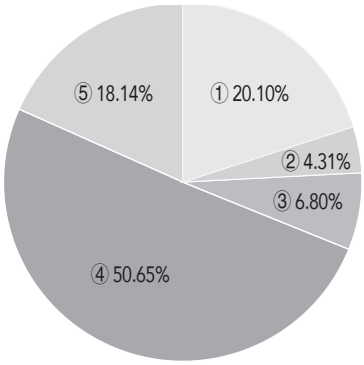
Note: P/E Ratio = Average closing price per share for current year / EPS, P/D Ratio = Average closing price per share for current year / cash dividend per share, Cash Dividend Yield = Cash dividend per share / average closing price per share for current year

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

3.1.3 Shareholder Structure and Subsidies

Shareholder Structure, 2017

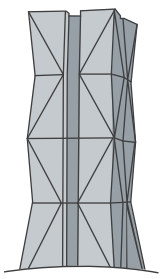
①	Government (state-owned) institutions	②	Domestic financial institutions
③	Domestic securities investment funds	④	Domestic natural persons and other juristic persons
⑤	Foreign natural persons, juristic persons, trust funds, and investment (including depositary receipts)		



According to Article 10 of Statute for Industria I Innovation, CSC's expenditure on R&D is credited against its income tax payable. CSC does not accept other governmental subsidies. In 2017, the amount of the tax credit applied for R&D expense was 10,866 thousand NTD.

3.1.4 Invested Businesses

At present, the scope of the CSC Group's business encompasses five major domains: steel, engineering, industrial materials, trading & logistics, and services & investments. The combined annual revenue of the 25 companies in the CSC Group is approximately 350 billion NTD. In the future, the CSC Group will collaborate with the companies of the Group to heighten the values of its products actively and innovatively to enhance its international competitiveness. Moreover, it will invest in new businesses with potential domestically and overseas to expand its business territories, which will enable the CSC Group to become one of the global groups with distinction.



Business	Subsidiaries and Affiliates
Steel	Dragon Steel, Chung Hung Steel, CSC Steel Sdn. Bhd., China Steel Sumikin Vietnam, China Steel Corporation India
Engineering	China Steel Machinery, China Ecotek, China Steel Structure, InfoChamp Systems
Industrial Materials	C.S. Aluminum, China Steel Chemical, CHC Resources, HIMAG Magnetic, Changzhou China Steel Precision Materials, China Steel Resources, CSC Precision Metal Industrial
Trading & Logistics	China Steel Express, China Steel Global Trading, China Steel Precision Metals Qingdao, China Steel Precision Metals Kunshan
Services & Investments	GAINS Investment, China Steel Security, China Prosperity Development, China Steel Management Consulting, CSC Solar

For detailed operating performance, please visit http://www.csc.com.tw/csc_e/hr/csr/in/in3.htm

3.2 Product Quality

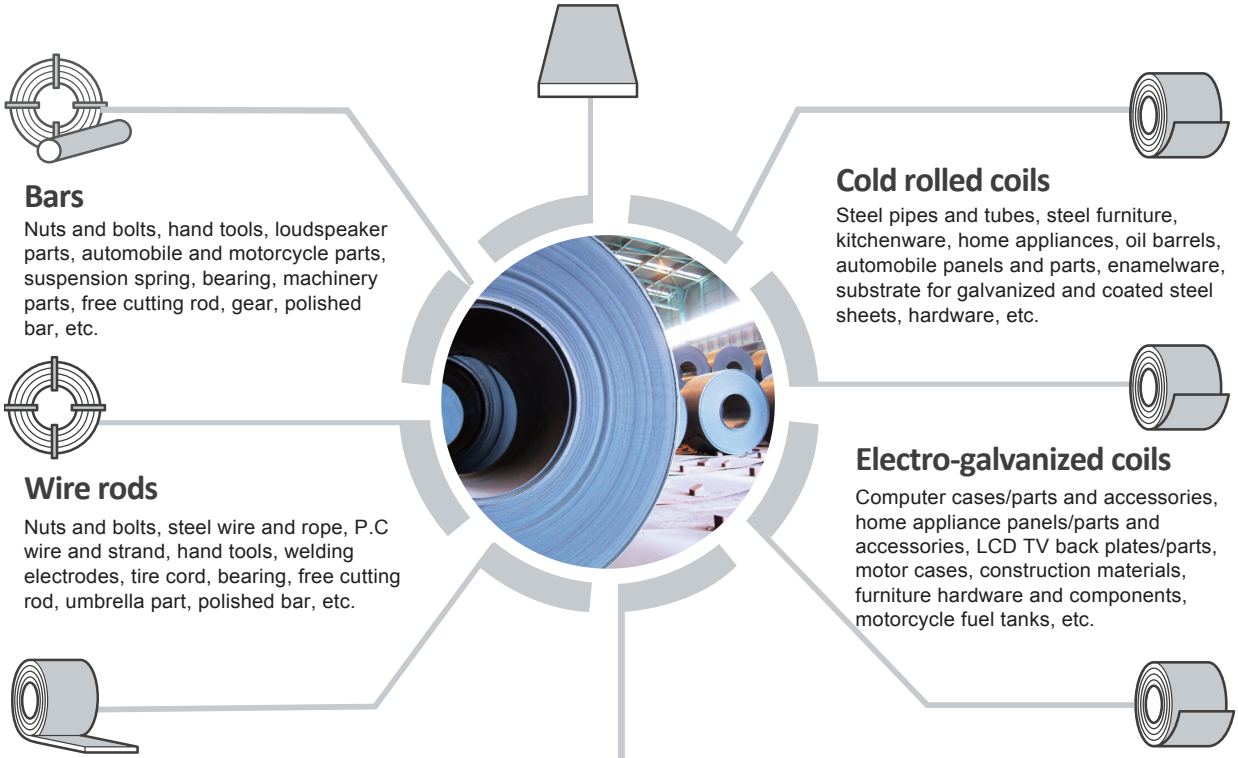
The major products of CSC are steel plates, steel bars, wire rods, hot-rolled coils and sheets, cold-rolled coils, electro-galvanized coils, hot-dip galvanized coils, electrical steel coils, and so on. CSC follows the quality policy, "based on customer orientation to keep the innovation of R&D, provide excellent and eco-friendly products and consequently fulfill responsibility to society". In order to win the appreciation and trust of customers and to assist customers to succeed, CSC adopts two policies, "R&D the advanced products to speed up the development of new products and strategic steel products, and upgrade to increase the value" and "Try best to save energy, reduce GHG emissions, and improve the value of by-product gas, and inhibit the hazardous substance, and fulfill corporate social responsibilities" to develop all kinds of operational activities.

3.2.1 Major Products and Usage

The production of crude steel in 2017 was 9,203,642 t, reducing by 417,093 t compared to 9,620,735 t in 2016, and the declining rate is about 4.34%. The productivity of employees is 897.83 tCS/per person per year.

Plates

Shipbuilding, bridges, steel structures, oil country tubular goods (OCTGs), storage tanks, boilers, pressure vessels, die, truck chassis, general construction, etc.



Bars

Nuts and bolts, hand tools, loudspeaker parts, automobile and motorcycle parts, suspension spring, bearing, machinery parts, free cutting rod, gear, polished bar, 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.

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.

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 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.

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

EV Motors, compressors, home appliance motors, servomotors, industrial motors, machinery motors, generators, transformers, reactors, traditional ballast, etc.

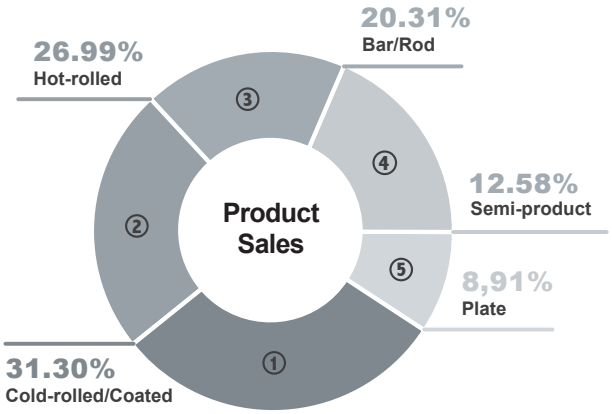
Production

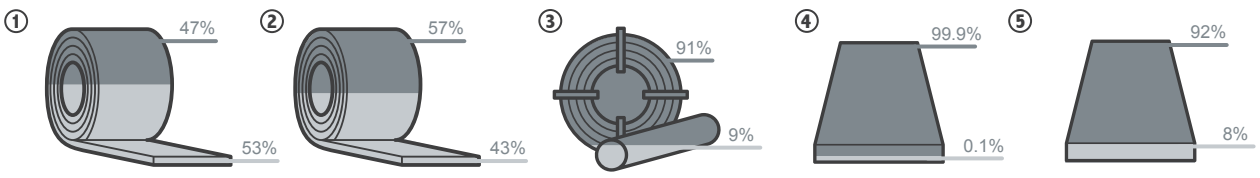
(10,000 t)	2013	2014	2015	2016	2017
Steel plate	94.2	96.4	92.1	95.4	87.2
Steel bar	59.9	62.1	55.3	57.2	61.6
Steel wire rod	132.8	131.7	118.4	129.4	131.9
Hot rolled	216.2	237.6	202.4	230.2	238.8
Cold rolled	358.5	365.9	310.5	329.1	342.1
Slab	21.3	9.8	34.8	72.9	20.5
Cast iron	0.5	0.5	0.7	0.9	1.1
Total	883.4	904	814.2	915.3	883.2

3.2.2 Product Sales

In 2017, the total sales of steel products was 10.846 Mt, with the main items of cold-rolled/coated products 31.30% and hot-rolled products 26.99%. Domestic sales accounted for 69.43% (7.531 Mt) and export sales accounted for 30.57% (3.316 Mt), with the major exporting markets of China, Japan, and Southeast Asia.

Product Sales, 2017





Cold-rolled/Coated
3,394,421 t
● 1,611,435 t
● 1,782,986 t

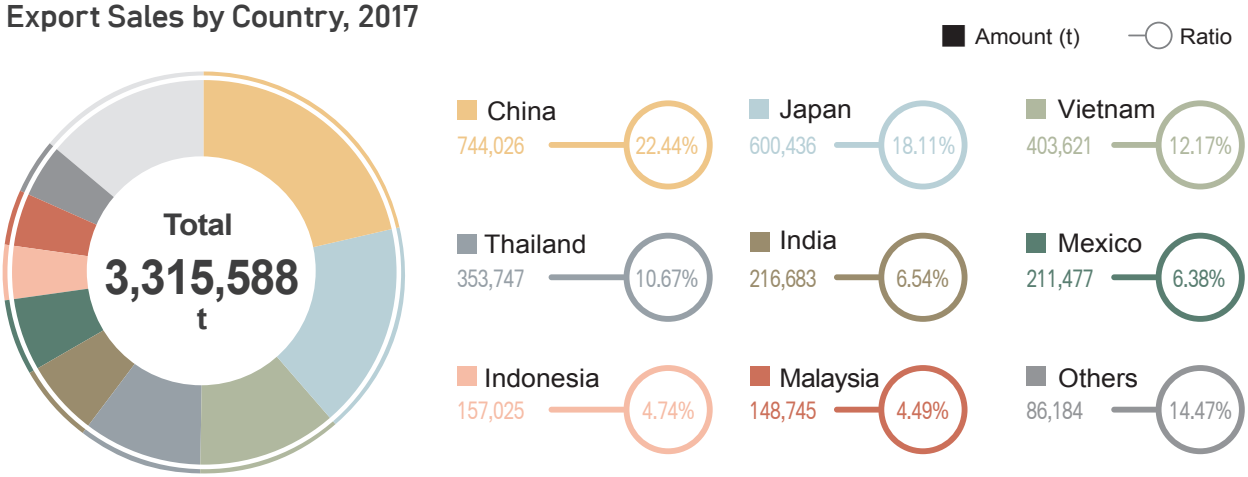
Hot-rolled
2,927,654 t
● 1,670,367 t
● 1,247,674 t

Bar/Rod
2,203,249 t
● 1,998,465 t
● 204,784 t

Semi-product
1,364,151 t
● 1,362,217 t
● 1,934 t

Plate
966,399 t
● 888,189 t
● 78,211 t

Export Sales by Country, 2017



3.2.3 Quality Control

The principles of CSC's quality control system are as follows:

- Following the guides of the quality policy that stresses on customers' needs, the necessary processes to identify the quality management system include 10 customer-oriented processes, 9 supporting processes, and 7 management processes. And the quality policy is promoted through the process approach to demonstrate the effectiveness of the systematic operation.
- Carefully evaluating the company's context and visions, CSC sets operating strategies and provides sufficient resources to each procedure and management activity.
- Customer satisfaction is the target for all the processes; CSC provides high-quality products with no hazardous substances.
- CSC monitors, measures, and analyzes all products and processes to keep improving the system and make it sustainable through internal and external audits, corrective action, preventive action, product quality and process improvement projects, management reviews, and other activities.

Under the principles, all business activities follow the quality policy and strategies. In 2017, the ratio of premium product orders was 46.98%, achieving the annual target, and other aspects such as new product development, process improvement, and quality management system also had good performances.

Quality Management System Certification

In 2017, CSC passed the following system certifications and product certifications, which are helpful to the export sales of steel products and special alloy products: (1) New-version certification of the four big Quality Management Systems for Steel and Special Alloy Products (ISO 9001, IATF 16949, ISO 13485, and AS9100); (2) Product certification of Malaysia CIDB, in response to the construction rules of Malaysia (first time); (3) Product certification of Thailand TISI, Malaysia SIRIM, Indonesia SNI, NV QT3, and EN CE Mark (annual survey).

Hazardous Substance Control

The index of "the qualified rate of the hazardous substance in steel products and special alloy products (including outsourcing process products) meeting the regulations" was incorporated into the target of business management to be tracked. In 2017, the qualified rate was kept at 100%, indicating that CSC has never added any hazardous substance in production and so all products always meet the requirements of national and international regulations. CSC also obeys the bans imposed by the EU on RoHS restriction requirements regarding Cd, Hg, Pb, Cr(VI), PBB, PBDE, and 174 items of REACH (Registration, Evaluation and Authorization of Chemical Substances) SVHC (Substances of Very High Concern) list.

3.3 Research Innovation

3.3.1 R&D Concepts and Strategies

Only through consistent innovation can a company achieve sustainable development. CSC follows the concept of five I, Information, Imagination, Ideation, Innovation, and Implementation, to stimulate endless capability of innovation. Innovative thinking is inspired by collecting and studying external information, followed by formation of a logical, organized, and complete conception, which is put into practice by project researching. Research results of applicable new knowledge as well as technology in process and products are ultimately implemented on site and market, respectively. Substantial benefits are thus created.

The R&D of CSC includes two fields, iron and steel as well as non-ferrous. The major research objective of the former field comprise

Product development	developing high quality and high grade 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 but diverse production capability of pure refining and tight rolling technology
Enabling technology	applying cutting edge technology to multiply the capability of equipment
Energy conservation and environment protection	enhancing the efficiency of energy use and pollution prevention technology, furthering energy conservation and emission reduction to create sustainable environment

As for the latter field, by extending the application of existing core technology and integrating external resources, essential materials, such as special steel, high quality aluminum, refractories, special chemicals, and environmental friendly catalysts which are steel relevant, and non-ferrous alloy, fine carbon, magnetic, thermoelectric, and photoelectric materials which are for industry demand, were developed.

3.3.2 Major Research Results

For detailed research results, please visit http://www.csc.com.tw/csc_e/hr/csr/in/in6.htm

Development of Direct Quenching (DQ) process in CSC plate mill	To upgrade process capability of plate mill into DQ category, research works based on automation system design, quenching theory analysis, and online trials have been carried out. A new cooling platform capable of online quenching hot rolled steel plate was built up. With the development, CSC has extended its product portfolio to wear-resistant grade, offshore structure grade, naval grade, and high strength structure grade which will lead to considerable economic and social benefits.
Copper stave thickness calculated model of No.1 and No.2 blast furnace in CSC	This study set up a new technology to evaluate stave thickness by using body temperature algorithm. The new monitoring system can monitor thickness real time and comprehensively by using calculated model and ultrasonic measured method. The system was installed on No.1 and No.2 blast furnace in CSC to monitor the thickness of copper stave. The operator can adjust operation conditions based on the calculated model to avoid wearing.
Improvement of air pollution prevention capacity of Sintering Plant FGD	FGD of No.4, 3, and 2 Sinter Plants in CSC went online in 2013, 2014, and 2017, respectively, and the sinter plants desulfurization efficiency were all firmly above 93% so far. The total emission reduction of SOx reached 4,678 t/year. With interdepartmental cooperation, the innovative removal mechanisms and measured technologies were developed. It is certified that the fully synergistic efficiency of sinter plant FGD's air pollution control can reach the target of reducing 265 t dust and 59 t VOCs each year.
Development of AA6022-T4 autobody aluminum sheets with high strength and formability	The Aluminum Product R&D Section has engaged furtherly on the study of AA6022-T4 alloy which has both excellent formability and high post-baked strength. This process was transferred to the CSAC plant, along with the established simulation program for continue annealing line. The expected aim has been achieved as a result of successful plant tryout and then smooth formal delivery for domestic AM stamping companies.

Operation of Joint Research Lab (JRL) for Auto Steel Studies and Application	With the technology developments through the platform of JRL with HAITEC, Honley Auto Parts Co. passed the qualified supplier's evaluation and is ready to start the mass production of hot stamping B pillars with CSC's new AO-coating steel for HAITEC. Honley has also received a new order to make another 13 hot stamping parts with the AO-coating steel for HAITEC's upcoming new car. Through JRL with the GSK Group, the fine blanking and carburizing heat treatment technologies needed to produce the automobile seat recliner part was developed. Due to the success of this cooperation, CSC's C60E and 980YH steels have been applied to GSK Group's automobile seat products and the result of this study had received the "President's Award for R&D Study" inside CSC and the "Special Contribution Award" from GSK Group in 2017.
Development and application of Personal Emergency Call and Monitoring System (PEMS) and Active Access Control System (AACS)	The PEMS provides important safety functions, such as real-time positioning, emergency call, fall detection, and alarm. All information is automatically transmitted back to the application system. It was applied to status monitoring of workers working inside the uptake and downcomer during No.3 blast furnace overhaul. The AACS was used for access control of workers entering or leaving cooling machine zone of No.4 sinter plant. It provides exact information on the number of workers inside to guarantee the safety of every worker.

Achievements of New Product Development

In 2017, 40 projects were developed. The highlights are as follows:

- Plate: Development of naval ships steel was certified by CR Classification Society that may cope with government's strategic program of self-built warship to enhance the capability of autonomous defense and military power.
- Bar and rod: Spray welding steel EH12KM, mainly used for automobile engine cylinder, was developed with strictly controlled composition and has been approved as a quality product by the feedback of excellent drawability from customers.
- Hot rolled sheet: CSC ACR-TEN 550Y high-strength thin steel featured with good atmospheric corrosion resistance was developed that can achieve the environmental energy-saving objective while decreasing customer's cost.
- Cold-rolled sheet: The development of SAE HSLA (High Strength Low Alloy) 490XF fulfilled the demand of high-strength structural parts in the automobile market.
- Hot-dip galvanized sheet: The hot-dip galvanized HSLA steel CNS 1244 SGC540 was developed and has been adopted by IKEA. The new steel possesses higher strength, better anti-fatigue, and better forming properties.
- Electrical steel: The 25CS1250HF featured with thin gauge and low iron loss was developed to fulfill the requirements of fast-growing driving motors of new energy vehicles.
- Special alloy stainless products: The JIS SUS 316LS stainless plate using on-line solid solution and ASTM B424 UNS N8828 plates were developed that is suitable for the application of anti-corrosion vessels and supportive parts.

Enhancements of Process Technology

- Steelmaking process: SWRY11M, the low-hydrogen type welding rod for high tension stress steel with limited aluminum and silicon contents, was successfully manufactured using ladle refining techniques. The transversal crack on the slab and the edge seam on coil were noticeably improved by introducing the chamfering mold continuous casting technique.
- Plate: The stress-relief-annealing adopted in SM570M grade was replaced with a cold-leveling method that may reduce the production cost for 13.3 mi. NTD/year and decrease the scrap loss up to 752.5 t/year, equivalent to saving 10.7 mi. NTD/year.
- Bar and rod: A management system of rust inspection and prevention was developed, which may help work out a dynamic schedule for rust inspection depending on the rainy season or not when associated with the climate information from Central Weather Bureau in due course to reduce the rusty rate of the coils. The rejected rusty quantity was reduced from 1,617 t of 2016 to 45 t of 2017.
- Hot rolled sheet: The Intelligent Auto Steering control system was developed to undertake automatic control rolling through online data analysis that may reduce the deflection of the steel strip. The rejection rate was reduced from 0.24% to 0.07%, saving production cost up to 45.46 mi. NTD/year.
- Cold rolled sheet: 780 MPa grade dual-phase steel and S20C low carbon steel used for the clutch were improved in process technology and product quality that have raised the yield ratio and reduced customer's risk of working failure.
- Hot-dip galvanized sheet: A quality management system of slabs was established in manufacturing SGCC grade used for computer cases, where slabs are separately treated depending on the quality category to lower the rejection rate.

- Electrical steel: An integrated process-linking technology for high-grade electrical steel was established to improve the magnetic properties of the product effectively.
- Special alloy wires: A hot-drawing technique was established to replace the cold-drawing one that has saved 7-time off-line pre-coating processes for 28 hr/100 kg and transferred 7-time cold-drawing to 6-time hot-drawing, reducing the processing time for 4 hr/100 kg.

3.3.3 Patent Management

CSC encourages technical innovations and protects intellectual property through Patent Promotion Committee. The Chairman and the President reward units of excellent patent activities in Outstanding Patent Promotion Awards every year. Moreover, the patent application bonuses are issued each month. In 2017, CSC has built a comprehensive patent portfolio and 1,546 applicants have been awarded the bonuses. Every year the patent engineer group organizes IP trainings designed closely linked to job field of new employees and patent reviewers for effectively strengthening the concept and practical application of intellectual property.

Upholding Values of "Down-to-earthiness" and "Pursuit of innovation", CSC develops the patent strategy and achieves the goal progressively by filing patents. According to public data of Intellectual Property Office, there were 203 patents filed and 223 patents granted in 2017. These patent numbers rank first in the domestic traditional industry and shows the achievements of protecting IP rights.

To seek greater economic benefits, CSC shows the added value of patents and activates the intangible assets vigorously. After choosing non-core technology patents with techniques in mature phases and higher market values, the promotion team holds meetings and negotiates license agreement with potential licensees. In 2017, 18 patents, including "Process technology for manufacturing supercapacitor electrode", "Blast furnace stock level measurement system" and "ifurnace", were licensed to other companies. It is estimated that about 100 mi. NTD of royalties, which is considered as additional revenue to CSC, will be available within 5 years.

Patent Achievements

*Top 100 rankings of legal persons' patents

	2013	2014	2015	2016	2017
Filings	220	236	171	230	203
Grants	190	247	275	269	223
*Top 100 Rankings of Filings	12	8	12	6	9
*Top 100 Rankings of Grants	19	10	10	8	6

3.4 Green Development

3.4.1 Green and Premium Products

As an upstream supplier in the supply chain of steels, CSC plays an important role in R&D and the promotion of green steel products. Over the years, CSC has been dedicating to the development of high-quality steels. In 2017, the ratio of premium product orders rose up to 46.98%; on top of that 3.814 Mt green products were included that helped save energy and reduce carbon emission to an estimated amount of 7.095 Mt. Major eco steel products applied in the green supply chain are as follows:

- Wind tower steel: S355NL with thickness 50-80mm was developed to cope with government's programs. It possesses excellent weldability and toughness at low temperature that can apply to the structure of wind tower, and it reduces the usage quantity of steel in construction.
- Abrasion-resistant steel plate: CSC PA400H with thickness 12-32mm possesses excellent abrasion resistance and good weldability. Not only enhancing abrasion resistance but also prolonging the life of equipment and reducing replacement frequency, it is suitable for the application of heavy machinery in the mining industry.

- Automotive high strength hot-rolled, cold-rolled, and hot dip galvanized steels: It can strengthen the safety of automobile body structure, reduce the weight of the vehicle body, and improve fuel efficiency to reduce fuel consumption.
- Cr-free anti-finger-print and passivation treatments for galvanized (EG/GI) steels: Products with chemical treatments, completely free of hazardous substances like Cr(VI), were developed for the applications in 3C, home appliances, furniture, and structural components. They are not harmful to human body and may prolong the product lifecycle. Examples that have been put into practice are the NMP-free anti-fingerprint treatment, the deep-drawing-oriented Cr-free lubrication treatment for GI, and amine-free treatment for EG for applications in satellite dish brackets, motor cases, and multi-functional printers.
- Top grade and thin gauge of electrical steel: These products that can decrease the temperature rise, reduce motor weight, save material, and raise the efficiency of motors will widely apply to electric vehicles and compressors.
- Cr-free coating for high silicon content of electrical steel: Free from hazardous substances like Cr(VI) to cope with the eco-friendly tendency, the product can be applied to the driving motors of new energy vehicle.

Carbon Footprint and Life Cycle Assessment

According to PAS 2050, CSC has completed the carbon footprint analysis of 20 types of steel products in 2012 and passed third-party verification. In 2017, CSC processed carbon footprint analysis again to update activity data and emission factors in accordance with ISO/TS 14067. CSC provides certificated carbon footprint information for customers.

A part of CSC's steel products creates carbon reduction benefits in the downstream manufacturing and the usage phase of final products. CSC's non-quenched and tempered (NQT) steel (30/36MnVS6) is one of the cases for saving heat treatment, transportation, and sand blasting operation in the manufacturing of vehicles' control arm via CSC's customer, King Duan Industrial Co. For well evaluating the benefits of CSC's NQT steel, Life Cycle Assessment (LCA) method was used to carry out an investigation. CSC, King Duan, Industrial Technology Research Institute, Taiwan Forging Association, and Environment & Development Foundation cooperated to implement a carbon footprint (CFP) certification project. The approach of this project included: set up a working team and established a Product Category Rule (PCR) for The Forging Parts for Motor Vehicles EPD-PCR V1.0 (2006); developed measuring and analysis methods to quantify the GHG emissions of 14 manufacturing processes; made carbon footprint inventories of heat treatment plant and calculated the GHG emissions through all processes; prepared CFP reporting and verified by third party, TÜV Rheinland. The results show that:

- the CFP of vehicles' control arm with quenched and tempered (QT) steel is 6.13 $kgCO_2e/kg$, and the GHG emission at heat treatment is 25% of all 14 manufacturing processes, demonstrating a high potential to reduce GHG;
- the CFP of vehicles' control arm with CSC's NQT steel is 5.26 $kgCO_2e/kg$, saving heat treatment, transportation, and sand blasting operation with the benefit of 0.87 $kgCO_2e/kg$, a 32% reduction compared to CSC's rod and bar steel (2.70 $kgCO_2e/kg$);
- the quantitative benefit of NQT steel is verified by TÜV Rheinland.

The outcomes of this project include: PCR for The Forging Parts for Motor Vehicles was established and published for global reference; two CFP Verification Statements and a CFP comparable letter for vehicles' control arm made by QT and NQT steel were verified; 3-step official CFP examination of Taiwan EPA was applied and certified to include in official CFP database in Aug. 2017; Carbon Footprint Award by EPA in Nov. 2017; Public presentation and workshop for carbon reduction benefit with NQT steel at National Taipei University of Technology in Nov. 2017.

Water Footprint

With assistance of National Cheng-Kung University (NCKU), CSC obtained the certification of the water footprint for hot rolled coils in 2011, which is the first steel product water footprint in Taiwan. Though no client requested for water footprint information, CSC cooperated with NCKU to restart water footprint project for cold rolled products and was certified by SGS in 2016, showing willingness for cherishing water resource and readiness for the potential non-tariff obstacle.

3.4.2 Green Business Development

With the global trend of low-carbon economy, green industry and green growth becoming the focus of international competition,

CSC Group has long contributed to the improvement of environmental protection and R&D for green energy, including development and wide application of energy-saving steel products, recycle and reuse of resources, and energy integration. In recent years, CSC focuses carbon emission reduction and development of alternative energy.

Project	Summary	Performance	Prospect
Dyna RECHI Co., Ltd.	Dyna RECHI, jointly established by Rechi Precision and CSC, is a manufacturer of brushless DC motor (BLDC).	The total design capacity of the two factories, located in Pingtung, Taiwan, and Juijiang, China, are 24 million sets of motor per annum. The production lines are in commission and Dyna Rechi is actively working on product certification and promotion.	By taking advantage of the trends of energy saving and carbon reduction, we will continue to assist in the forming of industrial clusters and in enhancing the competitiveness of Taiwanese motor industry.
Honley Auto Parts Co., Ltd.	CSC has entered into the auto parts industry by setting up hot stamping parts plants with its strategic partners in Pingtung Taiwan, Changchun China, and Chongqing China.	Hot stamping parts plants can increase the sales of CSC automotive steel products and achieve the effects of energy saving and carbon reduction for the automotive industry.	Due to further demands for lightweight, energy saving, and safety for automobiles, the usage of hot stamping parts are expected to increase.
Fukuta Elec. & Mach. Co., Ltd.	Fukuta is the primary motor core supplier of TESLA. The key material, electric steel sheet, of Fukuta's motor core has been supplied by CSC exclusively from the very beginning of TESLA's trial production.	TESLA is the leading company of Electric Vehicle (EV) market of the world. In addition to being environmental friendly, its products are highly acclaimed in both performance and safety perspectives. Its global sales of EV reached 101,312 units in 2017.	The EV industry has enormous growth potential in the global trend of green energy.
CSC Solar Corp.	CSC Solar Corp., established in Oct. 2016, targets to set up an 80MW PV system from 2017 to 2019. After completion, power generation of the system is expected to reach 102 GWh per year.	It has set up 31.16MW PV system. The total power generation of 2017 is 3.94 GWh and the total reduction of CO_2 emissions is 2,084.3 t.	CSC Solar Corp. will be the largest roof PV power company in Taiwan. It will expand its business outward based on the construction experience and performance of PV system installation in CSC Group and increase the share of green power consumption as well as to achieve its social responsibility via further reduction of carbon emissions.

Wind Power

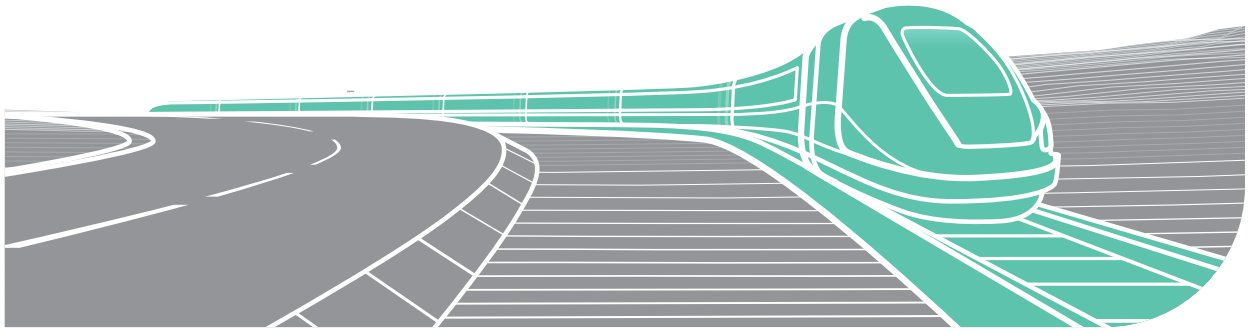
In order to promote offshore wind power, the government plans to reach an installation capacity target of 5.5 GW of offshore wind power upon 2025. It is estimated that it will bring nearly 1 trillion NTD of investment, create 20,000 jobs opportunities, and achieve the vision of a "nuclear-free homeland". Offshore wind power industry is the kind of renewable energy demanding the largest steel volume. Promotion of offshore wind power can not only increase CSC sales amount of steel but also support the government in developing green energy. CSC decided to devote itself into offshore wind power business mainly connected with steel-related field within its competence, including Sing Da Foundational Fabrication, #29 Wind Farm Development, and the promotion in localized Wind Turbine Supply Chain.

The achievements in 2017: 1. Held the Kick-off Conference of Wind Team International Cooperation Alliance with MIRDC under the guidance of the Ministry of Economic Affairs (MOEA) on 8/30. 2. Signed MOU for collaboration of development in #29 Wind Farm Project with CIP and DGA on 10/6. 3. Received the notice letter from EPA as "Recommendation of Approval" of the second review of #29 wind farm from Environmental Impact Assessment and Review Committee. 4. Signed MOU with Ørsted Taiwan for supply of jacket foundation on 11/10. 5. Completed the Reservation Application for Sing Da Marine Structure Co. to the MOEA so as to promote the project of sub-sea foundation fabrication at Sing Da Harbor.

Light Rail Transit

Rail transport is the best transport solution for energy saving and carbon reduction. It not only increases the domestic output of railway industry but also promotes the quality of life and urban development through the land joint development at stations, and hence benefits the tourism industry. Light rail transit is an efficient way for public transport. By combining the exquisite tram design with local characteristics, it creates a marvelous mobile city landmark. A successful light rail transit represents the image of a city. Its affinity and convenience always attract people to take it worldwide. With the Values of "teamwork, entrepreneurial approach, down-to-earthiness, pursuit of innovation", CSC integrate all resources in CSC Group to develop the rail business. We are aiming and dedicated to providing the public with safe, comfortable, and environmental friendly light rail transit.

In 2017, the signing ceremony of the Mechatronics Engineering Turnkey Project of Ankeng Light Rail Transit took place on 4/26 with Notice To Proceed (NTP) on 5/1; the Turnkey Project First Phase of Danhai Light Rail Transit green line closure ceremony took place on 11/30; the Circle Line Turnkey Project Second Phase of Kaohsiung Light Rail Transit groundbreaking ceremony took place on 2/9 and was awarded as one of the best construction worksites in Kaohsiung City during 2017. For chronicle of events, please visit http://www.csc.com.tw/csc_e/hr/csr/cm/cm4.htm



3.5 Customer Service

CSC provides multi-phase services for before, during, and after sale and supplies steel products in the right quality and quantity and at the right time. CSC makes proper use of outward service workforce, in-plant technical support, and R&D experts to assist customers in fulfilling requirements, solving product use and technical problems.

3.5.1 Service Management and Performances

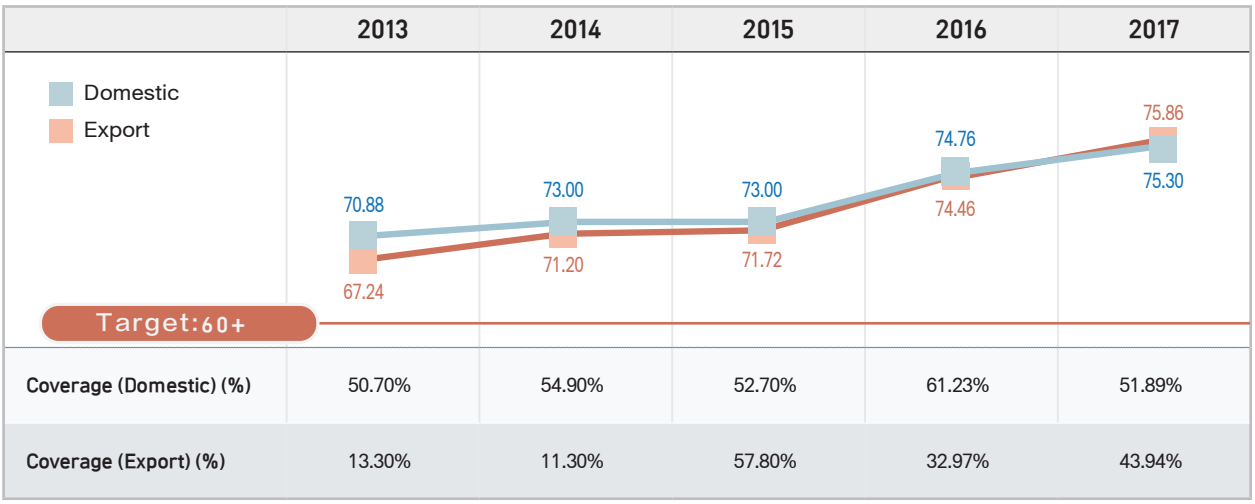
With the visions of winning customers' trust and helping them succeed, the Technical Service Section of Metallurgical Dept. aims to assist customers in technical advancement and promote steel industry upgrade. Customer service engineers are representatives of customers to request for product development and supply as well as representatives of CSC to provide application knowledge and problem solving in product use. To strengthen and realize customer service, the Technical Service Section has set clear targets and reviews performances every month. Main achievements in 2017 include:

- Market quality feedbacks for in-plant quality improvement: 41 cases
- Customers' process improvements: 168 cases
- Industrial material usage trend surveys: 12 cases.
- New products development: 15 items
- New auto material certification: 24 items
- Technical seminars and workshops: 12 sessions (domestic and international)
- Visits to key customers: 103 times
- Overseas technical missions: 515 man-days (Malaysia, Indonesia, Thailand, Vietnam, Italy, Japan, South Korea, and China)

3.5.2 Customer Satisfaction

CSC commissions academic institutions to conduct customer satisfaction survey every year. Domestic and foreign customers are surveyed, and issues of concern are reviewed as an important reference for developing operational guidelines. In 2017, the satisfactions are 75.30 for domestic customers and 75.86 for export customers. The top 3 items for domestic customers are customer service, quality, and quantity and account. The top 3 items for export customers are customer service, quality, and shipping. The lowest-scored item of domestic and export is price of products.

For issues, responsible units are required to establish and implement corrective action plans, specify the status of implementation in the improvement report, submit results for discussion at Steel Product System Management Review Meeting, and follow up the effectiveness of implementation. Customer suggestions in the survey, results of plan implementation by the units, and relevant policy documents are published on the e-commerce system. For the next year, these are delivered to customers together with the new survey questionnaire. CSC aims to strengthen mutual understanding and trust by showing respect and address doubts for customers.



	2013	2014	2015	2016	2017
Coverage (Domestic) (%)	50.70%	54.90%	52.70%	61.23%	51.89%
Coverage (Export) (%)	13.30%	11.30%	57.80%	32.97%	43.94%

Note: By the regulations governing customer satisfaction measurement, the overall satisfaction score should fall in the "good" grade (60 < score ≤ 80) or above. Coverage (domestic sales) = number of questionnaires reclaimed / number of questionnaires sent (not all customers of domestic sales). Coverage (export sales) = number of questionnaires reclaimed / number of questionnaires sent (all the customers of export sales).

3.5.3 Customer Privacy

There were no reported complaints of disrupting customer privacy and losing data in 2017. CSC is committed to providing customers with the best service and protection of information provided by customers through the following methods to ensure the privacy of customers.

All CSC IT equipment is protected by antivirus software to prevent computer virus spread through the e-commerce system.

e-Commerce inquiries and operation are account- and password-protected to ensure only corresponding customers, suppliers, and transporters are authorized to access data.

Regulations on Management of Digital Certificates for Use on e-Commerce Systems is established to ensure access to the e-commerce system only with valid digital certificates.

4

INDUSTRY CHAIN IMPROVEMENT

4.1 Supply Chain Management
4.2 Industry Upgrade
4.3 International Collaboration
4.4 Circular Economy

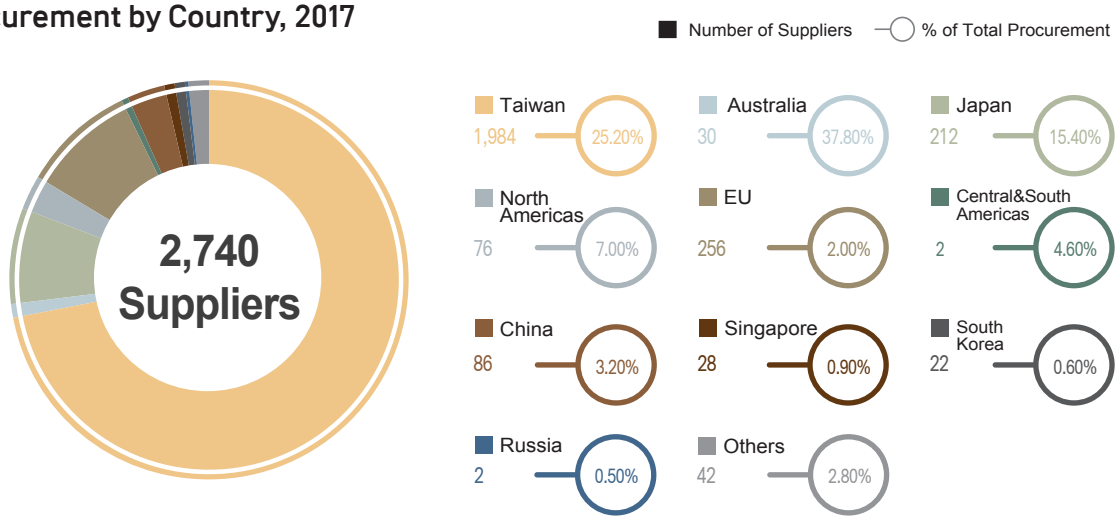
4.1 Supply Chain Management

CSC's supply chain management can be categorized in equipment and material procurement, transportation, security, and contractor management.

4.1.1 Equipment and Material Procurement

CSC is committed to not using minerals from Democratic Republic of the Congo, its neighboring countries, or any mines controlled by armies or rebel groups, in its products or packing. Through enhancing supply chain management, CSC effectively identifies and traces material sources to eliminate the use of conflict minerals. Any mine that is suspected to involve 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 2017, 5 suppliers were assessed for environmental impact and were identified as not having significant negative impacts. Global distribution of CSC's suppliers in 2017 is as follows:

Procurement by Country, 2017



4.1.2 Transportation

The import raw materials and export steel products of CSC are authorized to China Steel Express (CSE) mainly via its own fleet or by chartering. CSE is an AEO certificated corporation that meets CSC supply chain safety regulation. Most of CSE's own vessels received environmental related certifications. Furthermore, CSE highly values the eco design on newly built ships and adopts eco speed during sailing to reduce carbon emissions. They also recycle waste oil and waste water from the fleet and deliver to CSC's Coal Handling Plant to reduce diesel oil consumption and air pollution. For transportation of flux from Hualien, CSE's MV Hwa Lien Express has an auto-unload design that operates faster than the shore crane and therefore lessens air pollution. In addition, CSC uses railway transportation from the mine site to the berth to reduce air pollution.

For domestic transportation, CSC demands transportation suppliers to be OHSAS 18001 certified in order to reduce the risk of occupational hazards. In addition, in 1999 CSC stipulated that the vehicle age for product carrying do not exceed 13 years and now further stipulated that newly joined vehicles must meet EPA stage 4 vehicular air pollutant emission standards to eliminate existing out-of-date vehicles. CSC estimates all the product carrying vehicles will meet the 4th or 5th stage air pollutant emission standards by the end of 2019. In 2017, of the 95 suppliers assessed for environmental impact, 2 failed to meet environmental standards and their contracts were terminated; of the 101 suppliers assessed for social impacts, 3 were identified as having significant financial and occupational safety risks. CSC suspended the violated operations of 2 suppliers and terminated the contract with 1 supplier.

4.1.3 Security

The access control and security of CSC's factory is assigned to China Steel Security (CSS), with 150 security personnel on-site. 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 serving security guards, it shall provide them with in-service training at least 4 hrs every month". All CSS employees received comprehensive training of human right and policy.

4.1.4 Contractor

CSC has never outsourced its tasks to freelance workers and has always demanded its contractors to hire Taiwan nationals for works in CSC. Workers sent by contractors to work in CSC must have insurance mandated by the government, wear uniforms and use safety equipment regulated by CSC, and comply with CSC's safety and health work rules. A penalty will 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. CSC is responsible for monitoring and supervising the working conditions of contractor employees to ensure contractors' compliance with national labor laws. There was no reported incident related to child labor or forced labor in 2017.

According to CSC's local maintenance job management regulations, monthly evaluations are conducted for assigning bonus to encourage contractors to improve management and work quality. Safety, health, and environment related issues take up 35% in the monthly evaluation, and there was no case of bonus being affected by substandard performance in such areas in 2017.

All contracts between Plant Engineering and Maintenance Dept. and service providers are signed according to law. As an ISO 9000 certified company, CSC conducts contractor evaluations as a part of its supply chain management and re-evaluations are done every 3 years to ensure that all contractors abide by the national regulations with no violation against human rights, use of child labor, freedom of association, right to organize, and right to collective bargaining. 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.

Contract Management

To pursuit the goal of extensive contract management, CSC started drafting its Contractor Management Regulations in 1980. It specifies work contents, types, associated managing units and their responsibilities. There are also additional guidelines such as Contractor Safety and Health Management Regulations, and Contractor Environment Protection Management Regulations. All regulations, including penalties, are incorporated in all contracts. These encompass corporate governance and environmental and social aspects. For details, please visit http://www.csc.com.tw/csc_e/hr/csr/par/par5.htm#par-Coop

Labor Rights

Under the notion of partnerships, CSC actively helps contractors improve human resource structure and working conditions, including increasing safety and health management fees, establishing vacation policies and compensation for working on holidays, and adjusting contracting fees for contractors to lower turnover rate. This also helps lower the risks of occupational hazards, in order to foster true partnerships between CSC and contractors.

Safety and Health

Based on the management concepts of collaborating and building mutual trust with contractors, and to build a relationship of coexistence and mutual prosperity, CSC started to actively promote creating a safety culture in contractors in 2015 and has proposed numerous measures in the aspects of regulations, management, and education.

Contractor Safety and Health Propaganda	Gather contractors every month to announce new safety and health related information and new demands by CSC.
New Contractor ID Issuing Assessment*	New contractors must attend mandatory safety trainings and have interviews with managers of ID issuing organization.

Safety Care*	Conducted every month.
Report of Near Misses	Report of near misses is encouraged with rewards.
Implement and Promote Inherent Safety	Continuously introduce system scaffolds and elevating work platforms to increase scaffold safety and decrease scaffold related hazards.
Safety Inspections*	All levels of management personnel regularly conduct safety inspections in contractors' workplace and keep records.

*: Listed in Industrial Safety and Hygiene Dept.' s system.

Inspections and Audits: Industrial Safety and Hygiene Dept., Plant Engineering and Maintenance Dept., Electrical and Control Dept., and all maintenance units in production lines frequently conduct inspections and audits on contractors. In 2017, a total of 3,924 inspections were conducted by the three departments.

Trainings for Contractor Employees: Maintenance units are responsible for arranging training courses and certifications in accordance with the needs of safety and health as well as professional techniques required for workers to perform their work at CSC. Over the years, the trainings have been proven to be effective. In 2017, contractor employees received a total of 52,640 hours of training in CSC.

Item	Training Course/ Purpose	Persons	Hours/ Course	Frequency	Total Hours
Safety training	New hire training	8,351	6	3/week	50,106
Technical training	Fire watch personnel	120	3	2/year	360
	Corrugated roofing	1,421	1	2/month	1,421
Skill certification	Scaffolding certification	175	3	2/year	525
	Metalworking	76	3	1/year	228

4.1.5 Localization

CSC has increased investments in high value-added downstream production lines, environmental protection and energy saving facilities, and replacement of outdated equipment, and has also requested suppliers to maximize the percentage of domestic supply, aiming to reduce costs and foster domestic industries. Large quantities of hardware equipment, refractory materials, parts, and components for repairing and maintenance are required. In addition to requesting its suppliers to increase local portions, CSC contributes to the upgrade of related domestic industries and lessens the dependency on foreign suppliers to ensure on-time delivery, exceptional service, and lower cost. Moreover, CSC actively promotes all kinds of domestic manufacturing activities and signs long-term contracts with domestic refractory material manufacturers to effectively cut down inventory level. The goal for domestic manufacturing in 2017 was set at 248 mi. NTD. and the result was 278 mi. NTD.

Performance of Localization

Item			2015	2016	2017
Refractory		Amount (100 mi. NTD)		30.1	28.9
		%	65.3%	66.9%	64.5%
Spare Parts & Equipment	Mechanical	Work orders	109	103	152
		Amount (100 mi. NTD)	1.690	1.705	1.809
	Electrical & Control	Work orders	96	113	90
		Amount (100 mi. NTD)	1.295	1.069	0.970
Production Lines & Projects		Items	51	86	85
		Amount (100 mi. NTD)	21.5	12.42	13.66

4.2 Industry Upgrade

4.2.1 Industry Upgrade and Innovation

For the continuous growth of CSC and the upgrade promotion of local steel industry, CSC completed the plan of five innovative research programs, which comprised

Core technology of electric vehicle industry	Developing required high-quality steel and relevant processing technology, such as electrical sheet of top class for power system and ultra-high strength steel sheet for automobile to match up the demand of industry chain.
Intelligent production technologies	In order to achieve smart factories, developing primary technologies such as the Internet of Things (IoT), Big Data, and Artificial Intelligence (AI). Based on these technologies, CSC designs and deploys the advanced solutions such as quality prediction system, intelligent production scheduling system, dynamic control of metallurgical processes, and intelligent logistics systems.
Environmental protection	Developing the technology of pollution and waste reduction, including reducing benzene emission from coke oven plant, fugitive dust monitoring of raw material field, high efficient wastewater reclamation, and BOF slag recycling.
Important industrial materials	Applying external resources to develop essential materials of steel relevant and industry demand, such as high-grade aluminum alloy Si carbon anode material and medical aviation nitinol special alloy.
"Five plus two" industrial essential materials	Developing industrial essential material, such as steel for warship, ballistic steel plate and other armor steel, high strength plates for offshore wind turbines, and health medical titanium.

4.2.2 Upgrading Steel-using Industries

To enhance the competitiveness of steel-using industries, CSC works closely with strategic partners of R&D alliances and industrial upgrade projects launched through these alliances to increase the value of downstream steel products through R&D, innovation collaboration, strategic investments, channel establishment, and brand development. CSC launched 13 projects through 16 R&D alliances with 66 companies during 2006-2014. The first stage of industry upgrading facilitated the necessary technologies for the development of high value industry over ten years of hard work, which not only developed numerous high-grade steels that replaced expensive and hard-to-import steels but also brought about new added value by linking innovative application technology and supply chain.

In view of the rapid change of industrial environment, CSC started the second stage of industry upgrading in 2017. Considering the influence of new technology on the entire industry, CSC follows four strategies: Deep plowing of basic technology; Opening up of product path; Establishing industry cloud; Facilitating Industry 4.0 to unfold multistage and multilevel customer visit and exchange discussion. According to the current status of each industry, CSC links the previous established multiple platform to set out the development goals and work projects with the anticipation that the effort will infuse new energy, find the future direction of development, enable the ecosystems of local steel-using industry to possess an indispensable role in global supply chain, and make CSC the "Number One and Only One" strategic partner in market.

Engineering Research Center (ERC)

To focus academic energy on the needs of industrial development, CSC gradually switched from individual projects to strategic, long-term partnerships. The ERCs, established by CSC and academic partners, integrate professional workforce to implement systemic, profound, and comprehensive fundamental research. The following 5 ERCs are in operation.

ERC	Partner	Establishment
Electric Motor Technology ERC	National Cheng Kung University	2008
Physical Properties and Microstructure ERC	National Sun Yat-Sen University	2010
Steel Structure ERC	National Taiwan University of Science and Technology	2011
Advanced Steel Microstructure Control ERC	National Taiwan University	2011
High-value Metal Industry ERC	Metal Industries Research & Development Center	2012

Joint Research Laboratory (JRL)

To provide differentiated technical services, CSC established JRLs with customers. By troubleshooting at plants and enhancing the suitability of CSC materials with customers' processes, JRL helps winning customers trust and increasing business opportunities. Moreover, long-term plans for strategic technical cooperation are tailored for mutual needs. The following 4 JRLs are in operation.

JRL	Partner	Establishment
Compress and Motor JRL	Rechi Precision, ITRI	2010
Auto Steel JRL	HAITEC, MIRDC	2012
Auto Application JRL	GSK, Fine Blanking & Tool	2014
Auto Steel JRL	Changchun Engley, Honley Auto Parts	2015

Industry and Academia Alliance

Industry and Academia Alliance is a prospective industry-university cooperation program initiated by the Ministry of Science and Technology (MOST) to enhance the value and competitiveness of industry. The "Next generation steel with green processes and product innovative application" program, proposed jointly by CSC and National Cheng Kung University and granted by the MOST in 2013, is at its 5th year. It aims to help the domestic steel industry to develop opportunities following the concept of "materials development before industry upgrade". With the theme and topics of "Advanced energy saving automobile" and "Marine structure for offshore wind energy", the program covers 3 areas: next generation steel, cleaning metallurgy and precise and agile rolling, advanced 2-3 processing and high end-value product. It is expected to achieve the target of developing next generation steel products and applications.

Alliance for Steel Industries

Taiwan Elite Hand-tool Organization was established using BBI Proferred as the trademark and began selling on e-commerce platform at Ta Chen International in July 2015. As of now, more than 1,800 clients have joined, and the amount of orders has reached 1.821 mi. USD. To further increase the sales volume of hand tools through this sales channel, a deal model via Vending Machine dedicated to the industrial product is being developed. It will operate in such way that the factory sides have had hand tools in place beforehand, the user side may pick the goods via a Vending Machine at its convenience, and the BBI would assist to maintain the stock management.

4.2.3 Domestic Association

As the supplier of products and byproducts for domestic industries, CSC actively participates in various activities organized by domestic industry unions, institutes, and associations to reinforce communication and cooperation.

Steel Industry	Taiwan Steel and Iron Industries Association CSC President Horng-Nan Lin as the president	For collaboration and development of the steel and iron industry, government economic construction, striving for national foreign exchange, coordinating the relationship among the industry, and further enhancing common interests.
	Chinese Institute of Engineers CSC Chairman Chao-Tung Wong as the managing director	For helping develop national construction, promoting engineering expertise, aiming for the targets of a socially responsible, sustainable, and prosperous future.
	Taiwan Institute of Steel Construction CSSC Chairman High-Pinn Chen as the chairman	For developing steel construction technology, promoting the development of steel construction industry, and improving infrastructure safety.
Corporate Sustainability	Business Council for Sustainable Development of Taiwan Taiwan Association of Soil and Groundwater Environmental Protection	For promoting corporate sustainability and environmental protection through collaboration with member companies.

4.3 International Collaboration

Organization	Program	Benefit
World Steel Association, worldsteel	As a core member, CSC participates in the committees of technology, safety, environment, raw materials, economy, and product sustainability as well as expert groups. CSC joins data collections including CO_2, LCI, and energy, provides comments, and supports propaganda.	CSC shares experiences via exchanges, cooperation, and services, thereby connects closely and updates the latest development of global steel industry.
South East Asia Iron and Steel Institute, SEAISI	As a key supporting member, CSC assists to promote the development of the technology training program, environmental safety, economics, and implementation of ES/STECO affairs. CSC also supports the arrangement of steel conference, travelling seminar, ASEAN technology, and sharing in the production of Tech/ES/STECO national reports and Taiwan country reports annually.	Through maintaining good interactive and cooperative relationships with other members, CSC obtains information on the development of regional industries, technologies, and policies, which provides a good basis for business development and strategic cooperation.
Organisation for Economic Cooperation and Development, OECD	CSC participates in the meetings of the steel committee under the instruction of the Ministry of Economic Affairs, R.O.C.	As an excellent international platform, it is not only a channel to obtain new and important information on the steel industry and environmental protection but also an opportunity for Taiwan to increase its visibility and participation in international activities.

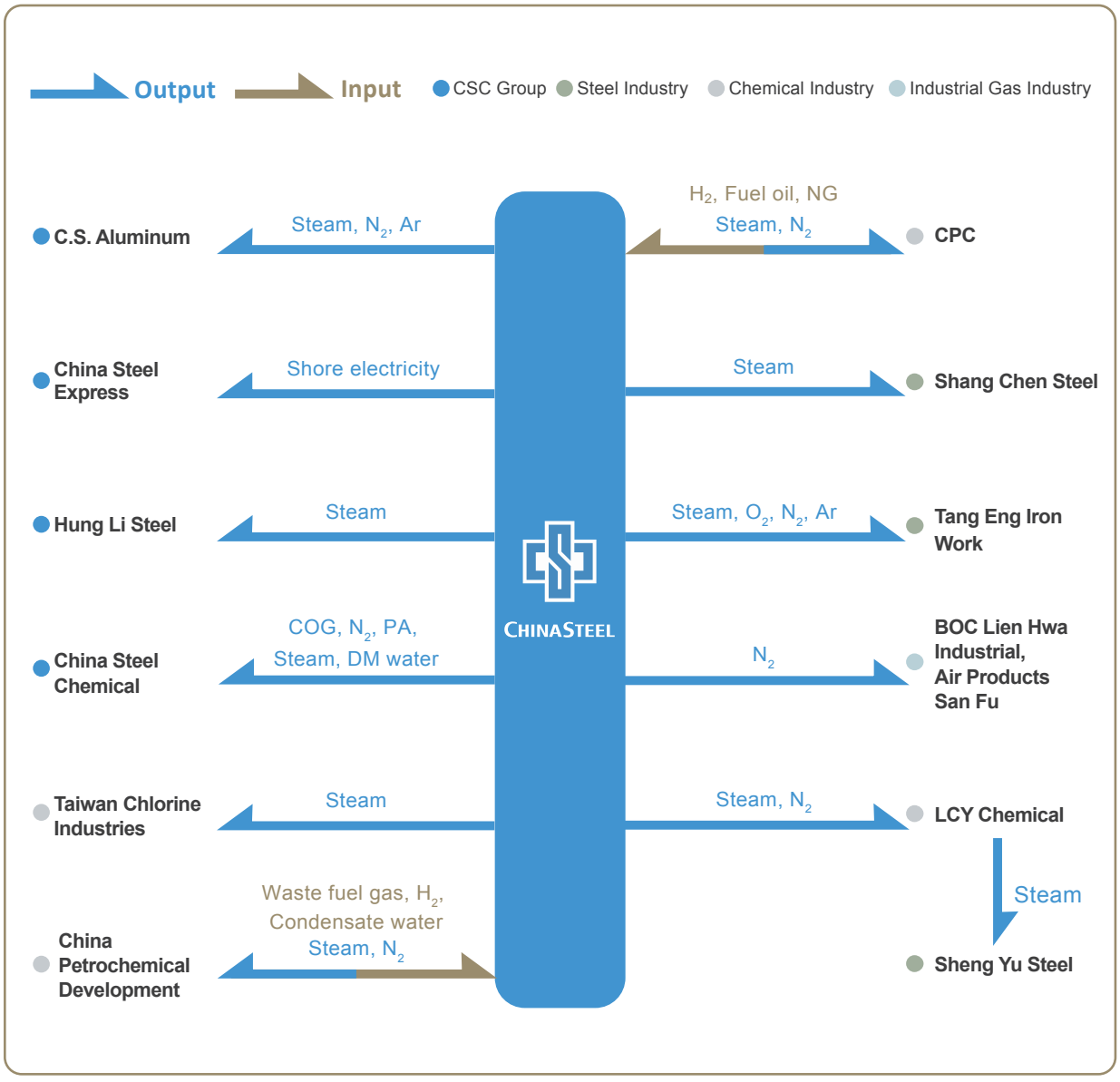
The value elevation for steel plants can be accomplished by development of new steels, improvement of application technology, and connection to advanced application R&D institutes. CSC practices these by participating in international auto steel affairs. CSC participates in WorldAutoSteel (WAS), which has several big plans that focus on: maintaining the attention to steel materials in application, showcasing application value of next-generation steel materials, building positive links of steel materials to clean environmental protection, assisting boost of product competitiveness for steel plants, and participating in international automotive market development. Works in 2017 includes Future Trends and Impacts on Steel 2030+, LCA Deployment for Future Regulation in the Automotive Industry, Liquid Metal Embrittlement Project, Competitive Benchmarking - Suspension. For details, please visit http://www.csc.com.tw/csc_e/hr/csr/in/in8.htm

4.4 Circular Economy

4.4.1 District Energy Integration

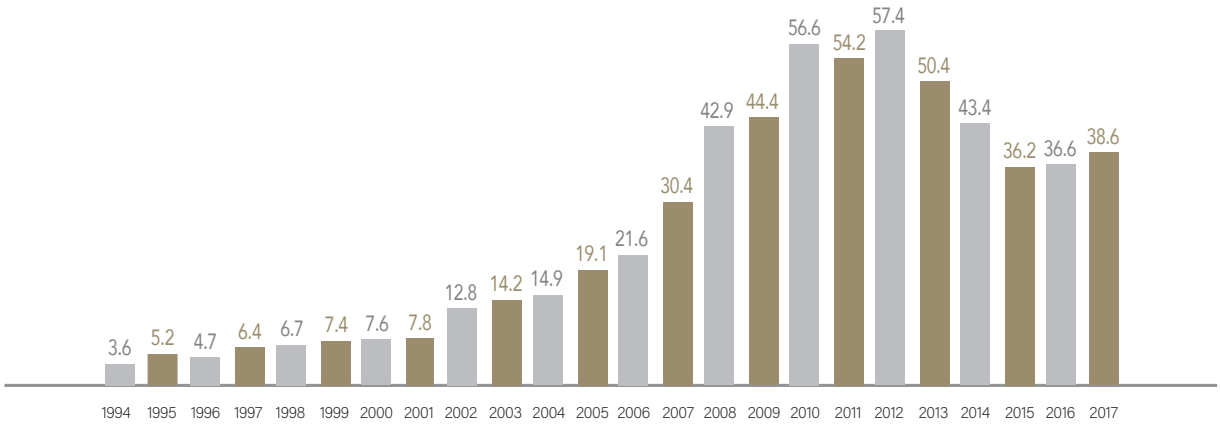
CSC has long utilized steam produced from combined heat and power (CHP) and waste heat recovery as well as industrial gases produced from oxygen plant to share excess energy with neighboring plants. With the complementary uses of steam, oxygen, nitrogen, argon, compressed air, coke oven gas, etc., energy and resources in the district is efficiently integrated. District Energy Integration not only increases energy efficiency but also reduces resource consumption and pollutant emissions in the region. As the environmental quality is improved, it brings substantial benefits to the economy, the environment, and the society.

In 2017, the 1.683 Mt steam sales (increased by 5.46% from 2016) saved 129,000 kL low-sulphur fuel oil. In terms of emission reduction, it is equivalent to annual reduction of 386,000 t CO_2, 1,230 t SOx, 853 t NOx, and 121 t particulates.



External CO_2 Reduction from Steam Sales

(10,000 t)



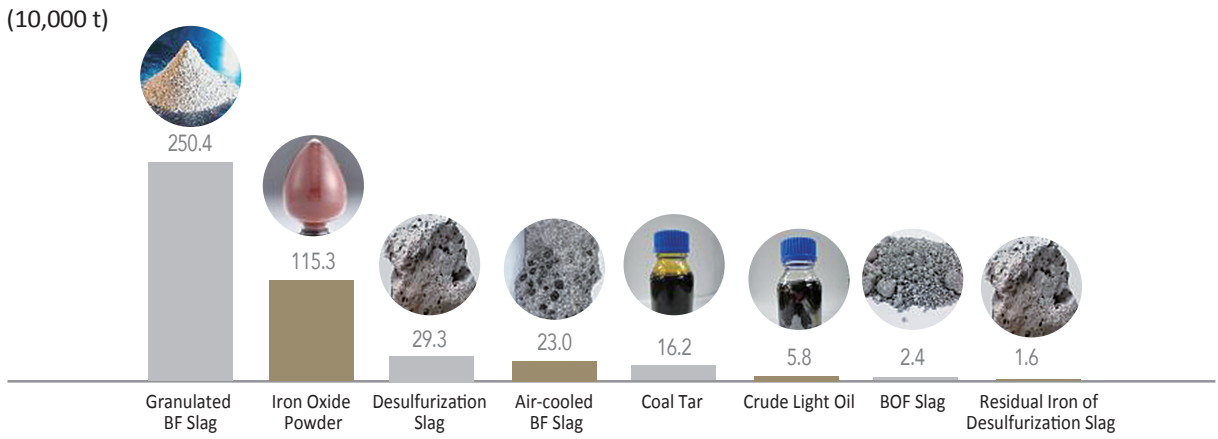
Note: Saving of low-sulfur oil = 1.683 Mt / 13 kL / t = 129,000 kL; Reduction of CO_2 emissions = 129,000 kL * 2.985 t CO_2 / kL = 386,000 t.

4.4.2 Industrial Ecology Network

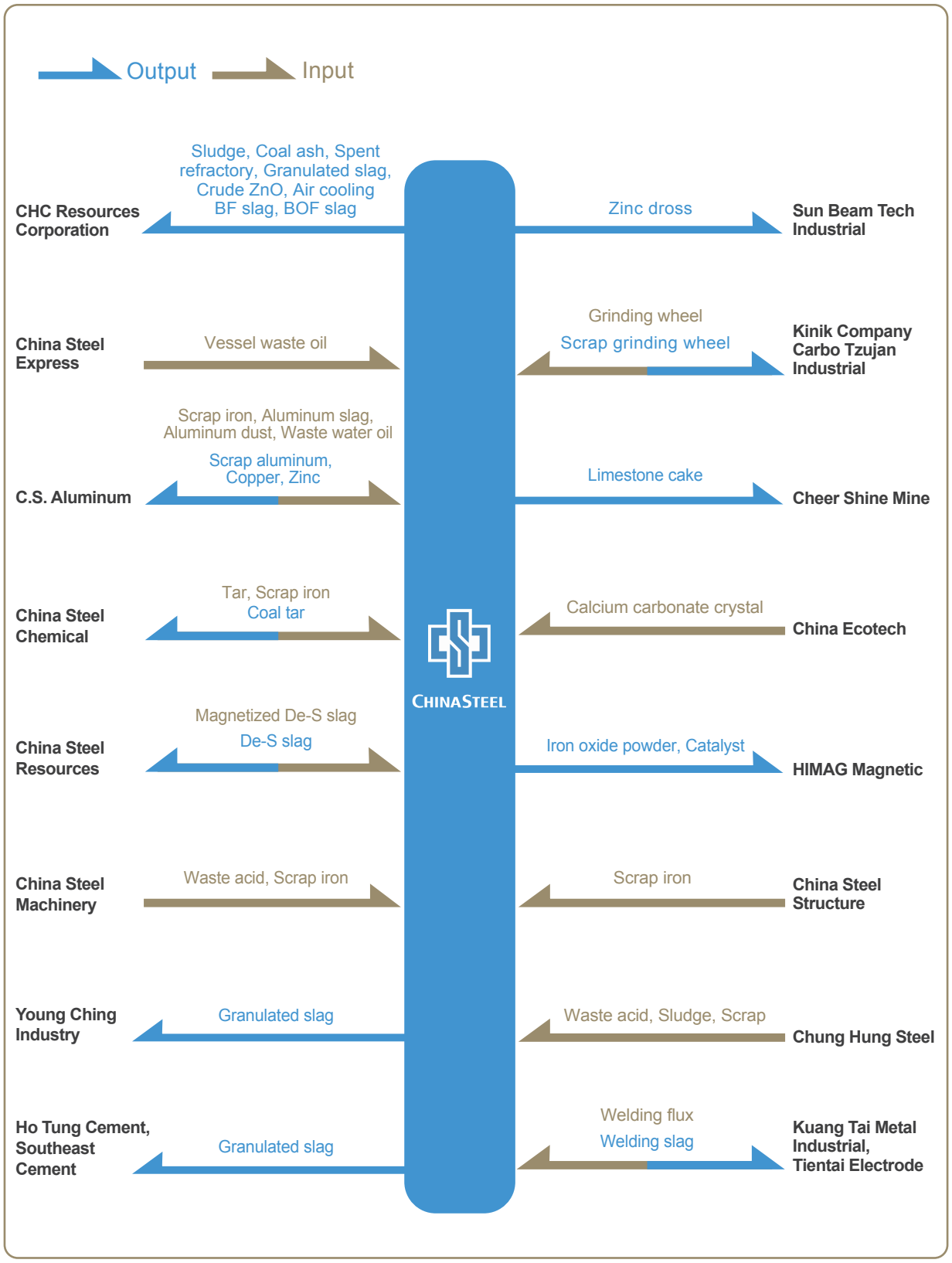
Byproducts from CSC productions include coal tar, crude light oil, BF slag, BOF slag, iron oxide powder, desulfurization slag, and residual iron of desulfurization slag. Granulated BF slag are sold to domestic businesses, and others are processed through related industries to be provided to chemical, construction, civil engineering, electrical, commodity, and other industries.

Byproducts Production, 2017

(10,000 t)



Upon the call of EPA and Industrial Development Bureau, CSC expanded the industry ecological network inside and outside of Linhai Industrial Park to ensure effective recycling and reusing of industrial waste. In 2017, the CSC-centered industry ecological network included 20 enterprises, including recycling industries for BF slag, BOF slag, sludge, waste oil, zinc dross, waste acid, and refractory. CSC will continue promoting the industry ecological network to reutilize waste from Linhai Industrial Park so as to improve operating conditions and competitiveness and for sustainable development.


Output
Input
CHC Resources Corporation
Sludge, Coal ash, Spent refractory, Granulated slag, Crude ZnO, Air cooling BF slag, BOF slag
Zinc dross
Sun Beam Tech Industrial
China Steel Express
Vessel waste oil
Grinding wheel
Scrap grinding wheel
Kinik Company
Carbo Tzujan Industrial
C.S. Aluminum
Scrap iron, Aluminum slag, Aluminum dust, Waste water oil
Scrap aluminum, Copper, Zinc
Limestone cake
Cheer Shine Mine
China Steel Chemical
Tar, Scrap iron
Coal tar
Calcium carbonate crystal
China Ecotech
CHINASTEEL
China Steel Resources
Magnetized De-S slag
De-S slag
Iron oxide powder, Catalyst
HIMAG Magnetic
China Steel Machinery
Waste acid, Scrap iron
Scrap iron
China Steel Structure
Young Ching Industry
Granulated slag
Waste acid, Sludge, Scrap
Chung Hung Steel
Ho Tung Cement, Southeast Cement
Granulated slag
Welding flux
Welding slag
Kuang Tai Metal Industrial, Tientai Electrode

5

ENVIRONMENTAL PROTECTION

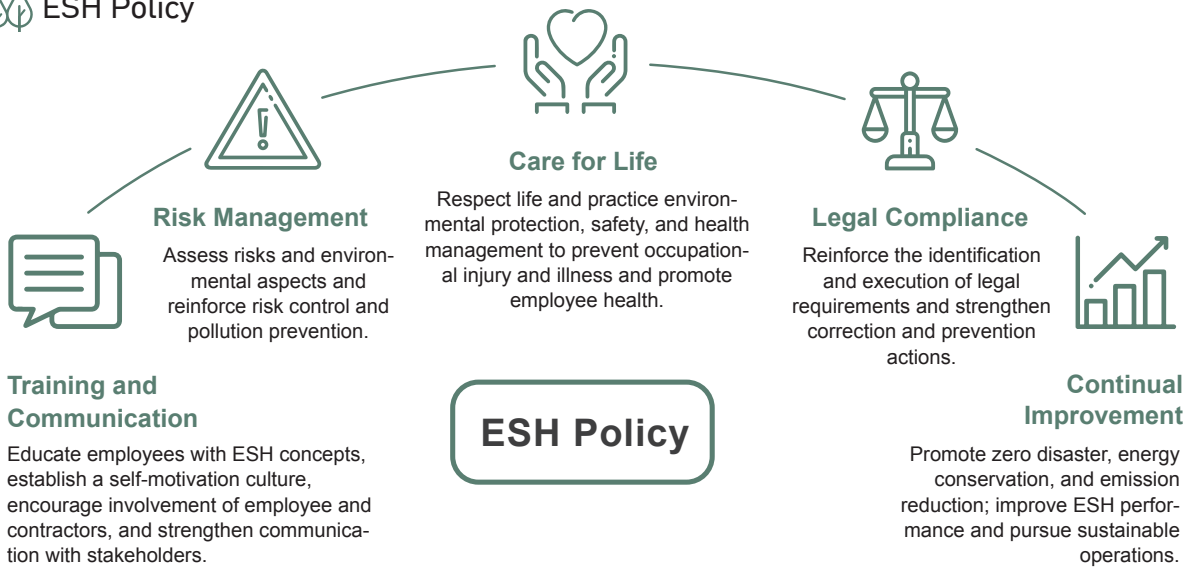
5.1 Environmental Concepts and Management
5.2 Green Process
5.3 Green Living

5.1 Environmental Concepts and Management

Environmental, Safety and Health (ESH) Management System

CSC obtained ISO 14001 certification for Environmental Management System (EMS) in 1997 and was approved for registration. CSC then combined EMS with OHSAS 18001 into the CSC ESH Management System, launched in 2005. Strategic decisions are made by Committee for ESH Management, chaired by the Executive VP. ESH policies are approved by the Chairperson before implementation and subject to annual external audit. ISO 14001: 2015 was announced in 2015. CSC completed its revision in 2017.

ESH Policy



CSC Group Committee for Energy and Environmental Promotion

The Committee was formed in 2011 and chaired by the CSC Chairperson to improve energy and environmental performances by strategic planning, risk management, and collaboration. The Office of Energy and Environmental Affairs (EA) assists the Committee in implementation and continual improvement. As the Committee convenes twice a year with the CSC Group Operational Committee in 2017, the EA achieved its interim target and was consolidated into the Environmental Protection Dept.

Environmental Loading Reduction Commitment

The environmental load is of substantial concern regarding steel company investments, and reduction commitments and cap control have become requisites. 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.

Environmental Investments

By the end of 2017, CSC has invested 65.4 bi. NTD in environmental facilities. Amongst them, air pollution control accounted for 62%.

Energy and Environmental Investments

Items (100 mi. NTD)		2013	2014	2015	2016	2017
Capital Expenditure	Energy and environmental investments	41.0	25.8	21.0	34.1	27.6
Recurrent Expenses	Government Charges and Fees	1.9	1.7	1.7	1.8	1.7
	R&D	0.8	0.8	0.5	0.5	0.5
	Depreciation	12.5	10.2	12.6	12.3	12.4
	Operation and Maintenance	49.7	36.3	37.6	35.3	33.5

Environmental Grievances

There was no grievance on record from formal channel in 2017. The one grievance in 2016 was to improve the fugitive particulate emission of material storage yards. CSC's response is as follows:

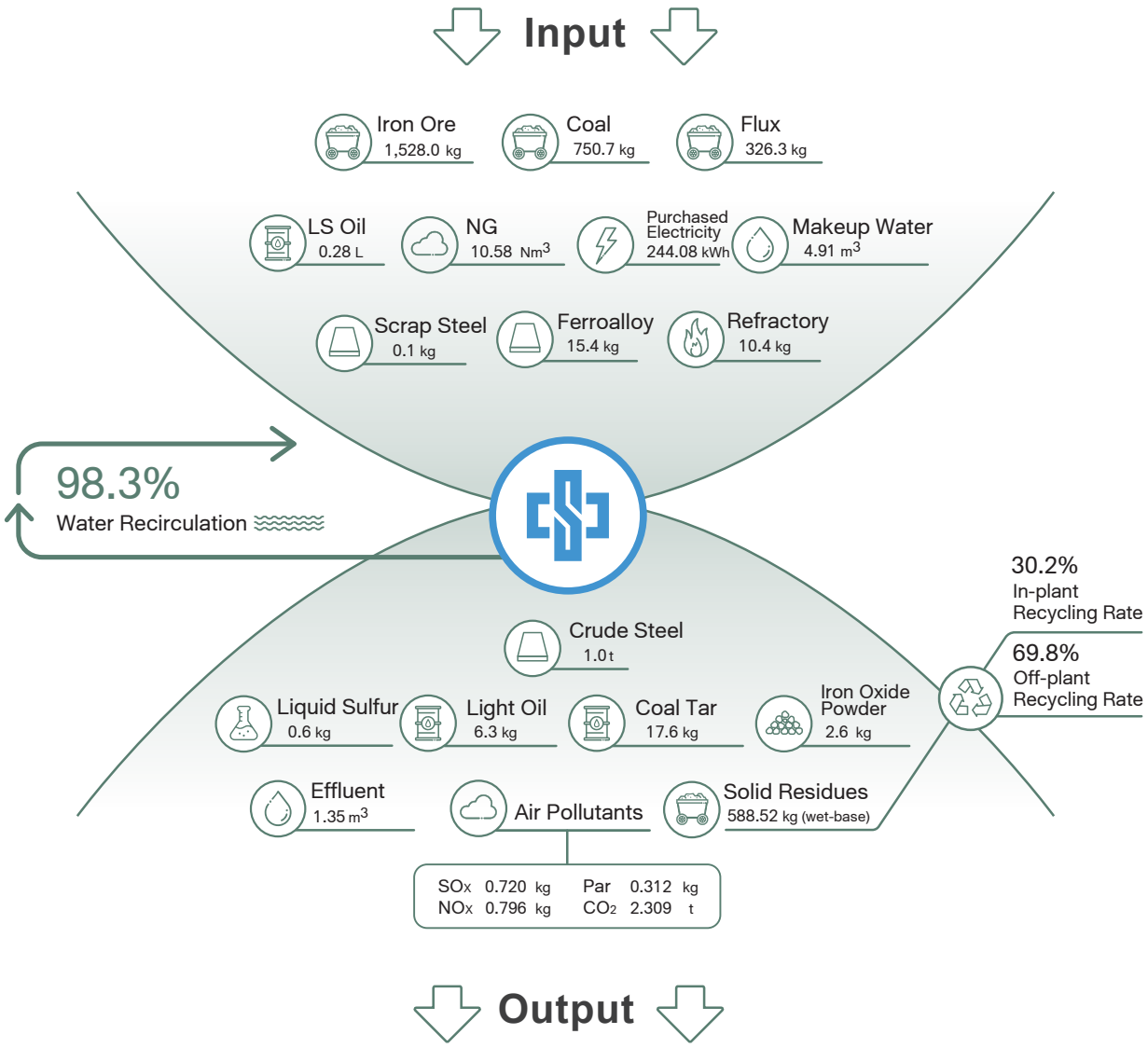
To reduce fugitive particulate emissions from material storage yards, CSC had set automatic water spray system to solidify the surface of piles. In addition, CSC had spent 522 mi. NTD to build windbreak net which is 20 m high, 3,150 m long in eastern, western, and northern sides of the No. 3/4 phases material storage yard. To improve the efficiency of windbreak net, CSC spent 170 mi. NTD to build additional windbreak net which is 656 m long in the south of material yard. Cooperating with the government's strategy to improve air quality, the new windbreak net was planned to be finished in May 2018 and was finished in Dec. 2017, 6 months in advance.

Legal Compliance

In 2017, CSC received 3 violation notices for pollution. The number of violation notices has reduced significantly in recent years, achieving the target of under 5 a year and showing the effective implementation of self-control and improvement.

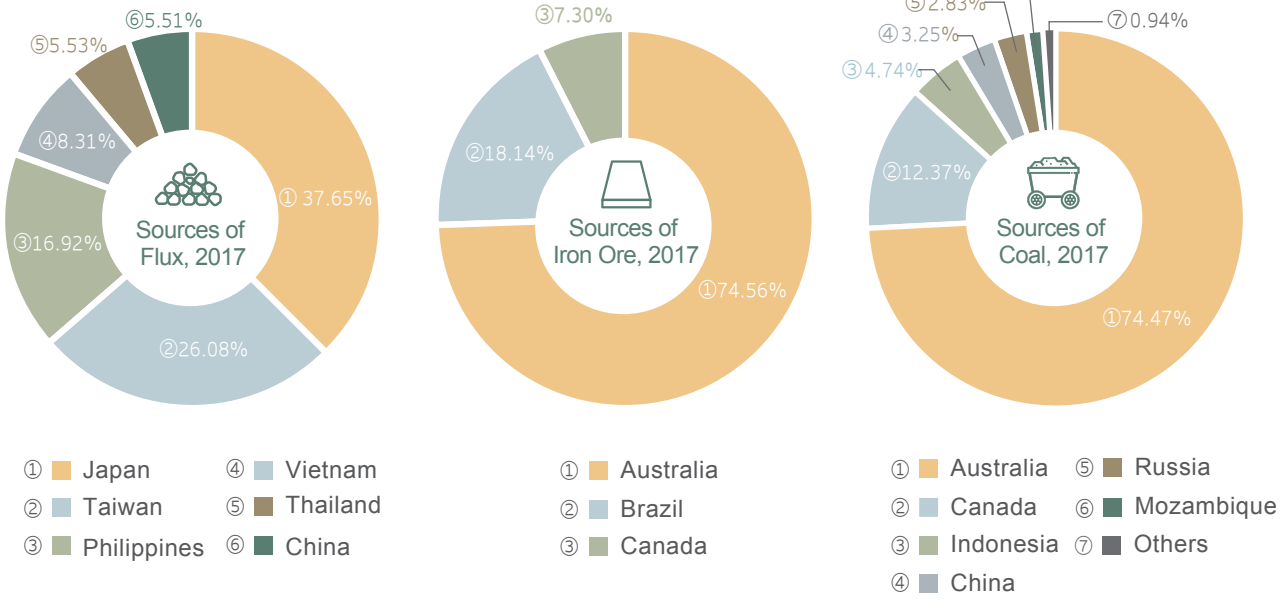
	2013	2014	2015	2016	2017
Pollution	Air pollution	Air pollution and waste	Water pollution	Air pollution	Air pollution
Issuer	KSEPB	KSEPB	KSEPB	KSEPB	KSEPB
Counts / Fine	2 / 0.55 mi. NTD	2 / 0.106 mi. NTD	1 / 0.01 mi. NTD	3 / 0.4 mi. NTD	3 / 0.3 mi. NTD

5.2 Green Process



5.2.1 Materials

In 2017, a total of 2.8 Mt flux, 7.8 Mt coal, and 15.5 Mt iron ore were purchased. The marble and serpentine from Hualien meet 26.1% of the demand, and the remaining demand is met with imports. For coal and iron core, supply is imported as they are not domestically available.



In 2017, CSC utilized 1.573 Mt regenerated materials, which account for 6.116% of total input materials. These include 1.546 Mt solid residues recycled in-plant, scrap, marine waste oil, waste acid, etc.

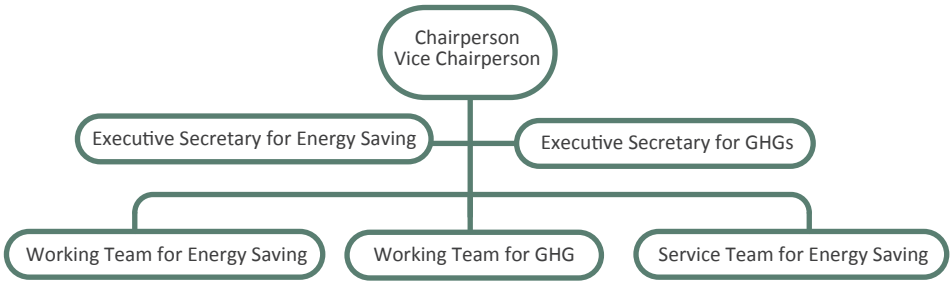
5.2.2 Energy

Energy Policy

- Continual Improvement
- Legal Compliance
- Performance Management
- Energy Saving and Carbon Reduction
- Knowledge Advancement

Committee for Energy Conservation

For effective reduction of energy expenditure, the Committee was formed and chaired by VP of Production Division. The 3 Teams of the Committee are responsible for energy saving and emission reduction work in CSC plants. For performance improvement, ISO 50001 Energy Management System (EnMS) were implemented in 2011 and incorporated into ESH Management System with third-party verification. The Management Systems and the Committee serve the purpose of energy conservation and continual improvement.



Energy Saving Service

CSC Energy Saving Service Team was formed in 2007 upon the call of the Bureau of Energy. Through vertical integration and horizontal coordination, the Team enhances energy conservation of CSC Group and provides services for customers. In 2017, CSC assisted Kaohsiung Energy Conservation Service Group to provide energy-saving technology counseling services in Taiwan Fu Hsing Industrial Co., LCY Chemical Co. (Linyuan Site), Ursine Steel Co., Tongtai Mahine & Tool Co., Green Environment Engineering Inc., Hanlin Environmental Technology Co., Li Ta Farm Animal Industry Co., and Howard Plaza Hotel Kaohsiung.

Energy Consumption

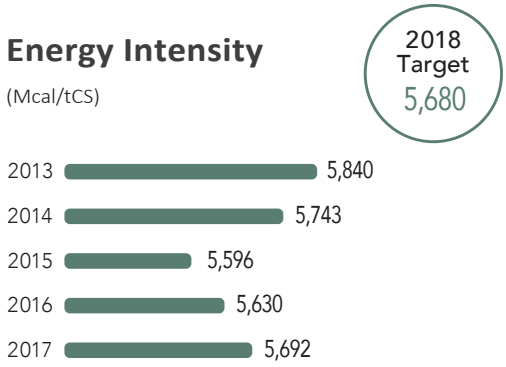
The coking coal in the steelmaking process transforms to byproduct gases which can be used as fuel in steelmaking and in cogeneration power plants to generate steam and power. Coal, oil, and nature gas can also be used in power plants while the excess power demand is met by purchased electricity from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

Primary, Secondary, and Self-Produced Secondary Energy Consumption, 2017

Primary Energy	Coal	223,912,164 GJ
	NG	3,795,728 GJ
	Diesel Oil	117,889 GJ
	Gasoline	6,373 GJ
	LS Oil	102,642 GJ
Secondary Energy	Purchased Electricity	21,029,999 GJ
Self-Produced Secondary Energy	Steam	3.59 Mt
	COG	1.862 Gm^3
	BFG	13.872 Gm^3
	LDG	0.933 Gm^3
	Cold Blast Air	9.238 Gm^3
	Oxygen	0.950 Gm^3
	Nitrogen	1.182 Gm^3
	Argon	18.95 Mm^3

Note: Purchased electricity is converted to input energy by efficiency.

Due to more back-up steel produced and higher fuel rate, the energy intensity for 2017 is 5,692 Mcal/tCS. The energy intensity target for 2018 is lower than 5,680 Mcal/tCS. CSC sets the energy usage target by constructing a baseline every year based on past energy usage and considering annual production conditions and the energy saving target.



Performance of Energy Saving and Carbon Reduction

CSC accomplished 122 energy saving projects in 2017, which saved 358,318 Gcal (1,500,206 GJ or 39.8 ML oil equivalent) and reduced 120,000 tCO_2e, and saved 0.432 bi. NTD of energy cost. The major projects are "reducing fuel rate in blast furnace", "reducing fuel consumption in lime kiln", and "heating furnace revamping in #1 hot-rolled strip mill".

/ "King of Auction" Special Award and Excellence Award of 2017 Taipower Bidding Measures /

Statistics of Energy Saving Projects, 2017

Electricity	82 Projects	Energy Saved 38,735,696 kWh	Fuel Gas	6 Projects	Energy Saved 14,726,845 NM^3
Industrial Gas	9 Projects	Energy Saved 33,882,000 NM^3	Industrial Gas	2 Projects	Energy Saved 1,980 t
Water Systems	12 Projects	Energy Saved 1,965,478 M^3	Others	12 Projects	Energy Saved 17,325 KLOE

Total 122 Projects — Energy Saved 39,813 KLOE

5.2.3 Greenhouse Gases

Climate Change Risks and Opportunities

In response to climate change and elevated awareness of energy and environmental conservation, the industry needs to fulfill its social responsibility to maintain competitiveness. CSC has identified potential legal, physical, and reputational risks from climate change and their corresponding opportunities. Strategies are developed respectively in three aspects: management and development of water resource, response and adaptation to disasters, and reinforcement of city and value-chain cooperation. For details, please visit http://www.csc.com.tw/csc_e/hr/csr/env/env3.htm

For CSC, potential and substantial impacts include: External constraints of ESH issues and related policies and regulations, if excessive, will affect the fairness of international competition; Low-carbon energy, low-carbon electricity, and carbon footprint are gradually becoming important issues for the steel industry and will play an important role in competitiveness. For these impacts, CSC not only adjusts its organization and develops strategies inside CSC Group but also reinforces collaboration with international and domestic peers, green energy industries, suppliers, and the academia, to create advantageous operating conditions.

GHG Inventory

CSC established GHG Inventory System and constructed GHG Management Regulations by ISO standards, referencing Taiwan EPA GHG inventory and registration guidelines, ISO 14064, and inventory guidelines of IPCC, worldsteel, and WBCSD. Inventory data is subject to internal audits and third-party verification every year. CSC submits the verified data to EPA website according to EPA policy.

In 2017, the audited GHG emissions is 21,305,492 tCO_2e in total with scope 1 as 20,006,804 tCO_2e and scope 2 as 1,298,687 tCO_2e. Scope 3 emissions is 13,395,764 tCO_2e, where 2,299,081 tCO_2e (for fuel and energy related activities, waste generated in operations, and business travels) is third-party verified. The GWP values for the emissions are adopted from the IPCC Fourth Assessment Report. For detailed Scope 3 information, please visit http://www.csc.com.tw/csc_e/hr/csr/env/env4.htm

Carbon Disclosure

CSC conducts GHG inventory and carbon reduction projects every year and discloses GHG management information to stakeholders. Inventory results are registered on the national GHG platform and disclosed in Corporate Sustainability Reports. In addition, CSC participates in the Climate Action of worldsteel and CDP climate change and water programs every year to continuously improve in carbon reduction and climate change mitigation and to achieve corporate sustainability.

/ worldsteel Climate Action Member /

SJP for Carbon Credit Trading and Management

CSC was granted 8.76 Mt carbon credits in 2014 from the Early Action and Offset projects. To better manage carbon credits and to illustrate the procedures and responsibilities, adopting advices from experts meeting of EPA, CSC set up SJP for Carbon Credit Trading and Management in 2015. The SJP is included into CSC's ISO 14001 system. CSC Group company Dragon Steel purchased 4 Mt carbon credits from CSC according to this SJP and the transaction was approved by EPA in 2017. By Jan. 2018, CSC has 4.58 Mt carbon credits. In addition, CSC continuously cooperates with EPA and Industrial Development Bureau for the setting of performance standards to acquire more carbon credits to reduce the future impact of GHG total amount control.

Carbon Reduction Strategies

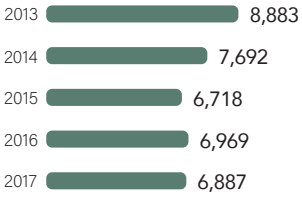
From 2016 CSC changed its carbon reduction target and strategies to the total carbon reduction amount of all its carbon reduction projects. The reason is the GHG Reduction and Management Act was promulgated in 2015. To fulfill Taiwan's 2030 INDC and 2050 targets, the government is planning a national emissions target for each 5-year stage. Therefore, the roadmap of carbon intensity is no longer suitable. CSC set up 330,000 tCO_2e by 2020 for the first 5-year stage (2016-2020). The major strategies are to promote 2020 energy saving action plans, to adopt low carbon energies, and to R&D and apply breakthrough technologies continuously.

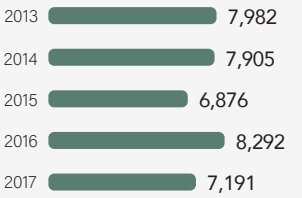
5.2.4 Air Pollutants

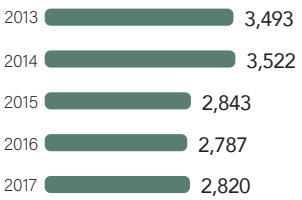
Environmental Monitoring and Measurement

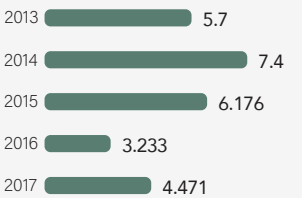
CSC Environmental Monitoring Center oversees 6 air quality monitoring stations and has 2 digital boards that display real-time air quality data for the reference of citizens. In case of abnormality, citizens can call CSC at +886-7-802-1111#5592 in office hours or #3702 in off hours. For stationary emission sources, 29 continuous emission monitoring systems serve to the control of traditional pollutants emission intensity and quantity, and 25 are connected to Kaohsiung City Environmental Protection Bureau (KSEPB) for government supervision.

Air Pollutant Emissions and Countermeasures

SOx	(t/year)	Countermeasures
EIA Commitment **34,900** kg/day		Adding alkaline desulfurization equipment to #4 coke oven plant and desulfurization equipment to the sinter plant and power plant boilers to reduce SOx emissions by 5,039.6 t/year in 2018.

NOx	(t/year)	Countermeasures
EIA Commitment **34,600** kg/day		Adding denitrification equipment to power plant boilers and #2 sinter plant to reduce NOx by 1,311.4 t/year in 2018. Even though using environmental coal, the coal firing boilers of #2 power plant installed SNCR in 1999. With the revamped denitrification project from 2014, it is possible to reduce NOx from 230 ppm to 120 ppm by low-NOx burners. Together with SNCR and the newly installed SCR, it is possible to further reduce it to 50 ppm, lower than the tightened standard of Kaohsiung, 80 ppm.

PM	(t/year)	Countermeasures
EIA Commitment **19,500** kg/day		Enhancing efficiency of electrostatic precipitators in sinter plants to reduce PM by 724.2 t/year in 2018.

Dioxin	(g-TEQ/year)	Countermeasures
EIA Commitment -		Installing activated carbon injection equipment, replacing with denitrification/ dedioxination selective catalysts for sinter plants, improving electrostatic preceptors, and building a rotary hearth furnace to reduce recycling quantity of solid materials of sinter plants.

PM2.5 Countermeasures

Pollutant		Reduction Project	Estimated Performance	Time of Completion
Native PM 2.5		Anti-dust net for ore piles	-1,592 kg/day	Dec. 2013
		Anthracite coal shelf	-	Mar. 2013
		PM 2.5 test and measurement for main stacks	-	Nov. 2013
		De-SOx equipment at sinter plants for particulate removal	-162 kg/day	Dec. 2017
PM 2.5 Precursors	SOx	De-SOx equipment at sinter plants	-12,640 kg/day	Dec. 2017
		De-SOx on coal-fired boilers	-882 kg/day	Mar. 2017
	NOx	De-NOx equipment at sinter plants	-2,534 kg/day	Dec. 2017
		De-NOx on coal-fired boilers	-1,059 kg/day	Jan. 2014
	VOCs	Adoption of low-VOCs coating materials on coating processes	-532 kg/day	Dec. 2016

Odor Reduction

Stationary odor monitoring stations, meteorological stations, and 3 automatically triggered sampling systems stand at the border with CSBC. In case of an odor incident, the direction of source can be traced with the meteorological information, and the sampling systems are triggered automatically to gather samples for more accurate analysis.

Control of Ozone Depleting Substances

CSC integrates air conditions, improves equipment maintenance, develops high-efficiency models, uses eco-friendly coolants, and reuses recycled coolants.

Ozone Depleting Potential

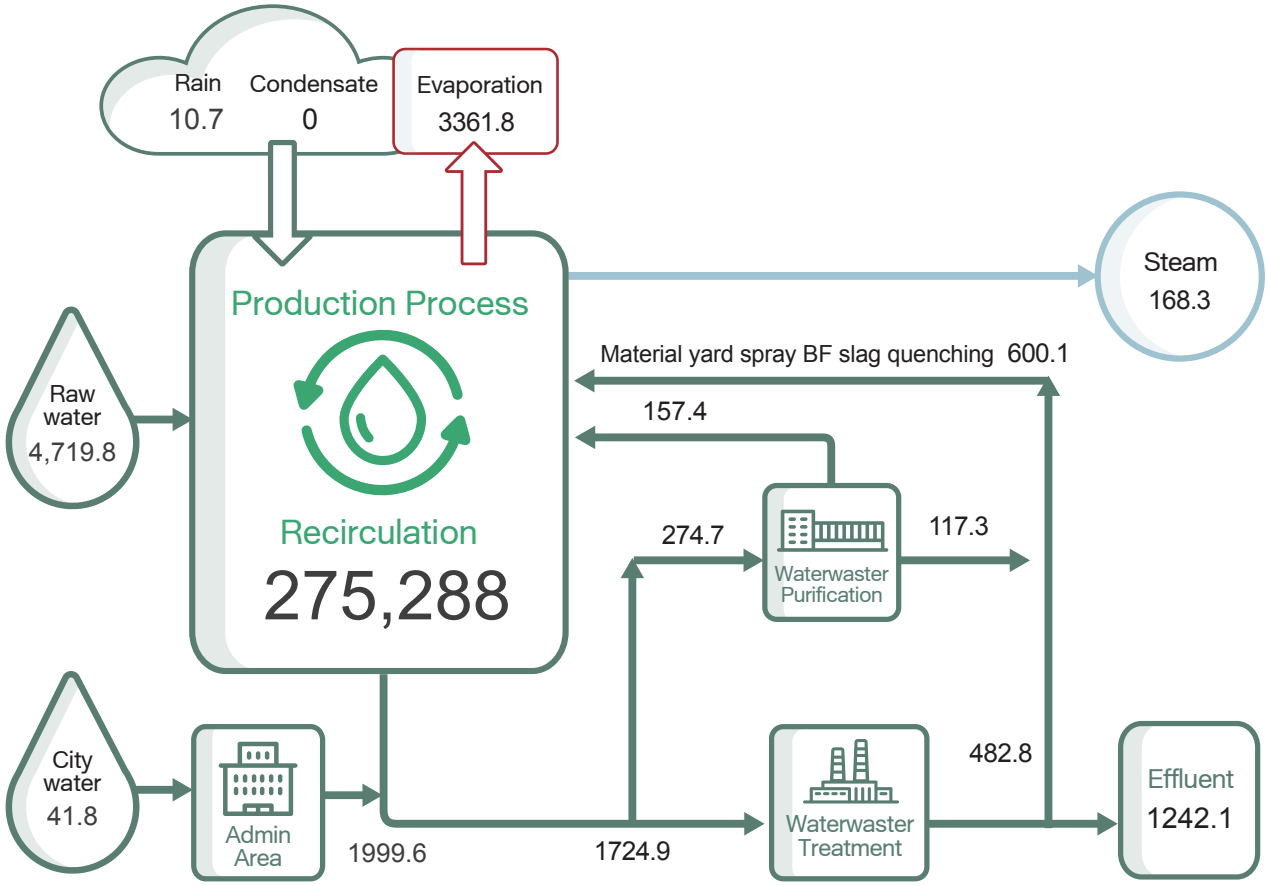
	2013	2014	2015	2016	2017
Total (kg)	20.24	20.02	18.92	19.10	25.30
Intensity (mg/tCS)	2.33	2.39	2.05	1.96	2.75

Since R-22 has been included in the GHG control in the IPCC 3rd Ed. Assessment Report (TAR), in CSC only refrigerant R-124 is required to be managed by the Montreal Protocol.

5.2.5 Water

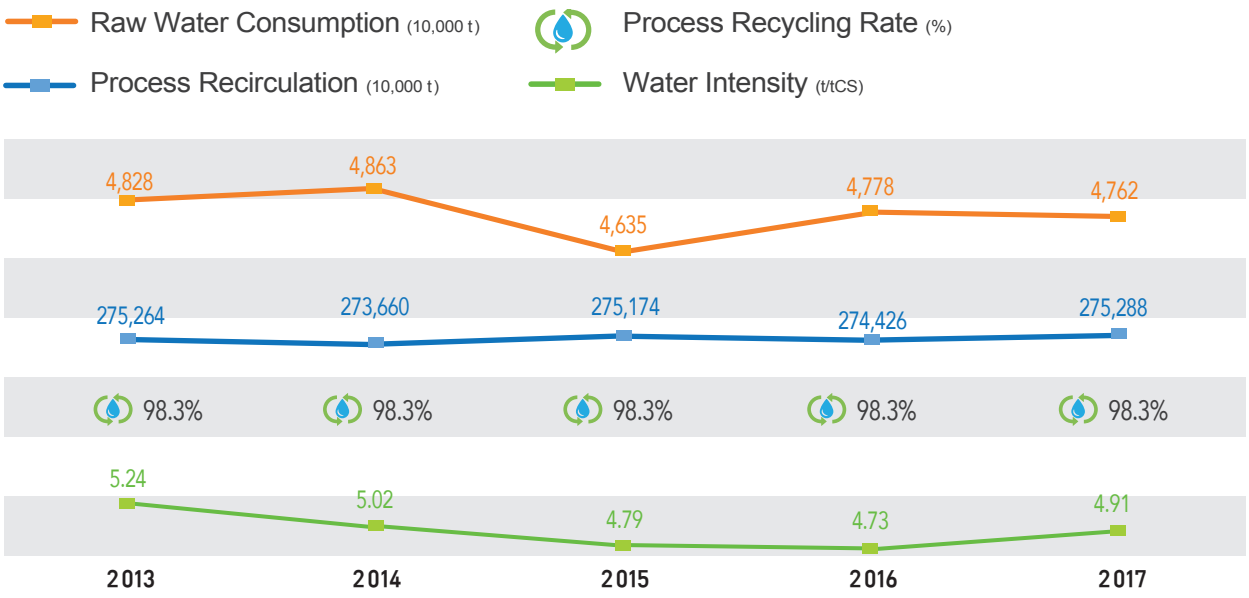
Water Balance, 2017

(10,000 t/year)



Water Conservation

Integrated steel production needs raw water for cooling, de-rust, lubrication, dust washing, and environmental protection. For CSC plants, the source of raw water is Kaohsiung Fengshan Reservoir (for industrial water supply) which provides 0.3 Mt daily. With effective water management, recycling and reuse, and energy integration in Linhai Industrial Park, daily average raw water consumption for production of CSC has reduced to 130,400 t in 2017. Process water recycling rate has reached 98.3%, and the water intensity was 4.91 t/tCS in 2017. It is expected that the CSC can import 24,000 t recycled water per day from Sep. 2018, and the capacity of recycled water plant will increase to 45,000 t per day in Sep. 2019. CSC will import 44,000 t recycled water daily. The fresh water usage will be reduced to 4.2 t/tCS in 2018 and finally to 3.4 t/tCS in 2019. For China Steel Building, the water usage for 2017 was 52,598 t city water.



Note: Process Recycling Rate = (Process Recirculation) / (Process Recirculation + Raw Water Consumption)

Water Conservation Projects

Water conservation projects in recent years include: Update of G/H systems for high efficiency water extraction process in #2 Power Plant; Update of the blower to a high efficiency rotor to reduce cooling water consumption; Shortening of the bypass filter backwash time, and

- BOF soft water conservation through heat load reducing by OG boiler project, saving 409,200 t water every year.
- Installation of partial filter for sealing water of LDG holder in #2 BOF Plant to recycle it to indirect cooling water systems, saving 43.2 t water every year.
- Roof rain collection facilities collected 106,800 t rain in 2017.
- Wastewater purification plant with ultra-filtration (UF), reverse osmosis (RO), and ion exchange system for to ensure output water quality meets the standard for high-pressure boilers.
- Recycled 3,000-5,000 t/day RO brine of wastewater purification plant for BF slag quenching.
- Municipal wastewater reclamation project: CSC signed a water purchase contract with Industry Development Bureau, Ministry of Economic Affairs, and the Kaohsiung City Water Conservancy Bureau has planned to build the third stage processing facility in the Fengshan Sewage Treatment Plant. CSC expects to reduce water consumption by obtaining 24,000 t/day recycled water as the first phase completes in 2018 and obtaining 44,000 t/day as the second stage completes in 2019.

/ Rain collection /

/ Wastewater Purification Plant /

Water Pollution Control

Main tasks of water pollution control are managing existing equipment and building backup facilities water to improve quality, and improving rainwater drainage performance by monitoring and managing.

The CSC wastewater processing facility with 79,600 t/day capacity processes wastewater to effluent standards and discharges to the ocean through a 60-m channel. In addition, a 40,000 m^3 runoff wastewater collecting pool with 36,000 t/day processing plant for the raw material yard processes runoff wastewater from heavy rain to the effluent standards and discharge into the ocean through the 60-m channel.

In 2017, the total discharge was 12,400,000 m^3, decreasing by 1,370,000 m^3 from 2016. The Chemical Oxygen Demand (COD) and Suspended Solids (S.S.) were 44.5 mg/L and 5.4 mg/L, decreasing from 55.2 mg/L and 5.8 mg/L in 2016, and further below than statutory effluent standards (100 mg/L and 30 mg/L).

EPA announced Industrial Effluent Standard in 2014 with additional ammonia control standard of 20 mg/L for chemical industry including coking and coal chemical processes. By the regulations, CSC filed a reduction plan with upstream process reduction (NH_3-N from 800-1000 mg/L to <300 mg/L) and downstream wastewater treatment (NH_3-N from 300 mg/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 Feb. 2017. The improvement project completed the functional test on in Sep. 2017. The ammonia concentration in the discharge water was 9.1 mg/L, in compliance with regulations.

5.2.6 Soil and Groundwater

To control soil and groundwater quality and to prevent pollution, CSC has 15 groundwater monitoring wells for periodic examination. Analysis results have been normal. When leasing, buying, or selling lands, CSC conducts investigation for underground environment to ensure there are no pollution disputes.

- By Soil and Groundwater Pollution Remediation Act, in 2017 CSC reported and paid 61,051,599 NTD for soil and groundwater remediation and reported monitoring records for underground oil storage tanks as well as for oil input/output balance sheets of gas stations.
- CSC conducted 3 investigations of soil and ground water pollution before and after renting or purchasing land.

5.2.7 Toxic Substances

CSC obtains permits, registrations, and approvals by law prior to operation and reports amount of use and release to EPA regularly. For venues where operating amounts are large by the mass operation standard, safety drills are performed annually. CSC also joined the National Joint Prevention System and participated in relevant courses and activities for prevention and emergency response in toxic substance disasters. 2017 observed no accidental release of toxic substances. Of the 13 toxic substances used in CSC operations in 2017, benzene and chromium trioxide were most used. Their amount of usage and handling are as follows.

Control Code	Toxic Substance	Operation	Amount	Handling
052-01	Benzene	From light oil (>76% benzene content), a residual of the coking process.	Approx. 58,000 t/year	Sold to China Steel Chemical for refinement into high-purity benzene, toluene, and xylene for sales
055-01	Chromium trioxide (Chromic acid)	Purchased for steel sheet surface coating.	Approx. 1,300 t/year	-

5.2.8 Handling of Hazardous Waste

Waste chemicals, which are produced in laboratories and in trivial amounts, are handled by certified vendors in Taiwan. Lead slag, produced from the rolling mill process, is appointed to legal waste recycling vendors for recycling and utilization. No hazardous waste is shipped overseas.

	Handler	Waste	Weight (t)
2013	RSEA Engineering	Chloric solvent	7.74
	Logos Technology Development	Corrosive waste	1.59
		Flammable waste	0.09
2014	-	-	0
2015	-	-	0
2016	Thye Ming Industrial	Lead slag	6.60
2017	-	-	0

5.2.9 Byproducts

CSC demonstrates effective reduction, on-plant recycling, and off-plant utilizing of by-products (solid residue). In 2011, “zero solidification landfill” was achieved after years of effort. It was also achieved in 2017. CSC also keeps close collaboration with the academia and other industries. In 2017, 5.415 Mt of process by-products (wet base) were produced. The ratios of on-plant and off-plant recycling are 30.2% and 69.8%, respectively.

Type	Production Characteristics	Annual Output (10,000 t)	(%)	On-plant Recycling (%)	Off-plant Recycling (%)	Utilization
BF slag	Produced in BF smelting of raw materials into liquid iron	273.4	50.5	4.4	95.6	Used to produce slag powder after granulating or engineering materials after cooling.
BOF slag	Produced in BOF refining of liquid iron into liquid steel	115.3	21.3	45.4	54.6	Used (after steel recovery) as raw materials for the sinter plant or as asphalt concrete and concrete agent materials.
De-S slag	Produced after desulfurization of liquid iron	29.2	5.4	21.1	78.9	Used (after iron recovery) as material for land grading, temporary roads, soil improvement, low strength concrete, and concrete materials.
Dust	Collected by dust precipitator (including fly ash)	31.3	5.8	97.9	2.1	Fly ash: used as cement materials after mixture with sludge; zinc oxide powder: sold to refineries in Japan; others: used as iron making materials.
Sludge	Produced after treatment, concentration, and dehydration of wastewater containing mineral dust	38.5	7.1	85.3	14.7	High-Zn sludge: sold to refineries in Japan; others: recycled for iron making on-plant or sold to cement plants as materials if not recyclable.
Mill scale	Rust on steel surface during production	31.7	5.8	99.9	0.1	Recycled for iron making.
Spent refractory	Scrap spent refractory from high temperature facilities	6.9	1.3	31.1	68.9	Recycled (after steel recovery) as steelmaking flux and protective base layer for slag pots or reversely recycled by suppliers for refractory.
Construction residues	Waste earth from construction projects	4.1	0.8	0.0	100.0	Used for soil material plants in 2013 as the South Star Project was shut down in 2012.
Limestone cake	Cakes of limestone after rinsing and dehydration	0.2	0.0	0.0	100.0	Sold to cement plants as materials.
Other	Slag steel, condensed steel, de-S cinder, fly ash, rubber pads, waste grease, cold rolling fluids, fluid barrels, and zinc dross	10.9	2.0	78.3	21.7	Mostly recycled on-plant and others reversely recycled by suppliers, sold, recycled by relevant agencies, or processed by vendors.
Total		541.5	100.0	30.2	69.8	

BOF Slag

BOF slag is a good engineering material but has restrictions. CSC Group has set a BOF slag self-management plan to avoid product misuse. CSC will apply a complete product inspection process that can effectively track the flow of products and ensure products application will not impact the environment, including product sales pre-shipment survey and audit, shipping inspection, and post-shipment tracking.

5.3 Green Living

Low-carbon Green living

CSC Group voluntarily launched the Employee Green-Living Program in 2012 to turn the group into a low-carbon green enterprise. The Program entered the second phase in 2015. The 5 LOHAS categories are dieting, clothing, housing, transportation and education, recreation and other living aspects. In addition to total employee involvement, annual evaluation and assessment is held. To help employees understand personal carbon footprints, CSC in 2016 developed a CSC Group Low-Carbon Life Recorder for Group employees to record diet and traffic carbon emissions during their work hours.

	Green-Living Excellence Award			Green-Living Creativity Award
	1st Place	2nd Place	3rd place	
2017	CHC Resources	C.S. Aluminum	China Steel Structure	CHC Resources
2016	Dragon Steel	China Steel Security	CHC Resources	Dragon Steel

Green Procurement

In accordance with the governmental promotion of civic green consumption, CSC started procuring products with green marks since 2007. Those procured were initially green products in the employee grocery store and office papers, later expanded to lighting, computer equipment, leasing equipment (including official vehicles and printers), printed matters, slag and cement, and green building materials. CSC also posts green consumption information online to increase employees' knowledge and will for green procurement in daily lives. In 2017, the CSC green procurement amount is 151 mi. NTD, far beyond the benchmark of 30 mi. NTD for awarding of Commendable Green Procurement Units of Private Corporate and Groups by EPA and KSEPB. This demonstrates CSC's determination to actively promote green procurement and consumption.

(NTD)	2013	2014	2015	2016	2017
Green Procurement	187,189,478	125,861,830	127,381,094	145,683,105	150,965,575

6

EMPLOYEES CARE

6.1 Recruitment and Retention
6.2 Employee Rights
6.3 Competency Development
6.4 Occupational Safety and Health

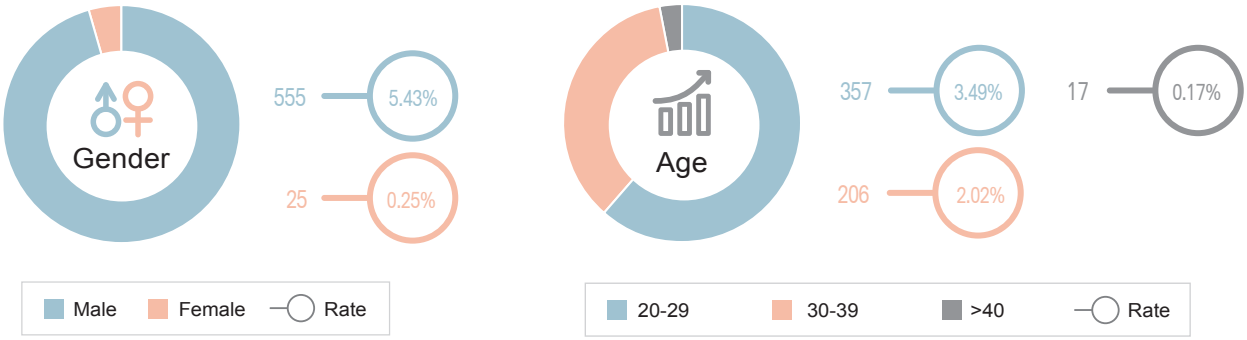
6.1 Recruitment and Retention

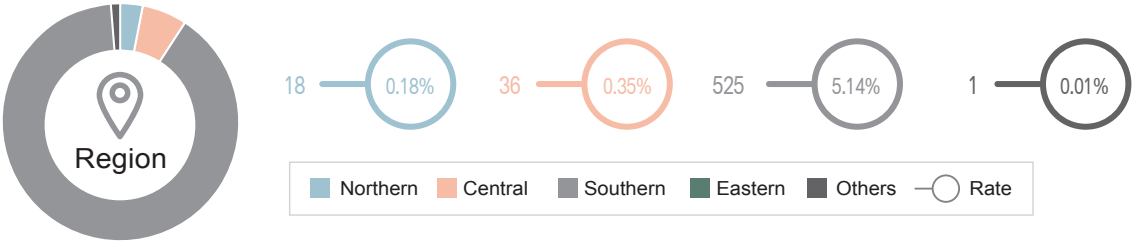
6.1.1 Recruitment

CSC strictly follows the Labor Standards Act of Taiwan and never hires child labor. To ensure the basic human rights of employment equality, employees are hired only by expertise and by experience, eliminating discriminations upon ethnic origin, thought, religion, political affiliation, place of origin, place of birth, gender, sexual orientation, marital status, appearance, disability, or past labor union membership. In 2017, no incident involving human rights abuse or discrimination was reported.

For the one external recruitment in 2017, the number of job vacancies, test subjects, and job contents were open to public. Applicants were asked to take the written test on common and professional subjects. Based on test results, at least twice the number of vacancies was selected for interviews. The final decision for employment was made based on both written test and interview scores, and 580 new employees were hired.

Newcomer Attrition, 2017





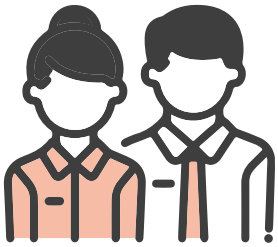
Apprenticeship Cooperation

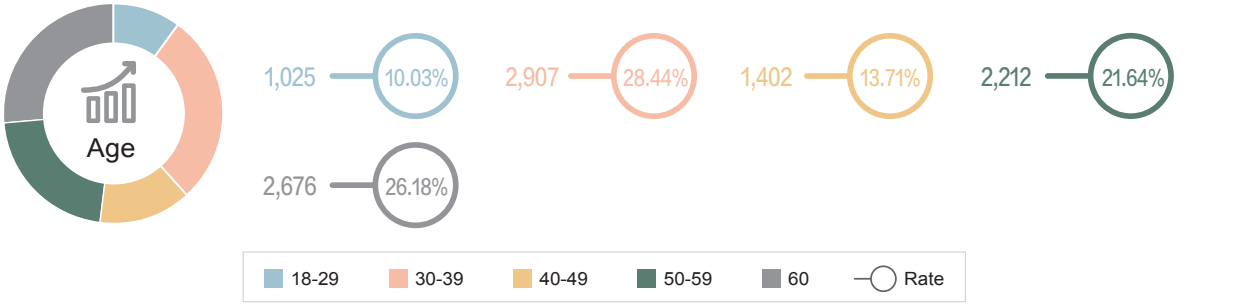
To reduce the gap between school education and industrial practices, address the demands for specific skills, and increase the percentage of aboriginal employees, CSC cooperates with vocational high schools to provide Staged and Job-oriented Apprenticeship Classes and with universities to provide Masters Programs. Talents are selected and cultivated, with training of skills that are directly applicable in the industry, the CSC corporate culture, and work ethics. The students are expected to be able to join the company at the plant of their internship with capability gained through apprenticeship directly after graduation. From various cooperative education programs with 1 university and 4 vocational high schools, CSC has recruited 147 students as employees.

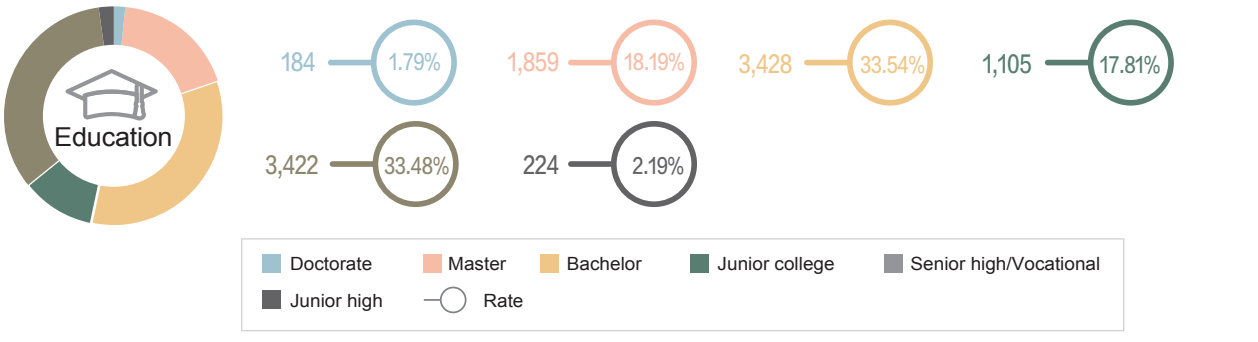
6.1.2 Workforce

By the end of 2017, the CSC workforce totaled at 18,428 people, of whom 10,222 were official employees, 8,206 were contractors (6,811 male and 1,395 female, mainly work contractors and engineering contractors), and 41 were dispatched workers (2 male and 39 female, mainly for paperwork and general affairs). The average age of employees was 47.16 and the average service years was 20.60. The male-female ratio is due to the characteristics of the integrated steel mill.

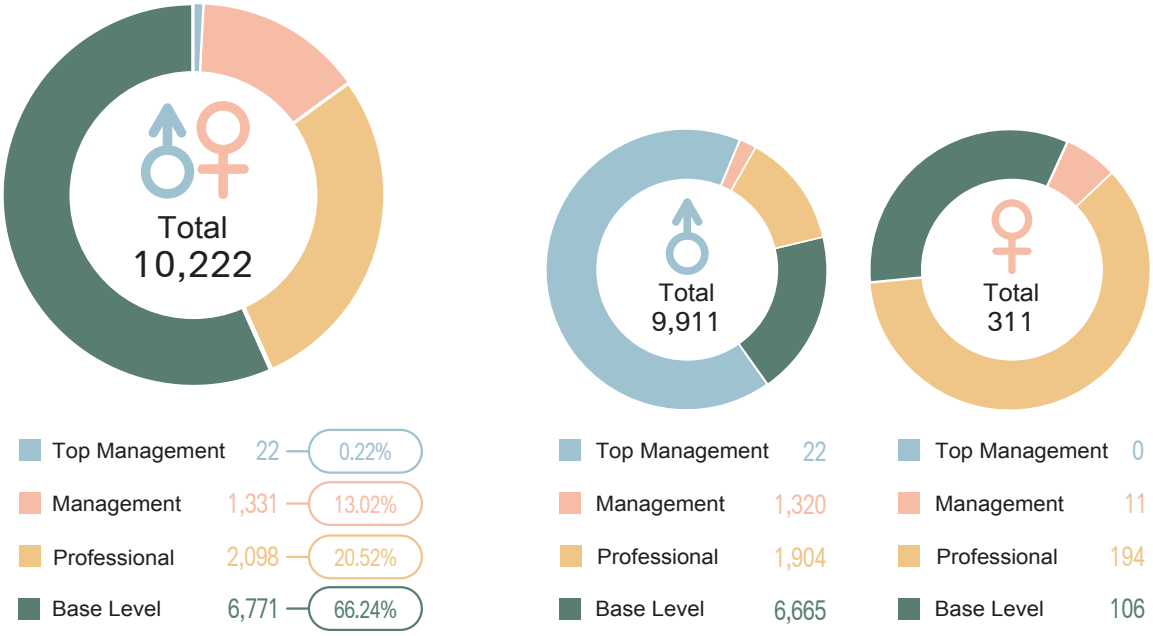
Employee Distribution, 2017







Employee Position Distribution, 2017



Statistics for Parental Leave, 2017

	Male	Female
Number of employees entitled to parental leave *(1)	1,332	48
Number of employees that took parental leave *(2)	1	3
Number of employees due to return to work after parental leave *(3)	2	4
Number of employees that returned to work after taking parental leave	1	1
Return to work rate	50%	25%
Number of employees returning from parental leave in 2016	8	11
Number of employees retained 12 months after returning to work after a period of parental leave	8	11
Retention rate	89%	100%

Note:
(1) Calculated from parental leaves granted in 2014-2017.
(2) Number of Employees still on parental leave in 2017.
(3) (Number of employees that took parental leave in 2015-2017) – (Number of employees that returned to work in 2015-2016).

6.1.3 Turnover

The personnel change, resignation, and retirement of employees are handled according to relevant CSC regulations. Official 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 weeks in advance 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 2017, a total of 696 employees left, with an attrition rate (number of personnel left/active employees at the end of year) of 6.81%. 646 were aged 60 and up, and retirement was the main reason for attrition.

Employee Attrition/Attrition Rate

Gender	2015		2016		2017	
	Count	Rate	Count	Rate	Count	Rate
Male	418	4.08%	559	5.78%	684	6.69%
Female	14	0.14%	10	0.10%	12	0.12%

Region	2015		2016		2017	
	Count	Rate	Count	Rate	Count	Rate
Northern	12	0.12%	10	0.10%	6	0.06%
Central	5	0.05%	549	5.68%	11	0.11%
Southern	415	4.05%	8	0.08%	676	6.61%
Eastern	0	0%	1	0.01%	3	0.03%
Others	0	0%	1	0.01%	0	0%

Age	2015		2016		2017	
	Count	Rate	Count	Rate	Count	Rate
20-29	9	0.09%	21	0.22%	13	0.13%
30-39	30	0.20%	31	0.32%	21	0.21%
40-49	8	0.08%	1	0.01%	2	0.02%
50-59	48	0.47%	23	0.23%	14	0.14%
>60	337	3.29%	493	5.10%	646	6.31%

6.1.4 Retention and Benefits

Retention policies of CSC are as follows:

Remunerations

Employee remunerations include 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. Remunerations for male and female employees are equal, and the basic salary of male and female employees of the same position and grade 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 length of service. For employees at the same position and with the same length of service, remunerations are the same regardless of gender.

Remuneration by Position	Female	Male
Basic Management	1	1.32
Professional	1	1.25
Base Level	1	1.21

Salary adjustment based on performance

Those qualified will receive respectively 1-8% of raise according to their midyear performance grade. 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%.

Appraisal

Employees are evaluated by performance given a grade between A to E. The performance grade and remuneration structure of employees affect the amount of rewards, bonus, and salary adjustment. Those receiving an E in the evaluation will be dismissed. Those receiving a C will receive no salary raise. In addition, the supervisor must interview these employees and submit a performance improvement plan. In 2017, 727 received A and none received E.

Bonus and other incentives

- Production/Sale Profit Bonus: With revenue at the end of the month, 90% of it will be distributed to employees in the next month while 10% of it will be hold until next Feb. as the key bonus. The amount each employee will get as a monthly bonus depends on their salary, weights of the department they serve, and their days of duty within a month.
- Key Bonus: Those qualified will be given a key bonus based on their contribution during the past year, with the amount of 3-months of salary as maximum.
- Incentive Bonus: With revenue at the end of the year, those qualified will get an incentive bonus based on their yearend performance grade and their basic salary, with ratios differencing from 0.5-1.25.

New employees remunerations

Pay standard of new employee is determined with reference to workforce supply and demand and remuneration standards on the market. The pay is to be superior to the basic wage specified in the Labor Standards Act, with reference to the duty, education background, length of service in related fields, market workforce demand, and the pay of current CSC employees of the same position and with similar lengths of service. The starting point for base-level employees and engineer employees is 27,100 and 36,600 per month, respectively. After the 3-month trial, the wage is adjusted with reference to the employee's past work experience and current work performance.

Career Development

Promotion for technical positions

With the qualification approved, 27 entry-level technicians were promoted as foremen and 1 to professional position in 2017.

Internal recruitment

With the principle of person-job fit, internal recruitment has been carried out for over 20 years. 14 was transferred to other job positions successfully through internal recruitment in 2017.

Domestic and overseas training

With the needs of diversified and international operation strategies, respectively 13 and 76 employees were chosen for medium/long-term and short-term courses at overseas academic institutions and enterprises while 84 were selected to receive continuing education in domestic universities.

Welfare

CSC provides decent working conditions for employees and commits to meeting their demanded welfare. CSC Employee Welfare Committee with 27 members from the employer and employees sets welfare facilities, and CSC Employee Welfare Section handles welfare services and conducts satisfaction investigation. The average score for satisfaction was 83.6 in 2017. CSC subsidizes employee family activities every year through departments in the company. Employees are also encouraged to join employees' clubs for work-life balance and social involvement. In 2017, there were 43 clubs and 492 activities with 18,900 participants of employees and family.

/ CSC Group Wedding Ceremony /

/ Dragon Boat Race /

Employees Residence

As a result of CSC Group taking care of its employees, especially newcomers who are not homeowners, and the group policy for land resource activation, CSC Group company CPDC started a development project of 4 residential buildings by China Steel Building. Contracts were signed for 222 units. The buildings are expected to obtain use permits by the end of 2018.

6.2 Employee Rights

6.2.1 Human Rights Management

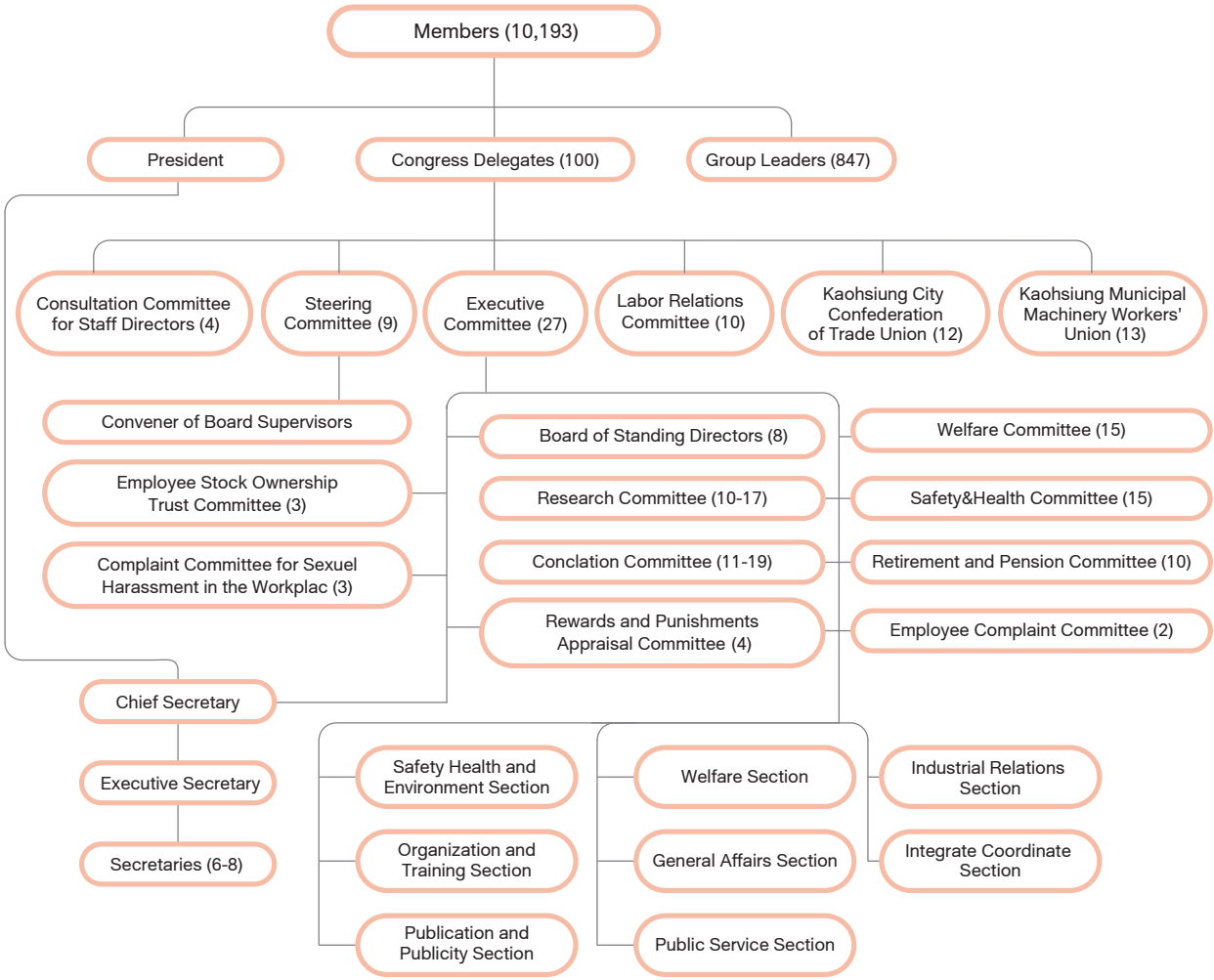
CSC sets humanity management as its foundation of management and enthusiastically protects and improves human rights. To ensure the citizenship and labor rights of its employees, CSC signs collective agreements and conducts safety and health programs. CSC considers employees an important capital and provides a friendly working environment with human rights protection. CSC adheres to domestic and international codes on labor and human rights to treat and respect all employees equally. Practices include: Establish labor conditions with reference to relevant laws and regulations; Ensure diversity and equal opportunities for all jobseekers with reference to the Employment Services Act; Establish the Employee Rewards and Punishments Review Committee to review major rewards and punishments of employees; Establish the Workplace Sexual Harassment Prevention, Grievance, and Disciplinary Action Regulations to provide employees and jobseekers with a work environment free from sexual harassment; Establish grievance mechanisms for employees to appeal infringement of legal rights to work and inequality in treatment. All new employees are subject to trainings on human rights, and all employees have received such trainings. 825 persons (8.07% of all employees) received a total of 1,890 hrs trainings on human rights in 2017. In 2017, there was no discrimination or complaint and no violation of human rights laws and regulations.

Human Resources Dept. arranges forums every week for top management to communicate with employees from selected departments. Issues raised by employees are followed up. Besides, every department holds communication meetings with employees and representatives of the CSC Labor Union. Subjects discussed are also followed up.

6.2.2 CSC Labor Union

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. CSC Labor Union was established on 30 Dec. 1980 with members from each department, except for top management. The Union aims to promote business development from the labor's point of view, to urge unification among members, to protect the rights and benefits of members, to improve the living of members, and to enhance competency.

Union Organization Framework



The Delegate Congress is the highest authority of the Union, with 100 delegates elected by members from departments in each plant site. The Board of Directors with 27 directors elected by delegates is the highest authority during the adjournment. The Steering Board with 9 members elected by delegates is set to supervise the Board of Directors. The president for the Steering Board is elected from and by members of the Steering Board. The chairperson is directly elected by all members to represent the Union and to administer routine union affairs. The Secretariat and 8 functional groups implement union affairs. Membership is compulsory for all qualified employees; excluding managers of certain sections.

	2013	2014	2015	2016	2017
Members	9,863	10,017	10,163	10,193	10,132
Membership Rate	99.17%	99.11%	99.14%	99.15%	99.12%

Collective Agreement

CSC values employer-employee relationship. 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 4 Feb. 1997. This set a milestone for employer-employee harmony and settlement of affairs. With articles and concept superior than relevant legal requirements, CSC's Collective Agreement has since become a benchmark for other labor unions. In 2014, the 4th Collective Agreement was signed on 5 Dec. to further protect the rights and benefits of both parties, enhance work efficiency, and improve employer-employee harmony. Protection for the health and safety of employees was also specified. To accommodate the legislative changes, amendments to articles 23 and 25 of the Collective Agreement were made on 30 Dec. 2016 and became effective on the next day. The negotiation of CSC and the Union on the Collective Agreement has activated.

Involvement in Corporate Governance

CSC holds periodic employer-employee meetings and helped the Union to get a directorship on the CSC Board of Directors. Since 31 May 2001, industrial democracy is realized as an employee representative has been on the Board to participate in company decision-making and to provide labor perspective. The Union also participates in the Human Resources Development Committee and in the Employee Rewards and Punishments Review Committee.

Pursuit of Labor Rights and Benefits

The Union pursues labor rights and benefits with rational and peaceful means, including employer-employee meetings, seminars with directors and management, and collective bargaining. Protests or litigations were only used in rare situations. To put 40-hour work week into practice, the government amended the Labor Standards Act in the end of 2016. The negotiation is based on mutual trust and related laws. In 2017, no major employer-employee dispute was reported.

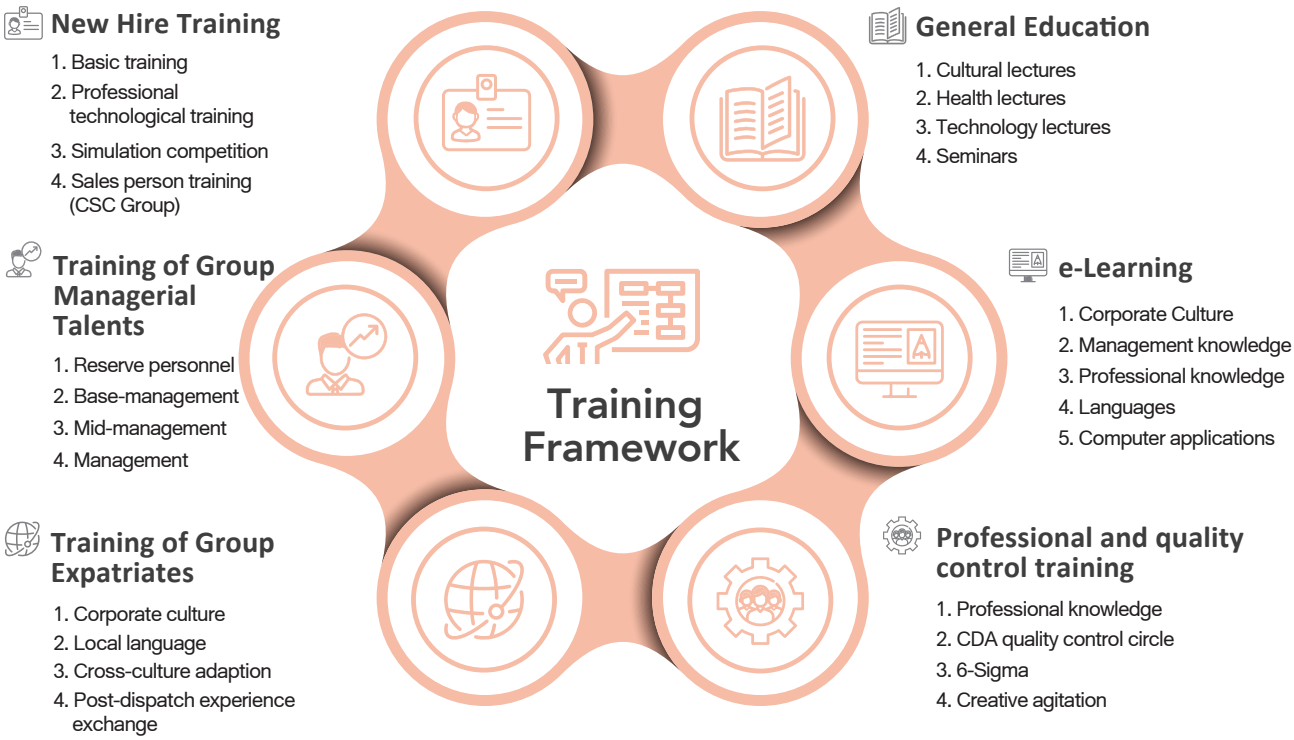
External Exchange and Cooperation

The Union has exchanged with and visited domestic and international trade unions on a regular basis and engaged in frequent exchange with leading domestic labor unions. The Union has participated in the Labor Day Parade organized by the Taiwan Confederation of Trade Unions in northern Taiwan many times to express concern and to speak for workers.

6.3 Competency Development

Training Framework

With over 4,800 senior employees to retire in the next 15 years, the CSC workforce development is focused on corporate culture, knowledge management, and trainings. CSC Talent Cultivation and Development Framework is constructed with 6 major building blocks. All employees are subject to continuous career development trainings designed for organizational and individual needs. Performances and duty of all employees are examined in year-end performance evaluations.



In 2017, the average physical and online training per employee was 28.9 hrs and 4.9 hrs, respectively, totaling 345,469 hours. The average training time for each position and gender as follows:

(hrs)	Female	Male	Average by Level
Top Management	-	22.36	22.36
Management	62.82	46.87	47.00
Professional	33.30	32.28	32.37
Base Level	13.64	18.90	18.82
Average by Gender	27.64	25.20	25.28

Note: There was no female top management in CSC in 2017. This table excludes trainings in academic institutions and universities.

New Employee Cultivation and Experience Inheritance

The CSC workforce planning is constructed based on the demand of company development strategy, investment plans, and employee retirement/resignation status. Short-, medium-, and long-term plans are made. Successor planning is also constructed based on periodic inventories of higher-level workforce. For new employees, amounting 1,000 in recent years, trainings include the mentorship program, knowledge management, and various courses. In addition, CSC built the knowledge management system for systematic inventory, inheritance, and innovation of workforce and documents as a precaution for the future retirement peak.

New Employee Training	Fundamental Training	1-week collective training on CSC Group basics.
	Sales Personnel Training	Introduction to CSC steel product applications at downstream industries.
	Professional Skill Training	Training on mechanical and electrical engineering and maintenance for steelmaking practices
	Steel Vitality Camp	Online steelmaking simulation competition organized by the Steel University of worldsteel. There were over 150 participants in 2017 for cultivating colleagues selfless sharing and team spirit.
e-Learning	Knowledge Map and Inheritance	Domestic and overseas continuing education and management/technology best practice knowledge-sharing forum led by high-level managers and knowledge-sharing with other enterprises. About 5,000 knowledge documents and e-Learning courses were constructed in 2017.
	Knowledge Community	To reinforce knowledge sharing through discussions in various fields. 93 knowledge communities were established by the end of 2017.
	Successor Training Program and Mentorship System	To maintain organizational core competitiveness, develop sharing culture, stimulate learning enthusiasm, and foster organizational learning. CSC was awarded the Workforce Innovation Award and Outstanding Enterprise Learning Network Award.

Group Management Training

Group management trainings for production, R&D, technology, management, and foreign language respond to the needs of diversified and international operation strategies. In 2017, 76 employees were sent for courses at overseas academic institutions and enterprises, and employees were selected to receive continuing education in domestic universities.

High-level managers	① Overseas short-term business management studying (in collaboration with London Business School, Columbia University) ② High-level civilian cultivating project (National Civil Service College) ③ Humanities Lecture Series
Mid-level managers	① CSC Group Mid-level Managers Management Course (in collaboration with NCKU, NSYSU) ② Instructor cultivation of Management Training Program for Mid-level managers (China Productivity Center) ③ Courses by internal instructor on management skills and management talent evaluation
Base-level managers	① Courses on leadership, communication, coordination, systematic thinking, and conflict management ② Practical mechanical and electrical techniques ③ Courses by mid-level managers on operation status and corporate culture

Expatriates Training

Work experience and culture workshops

CSC has set up rolling plants in Vietnam and India. For the expatriates to learn local languages and understand local cultures, CSC organizes work experience and living culture workshops.

Training for directors of CSC and subsidiary companies

In compliance with Directions for the Implementation of Continuing Education for Directors and Supervisors of TWSE Listed and GTSM Listed Companies, CSC organizes 3 hours of advanced management training every year. Trainees include CSC directors and division VPs, reinvested companies directors and supervisors, and relevant personnel in CSC Group affiliates.

Creative Development Activities (CDA), Suggest System (SS), and 6-Sigma Improvement Project

CSC promotes CDA and SS to encourage base-level employees to voluntarily find and solve problems and to inspire suggestions for corporate policy. For CDA, there were 596 activity circles with 5,302 participants (83.0% of base-level employees) and 452 completed topics, with estimated benefits of 56 mi. NTD. For SS, there were 22,935 accepted out of 23,026 recommendations received (acceptance rate 99.6%) in 2017, with estimated benefits of 50 mi. NTD. Besides, CSC encourages all the engineers to use 6-Sigma methodology in process improvement and reducing the process deviation. 35 projects were completed with estimated benefits of 50 mi. NTD.

6.4 Occupational Safety and Health

6.4.1 Occupational Safety

CSC Safety Culture

Safety culture is a multi-oriented concept. CSC's safety culture is composed of the following three aspects.

Policy	Safety policy statement, management organization, and resource provision.
Management	Building the corporate system framework with responsibility, control of safe practices, licenses and training, rewards and punishments, audits, improvement results, and promotion of safety concern plans.
Individuals	Changing employee safety concept and improving personal safety culture with trainings, employee involvement, safety concerns, health concerns, and two-way communication.

ESH Policy

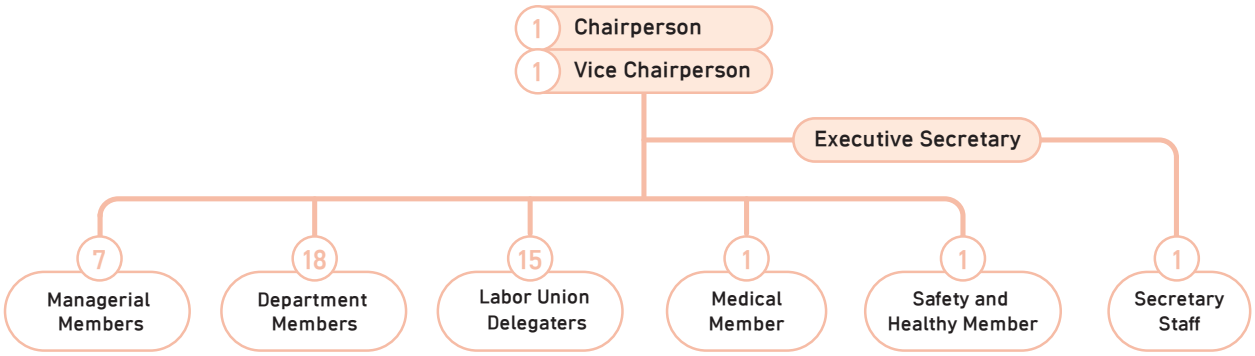
Care for Life	**Risk Management**
Training and Communication	**Legal Compliance**
Continual Improvement	

Safety and Health Management System

For continual improvement regarding system certification requirements, the occupational safety and health management system (TOSHMS) was introduced in 2000, OHSAS 18001 certification was obtained in 2002, and TOSHMS certification was obtained in 2008. In 2017, the internal audit of the TOSHMS/OHSAS 18001 system was completed in Mar. with zero nonconformity and 45 recommendations. Audited units took corrective and preventive actions. The external audit by BSI was completed in July 2017 with continual certification.

Occupational Safety and Health Committee

The OSH Committee is set for effective discussion and solution. CSC President serves as the Chairperson, the Executive VP serves as the vice chairperson, and 15 representatives of the CSC Labor Union account for 34% of all committee members. The Committee holds bi-monthly meetings and reports OSH management performances at the shareholder meeting for public review.



Safety and Health Goals

Improvement Strategies

- To find accident cause and effective countermeasures, CSC implements accident analysis continuously.
- To enhance safety and health improvement and management measure, CSC holds sharing activities of Production Division regularly.
- To enhance chemicals management, CSC plans to carry out trainings and audits in 2018.
- To reduce traffic accidents, CSC holds traffic training courses regularly.

Intrinsic Safety

Workplace safety is essential to ensure worker safety. To implement and improve equipment intrinsic safety, CSC established facility safety guidelines with reference to domestic and international standards, including ISO standards for machinery safety, IEC specifications, European standards (EN), and the national standards (CNS). These facility safety guidelines aim to identify hazards and assess risks. For planning and designing of equipment, basic safety design principles, relevant safety conditions, and safety devices serve as the reference for CSC to discuss equipment safety with equipment suppliers.

Management of Change

Accidents often occur when there are significant changes in personnel and working conditions. Therefore, it is crucial to establish a Change Management System to ensure that every change goes through a hazard identification and risk assessment process. Appropriate measures are implemented at CSC according to the results of the assessment to ensure the safety of all manufacturing processes, activities, and services.

Legal Compliance

The OHSAS 18001 and ISO 14001 management systems request company commitment to legal compliances and identification of relevant laws and regulations. CSC distributes relevant ESH legal requirements to relevant units for identification of those applicable and for precautionary measures. In 2017, Kaohsiung Labor Standards Inspection Office (KLSIO) conducted 11 in-plant inspections and there were 2 notices issued.

	2013	2014	2015	2016	2017
Issuer	KLSIO	KLSIO	KLSIO	-	KLSIO
Counts / Fine	1 / 0.06 mi. NTD	2 / 0.12 mi. NTD	2 / 0.12 mi. NTD	0	2 / 0.12 mi. NTD

Training, Education, and Publicity

As most accidents occur out of human negligence, how to train employees to avoid negligence at work has become the focus of the CSC trainings and education. The computerized safety and health training management system allows instant updates of data and online enquiries, thus making safety and health training control and audit more effective. In addition, bottom-up Safety SOP Revision activities are held for employees and contractors. Discussions for revisions combined with zero-disaster danger recognition trainings are to elevate capability of hazard identification and for the ultimate goal of occupational accident prevention.

Industrial Safety Trainings, 2017

Course	Classes	Persons
Occupational Safety and Health Act	66 (12 types)	1,645
Radiation protection and detection Training	4	381
Contractors' personnel training for pass application	42	2,037
Physical Safety Training	111 (7 types)	1,165
Transportation Safety Training	4	453
TOSHMS/OHSAS 18001 Lead Auditor Training	1	25
ISO 14001/TOSHMS/OHSAS 18001 Internal Auditor Training	2	69

Course	Classes	Persons
ISO 14001 Internal Lead Auditor Transition Training	8	307
Personal Protective Equipment Training	16 (2 types)	365
CSC Group Accident Investigation Training	1	30
Training for Emergency Treatment & Wound Care Considerations of Frostbite and Scald	1	77
Regulation of Hazardous Chemicals Training	4	192

Work Environment Inspection

By the Regulations for Implementing Work Environment Monitoring, every unit identifies health hazards in the work environment and assesses risks. High risks are high priorities of environmental monitoring. For hazards exceeding control thresholds, improvement and follow-up measures should be submitted to ensure the acceptable risk of personnel exposure. In 2017, work environment inspection was completed on 3,123 testing points (including areas and personnel), as in the inspection plan. Subjects for inspection include noise, wet bulb globe temperature (WBGT) index, carbon dioxide, chemical substances, and dust.

Emergency Drills

To improve emergency response and to prevent personnel injury, property loss, and environmental impact, each plant organizes emergency drills designed for its specific needs. In 2017, 5 enterprise-wide emergency drills were held, including utilities failure emergency drill, emergency drill for liquid ammonia leak of sinter plants, emergency drill for COG holder leak, emergency drill for #1 LDG holder leak, and emergency drill for #2 LDG holder leak.

Abnormality Control and Prevention

Overtime Work Control

For health reasons, employees should not work over 12 hrs a day, including regular and overtime work. Overtime should not exceed 46 hrs each month, except for special needs such as authorized emergency repair. Nonetheless, sufficient rest should be arranged afterwards.

Disaster Prevention Plan

Meeting the TOSHMS requirements of the Ministry of Labor, CSC sets safety targets and adopts PDCA steps to achieve comprehensive safety and health management and zero-disaster work environment.

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 of "decide, stop, observe, act, and report" and subject to timely encouragement and correction. For safety violations, employees and contractors are requested of communication and immediate correction without affecting operation safety. In 2017, safety observation and audit of site managers (including site inspection) totaled 48,913 times.

Safety Concerns

To raise the awareness and ability for safety and health, CSC encourages all employees and contractors to communicate with and help others. Care for mental health of workers is also an important element in CSC safety concerns. For employees or contractors who seem anxious, slow in response, or drunk, the site manager is responsible for taking care by suspending their work or sending them to medical attention according to relevant regulations.

Near Misses

After a near miss occurs, the responsible unit, personnel, or contractor should register the near miss at Near Miss Report Registration on the CSC EIP. 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 2017, 1,296 near misses were reported. Potential hazards were reviewed and improved for prevention.

Absence and Disabling Injury

In 2017, 22 minor workplace injuries, 6 disabling injuries (no deaths), 23 minor commute injuries, and 12 traffic-disabling injuries were reported. For employees and contractors of incident units, continual improvement measures include reinforced physical training, management by walking around, occupational safety diagnosis, near miss reporting management, 5S self-management, self-protection, mutual protection, and mutual supervision. Bottom-up occupational safety activities are arranged with base-level employees or in collaboration with CSC Labor Union team leaders. In addition, good management practices have significantly reduced personnel from exposure to health hazards. The implementation of work environment monitoring, special health examination and management, hazard training/education, use of personal protective equipment, and audits have minimized the rate of occupational illness. No occupational illness case was reported in the past five years.

Employee Disabling Injury Statistics & Absent Rate, 2017

	Male	Female
Absence hours	14,400	0
Sick leave hours	86,994	8,766
Absence days	12,674	1,096
Absent rate (AR)	0.47%	1.35%
AR	0.50%	
Count of disability	6	0
Disabling Frequency rate (FR)	0.28	0
FR	0.27	

Note: Working hours are 21,417,854 hrs (2,677,232 days) for male and 650,334 hrs (81,292 days) for female.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Employee FR	0.58	0.4	0.2	0.25	0.19	0.28	0.51	0.28	0.28	0.27
Employee SR	357	18	18	6	3	14	578	16	153	10.47
Contractor FR	0.77	0.87	0.65	0.87	0.36	0.59	0.54	0.78	0.67	0.40

Note:
Disabling Frequency Rate (F.R.) is the times of disabling per million work hours, disabling times x 1,000,000 / total work hours during the year.
Disabling Severity Rate (S.R.) is the times of disabling per million work hours, disabling days x 1,000,000 / total work hours during the year.

Disabling Injury by Category, 2017

	Falling	Frostbite and Scald	Cuts	Sprain	Traffic Accidents in Commute	Objects drop
Employee	0	5	0	1	12	0
Contractor	2	1	1	0	1	3

Employee Commute Traffic Accidents

To prevent traffic accidents during employee commute, CSC advocates traffic safety by promoting preventive driving, recommending public transport, and offering shuffle buses. Employees who ride motorcycle to work are subject to conversation with their supervisor for traffic safety awareness. To eliminate traffic blind spots in the plant, it is requested that at least 5 traffic improvement plans are submitted each year.

6.4.2 Health Care

Health Examination

CSC Clinic is composed of experienced medical professionals with new equipment. It provides employees with early diagnosis and proper treatment. All employees receive routine health exam annually. Where health exam finds any abnormal condition in laborers, medical personnel shall provide the laborers with health guidance. For employees working in special environments, additional health exam items are arranged such as high temperature, noise, lead, dust, and organic and special chemicals. In 2017, 2,567 employees received these additional exams, of whom 5 were included in level 4 health management and were evaluated by occupational medical professionals.

Care for Employees' Health

CSC Clinic reminds employees to change the lifestyle or receive treatment according to the results of health exam, including assistance in registration and transference to medical center. Experts are also invited to survey the working environment hazards data to identify any occupation-related health problems.

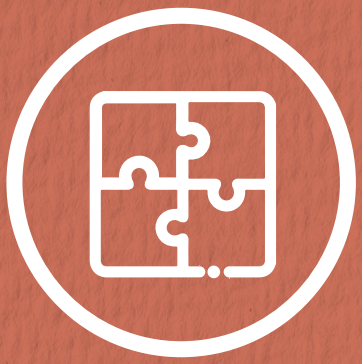
Health Management

Employee and contractor personnel are under CSC Clinic's service. In 2017, a series of health promoting activities were held with 5,848 participants. Among the weight losing classes, 203 persons joined and 458.7 kg were reduced in total.

Participants of Health Promotion Activities

Item	2013	2014	2015	2016	2017
Physical fitness	549	606	1,382	914	418
Talks	1,610	1,246	800	560	843
Bone density test	604	531	506	382	-
Remote nursing-care project	-	36	36	-	-
Female employee health project	395	409	482	490	516
Precision body fat analyzer	600	515	487	395	588
Others (health care, health promotion, cardiovascular disease, blood donation, etc.)	2,035	2,057	1,507	2,771	3,483
Total	**5,793**	**5,400**	**5,200**	**5,512**	**5,848**

/ Health promotion activities /



7

SOCIAL PARTICIPATION

7.1 Social Participation Concepts and Management

7.2 Local First

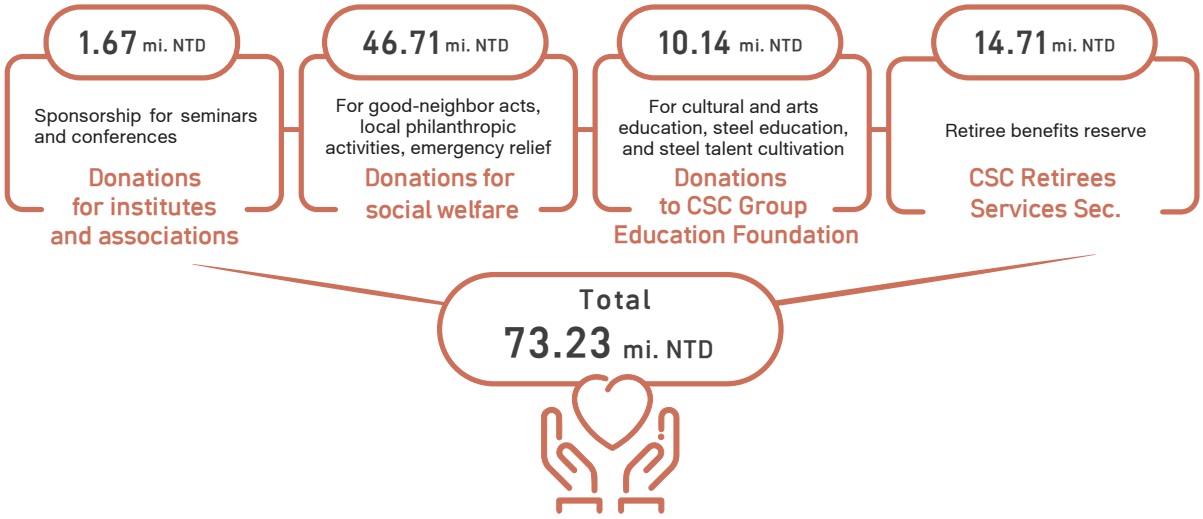
7.3 Diverse Social Involvement

7.4 CSC Group Education Foundation

7.1 Social Participation Concepts and Management

Principles

Social Responsibility Expenditures



CSC joins domestic and international associations and participates in their activities. To build diverse communication channels between CSC and others as well as to elevate the overall competitiveness of the company, CSC sponsors seminars, forums, and conferences held by those organizations. In 2017, the CSC donation for seminars and conference totaled 1.67 mi. NTD. Among the CSC sponsored institutes and associations, those related to environmental protection, sustainable energy, and safety and health were as follows: Society of Automotive Engineers Sponsorship (SAE) for 25th SAE Supermileage Competition, Chinese Environmental Analytical Society 2017 Environmental Analytical Chemistry Conference, Taiwan Safety Council Safety culture Academic Forum, Taiwan Association for Aerosol Research 2017 Forum on Fine Particulate Matter ($PM_{2.5}$) and Climate Change, Occupational Hygiene Association of Taiwan 2017 Occupational Hygiene Conference, Taiwan Agenda 21 2017 Development of Industrial Symbiosis towards Circular Economy Society Seminar.

7.2 Local First

7.2.1 Community Care

CSC commits to corporate social responsibility, in decades actively caring for and assisting in community development and sponsoring public welfare activities in Hsiao-Kang District. CSC upholds the "take from society, give back to society" concept and continues making efforts to the well-being of the society, communities, and vulnerable groups:

- Sponsors communities and social clubs in Hsiao-Kang District for various activities.
- Hosts movie viewings every Saturday for the local community, opens sports facilities for locals, and invites the locals to join the CSC Anniversary Fair.
- Established by CSC Welfare Committee, the CSC Kindergarten accepts children of CSC employees and citizens living in Hsiao-Kang District.
- Assists the district office in distributing aids to low-income families in Hsiao-Kang District on major festivals and for emergency relief.
- Offers scholarships for academic achievements and to underprivileged schoolchildren in Hsiao-Kang District.
- Organizes activities for underprivileged groups to foster public care.
- Organizes summer camps for elementary schoolchildren with priority acceptance for underprivileged students.
- Sponsors schools in Hsiao-Kang District for equipment renewal and assists with plantation and landscaping to mitigate global warming.
- Plans the "Steel Journey" fieldtrip for elementary schools in Hsiao-Kang District to improve the steel operation and environmental protection knowledge of students. About 1,400 6-graders from 13 elementary schools participated in 2017.
- To celebrate Mother's Day and to promote the virtues of filial piety, CSC invited about 700 students from 17 elementary and junior high schools of Hsiao-Kang District to participate in 2017 awarding ceremony for filial model recognition and presented scholarships to the outstanding students.
- Offers extra points for candidates from Hsiao-Kang District in the CSC employee recruitment.

7.2.2 Eco-city

Eco-city is a global trend and one of the administrative foci of central and local governments in Taiwan. CSC complies with EIA commitments in Linhai Industrial Park. In addition, for continual improvement and to meet with international standards, CSC reduces environmental impacts through target management and EMS operations. To encourage employees to commute by KRT, CSC launched monthly business card in collaboration with KRT Co., for which CSC sponsors part of the fare, and provides free shuttle bus services to and from KRT R3 Station. In 2017, 4,951 cards were used and free shuttle bus services served 72,854 persons. CSC gave out 10,284 KRT gift vouchers, valued 400 each, in the 2017 Anniversary Fair.

Afforestation and Greenery

CSC participates in River Watch of the KSPEB to patrol Yanshuigang River 3 times a day. In 2017, CSC was awarded with 2017 Outstanding River Watch by KSPEB. In addition, CSC sponsors the greening and beautification of roads in Kaohsiung City. For China Steel Building, the green building concepts were incorporated from the design stage. These include eco-friendly design of multidimensional greening with 29 native plant species and quality of greening. The Building is certified as a diamond-class green building by Ministry of the Interior.

For the plant site, CSC enriches the ecosystem with trees, shrubs, and vegetation for multilayer greening, and building roofs and walls are included for total greenery and beautification. Green area on the CSC plant site totals at 44.1 hectares, with a greening rate at 8.36%. These plants can reduce up to 5,228 tCO_2e every year. CSC is not located in or near ecological reserves, yet CSC has built an environment for biodiversity. CSC Bird Watching Club has observed 3 mammal species, 5 amphibian reptile species, 1 reptiles species, 34 insect species, 1 annelida species, 3 fish species, and 80 bird species living on the plant site. The efforts on biodiversity help to improve the ecosystem in Hsiao-Kang District.




Greening Activities

Item	2015	2016	2017
Greening area (m^2)	444,236	443,928	440,670
Greening rate	8.43%	8.42%	8.36%
Trees	16,692	16,715	16,633
Shrubs	1,655,660	1,669,714	1,696,208
Trees and shrubs per hectare	3,173	3,200	3,250
Lawn (m^2)	180,066	180,086	181,830
Vegetation (m^2)	243,684	242,859	237,787
Resident and migratory birds (species)	80	80	80
CO_2e reduction (t/year)*	5,116	5,170	5,228

Note: *Calculated based on research report by Pingtung Univ. of Science and Technology, 2008.


/ CSC /


/ 2017 River Watch /

7.3 Diverse Social Involvement

CSC broadly engages in the society through diverse channels. Regular social involvements include:

Category	Responsible Dept.	Work
Human rights and workforce development	Human Resources Dept.	Negotiation for decent work environment policies; Share of knowledge
Safety and health	Industrial Safety and Health Dept.	Prevention of occupational accidents and epidemic diseases; Domestic and international exchanges
National and local public affairs	Public Affairs Dept.	Good-neighbor acts, social care, and emergency relief; Engagement with congresspersons, government agencies, media, and opinion leaders
Social education	CSC Group Education Foundation	Educational activities regarding steelmaking and steel applications; Cultural, arts, technology, and science educational activities sponsorship
Labor policy	CSC Labor Union	National labor rights, benefits, and welfare policies; Exchanges, collaboration, and interactions with other union groups
Social concerns and cultural and arts activities	CSC, CSC Group Education Foundation, CSC Labor Union, and employee clubs	Emergency relieve and post-disaster reconstruction; Care for underprivileged groups; Environmental protection; Improvement of humanities and art literacy in Kaohsiung

7.3.1 Volunteer Groups

CSC employees actively volunteer for external organizations. The CSC Caring Club is registered at Kaohsiung City Social Welfare Bureau as a legal group under the name of Kaohsiung City Charity Association and has participated in various community activities, services, and reliefs.

7.3.2 Services for Retired Employees

CSC Retirees Services Section was established in 2011 to provide retirees services regarding health, finances, partner, leisure, and friendship. In addition, CSC Retirees LOHAS Society was established in 2014 by CSC Group retirees for healthy lifestyles and social welfare activities.

Target	Item	Content	Achievements in 2017
Employees near Retirement	Retirees LOHAS Seminar	Assistance for life management after retirement	2 sessions
	Farewell Party		5 sessions
	Retiree Talent Pool	Utilization of specific expertise of retirees for CSC and subsidiaries	163 newly enlisted after evaluation (accumulative total 580)
Retired Employees	Health	Discounted health examination	23 participated
	Finances	CSC Stock Ownership Trust Committee for Retired Employees	9 newly participated (accumulative total 128)
	Partner, Leisure, and Friendship	Monthly retiree birthday parties;Invitations to CSC activities	12 sessions; Anniversary Fair, 2 health lectures, 6 citizen lectures

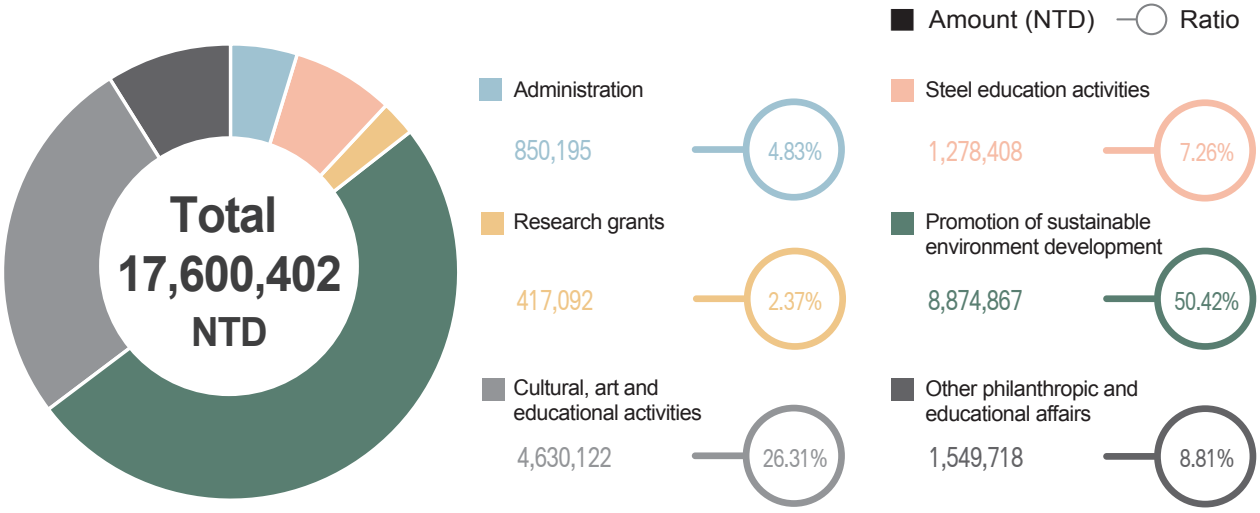
7.3.3 Advice for Public Policies

CSC collates the experiences of advanced countries and hosts open forums with the industry, the government, and the academia. Through representative institutes and associations, CSC contributes advice on regulations and policies. For details, please visit http://www.csc.com.tw/csc/hr/csr/soc/soc2.htm

GHG Reduction and Management Act	Collect information of total emission control and emission policies in the EU, South Korea, and the UK. Invite domestic experts to discuss and provides the consensus to the government as suggestions.
	Referring to Korean and Japanese policies; proposing rational carbon reduction targets for the industry and nationwide.
	Participated in the communication of regulations and policies. Provided suggestions to encourage early actions for carbon reduction.
Air Pollution Control	Air pollution control should consider cost effectiveness, in order to take into account both environmental protection and economic growth. Therefore, pollution reduction potential and cost should be investigated and considered prior to policy making.
	Taiwan EPA plans to set the second stage reduction target of Kaohsiung-Pingtung Total Air Pollution Control Plan based on emission standards of BACT regulations. CSC suggested to follow the first stage reduction target instead of creating a new emission calculation method.
	About the CEMS regulations draft, considering the cost and operation of CEMS, only major emission sources need to install CEMS. CSC suggested that hot stove and heating furnace do not need to install CEMS because they are not major emission sources.
	EPA intends to levy pollution fees of particulates in July 2018 but the rate is too high. CSC is trying to fight for a reasonable rate.

7.4 CSC Group Education Foundation

The goals of the Foundation http://www.csc.com.tw/csc/gef are to promote steel-related education and talent cultivation, express concerns about ecology conservation, improve the spirit of humanity, and pursue sustainable development. The foundation develops and implements educational activities and business upon the core value of a "holistic social education".



Elementary Schools

Ecology Education Camp

3 sessions, >100 participants
(accumulative participants >1,600)

The Foundation co-organized the 11th ecology education camp with Shuangliou Forest Recreation Areas. Ecology observations, plant searches, and insect observations at nights were arranged.

Environmental Tour Bus

2 buses, over 53 tours, >80 volunteers

CSC provides the funding for the operation. The Foundation volunteers teach the concepts of ecology education and popular science through portable teaching aids.

Senior High/Vocational Schools

E-week Popular Science Education Activity

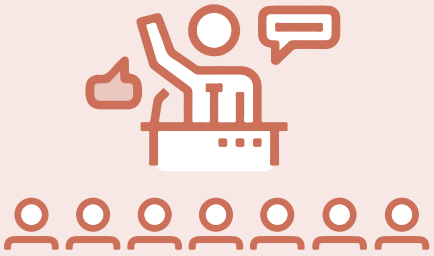
3 sessions, >800 participants

The Foundation co-organized the 2017 E-week with IBM. This program with games and team competition inspired students to learn logic and computer programming and enhanced their interest in IT.

Humanities and Sciences Talks

4 sessions, >3,500 participants

The Foundation co-organized the talks with the United Daily News and invited speakers to deliver talks at senior high schools in Kaohsiung City.



Colleges and Universities

CSC Camp

60 out of 100 applicants were accepted

The 10th CSC Camp visits the downstream of CSC. The activities were arranged to attract students to engage in metal-related industries through edutainment.

Introductory Course of Steelmaking

200 enrollments

The course was offered in NCKU, NTHU, and NCHU in the first semester of 2017. In the second semester, it was offered in NTU and NSYSU.

Industrial Talent Training Project

60 enrollments

The Foundation continued to sponsor the Department of Chemical and Materials Engineering at NUK to offer courses on steelmaking technologies. Besides professors, the instructors are from CSC and downstream industries.

Steelmaking Talent Scholarship

16 recipients

Scholarship recipients were named in November.

General Public

Seminars and Conferences about Steelmaking and Environmental Technology

~1,000 participants

Workshop of Metallography, Steel Industry Engineering and Technology Conference, Technology Exchange Conference for Electromagnetic Steel, Hydraulic and Hot Stamping Technology Exchange Conference, Fastener Technology Conference, Steel Industry Operational Management Conference, and Conference of Steel Technology in High-Performance Steel Structure were held in 2017.

CSC Citizen Lecture

6 lectures, >2000 participants

The Foundation invited experts from different fields to give lectures.

Spirit Growth Lectures

4 lectures, >600 participants

The Foundation co-organized with the Teacher Chang Foundation to host lectures on spiritual growth and parenting.

Other Events in 2017

- Jointly donated with CSC to establish a Metal Laboratory at Department of Materials Science and Engineering, National Cheng Kung University.
- Sponsored the "Taiwan fund for Children and Families".
- Sponsored the "2017 NCKU MSE camp". About 150 high school students attended.
- Held a campus forum with CommonWealth to share the experience of the workplace and encourage college students to take the challenge. About 5,500 people attended.
- Sponsored and participated in the Kaohsiung City Creativity Learning Center's "Creative Sports Games", which included creative activities in mathematics, language, natural science and technology, and other related fields. About 3,500 primary and secondary school teachers and students participated.
- Sponsored the KRT Co. for "2017 Run to Love" road run and encouraged people to take the mass transit system. About 4,000 people attended the event.
- Assisted with Fonglin Elementary Schooled to develop green energy.
- Sponsored the "2017 Kaohsiung Film Festival" and offered the tickets of appropriate films to junior high school students in Hsiao-Kang District.
- Sponsored the Baroque Camerata in holding the "Olivier Charlier V.S. Baroque Camerata" concert.
- Sponsored the "Wheelchairs Concert" and "Concert in Prison". About 500 people attended.

/ Metal Lab opening ceremony /

/ Steel Journey /

/ King of Wisdom Summer Camp - slag learning activities /

/ Wheelchairs Concert /

GRI

8

APPENDIX

Appendix 1 GRI Content Index
Appendix 2 Assurance Statement

Appendix 1 GRI Content Index

General Disclosures

GRI Standard	Disclosure		Page	Ch.	Note
GRI 102: General Disclosures 2016	**Organizational profile**				
	102-1	Name of the organization	1	0.2	
	102-2	Activities, brands, products, and services	2/35/38	0.2/3.2/3.3	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	3	0.2	
	102-6	Markets served	2	3.2	
	102-7	Scale of the organization	5	0.3	
	102-8	Information on employees and other workers	71	6.1	
	102-9	Supply chain	46	4.1	
	102-10	Significant changes to the organization and its supply chain	-	-	No significant change
	102-11	Precautionary Principle or approach	29	2.5	
	102-12	External initiatives	13	1.3	
	102-13	Membership of associations	51/51	4.2.3/4.3	
	Strategy				
	102-14	Statement from senior decision-maker	11	1.1	
	102-15	Key impacts, risks, and opportunities	23/29	2.1/2.5	
	Ethics and integrity				
	102-16	Values, principles, standards, and norms of behavior	13/26	1.2/2.4	
	Governance				
	102-18	Governance structure	25/25	2.2/2.3	
	Stakeholder engagement				
	102-40	List of stakeholder groups	17	1.4	
	102-41	Collective bargaining agreements	78	6.2.2	
	102-42	Identifying and selecting stakeholders	17	1.4	
	102-43	Approach to stakeholder engagement	17/19/43	1.4/1.5/3.5.2	
	102-44	Key topics and concerns raised	17/19/43	1.4/1.5/3.5.2	
	Reporting practice				
	102-45	Entities included in the consolidated financial statements	-	2017 Annual Report	
	102-46	Defining report content and topic Boundaries	19	1.5	
	102-47	List of material topics	21	1.5	
	102-48	Restatements of information	-	-	No restatement
	102-49	Changes in reporting	-	-	None
	102-50	Reporting period	1	0.1	2017 calendar year
	102-51	Date of most recent report	-	-	June 2016
	102-52	Reporting cycle	1	0.1	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 content index	98	Appendix 1	
	102-56	External assurance	102	Appendix 2	

Topic-specific Disclosures

Material Topics					
GRI Standard	Disclosure		Page	Ch.	Note
∗ Economic Performance					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	19/33/74/92	1.5/3.1/6.1.4/7.3.2	
	103-2	The management approach and its components	33/74/92	3.1/6.1.4/7.3.2	
	103-3	Evaluation of the management approach	33	3.1	
GRI 201: Economic Performance2016	201-1	Direct economic value generated and distributed	33	3.1.2	
	201-3	Defined benefit plan obligations and other retirement plans	74/92	6.1.4/7.3.2	
	201-4	Financial assistance received from government	34	3.1.3	
∗ Energy					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	19/59	1.5/5.2.2	
	103-2	The management approach and its components	56/59	5.1/5.2.2	
	103-3	Evaluation of the management approach	59	5.2.2	
GRI 302: Energy 2016	302-1	Energy consumption within the organization	60	5.2.2	
	302-2	Energy consumption outside of the organization	60	5.2.2	
	302-3	Energy intensity	60	5.2.2	
	302-4	Reduction of energy consumption	61	5.2.2	
∗ Water					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	19/65	1.5/5.2.5	
	103-2	The management approach and its components	56/65	5.1/5.2.5	
	103-3	Evaluation of the management approach	65	5.2.5	
GRI 303: Water 2016	303-1	Water withdrawal by source	65	5.2.5	
	303-2	Water sources significantly affected by withdrawal of water	65	5.2.5	
	303-3	Water recycled and reused	65	5.2.5	
∗ Emissions					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	19/63	1.5/5.2.4	
	103-2	The management approach and its components	56/63	5.1/5.2.4	
	103-3	Evaluation of the management approach	63	5.2.4	
GRI 305: Emissions 2016	305-1	Direct (Scope 1) GHG emissions	62	5.2.3	
	305-2	Energy indirect (Scope 2) GHG emissions	62	5.2.3	
	305-3	Other indirect (Scope 3) GHG emissions	62	5.2.3	
	305-4	GHG emissions intensity	6	0.3	
	305-6	Reduction of GHG emissions	64	5.2.4	
	305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	63	5.2.4	
∗ Effluents and Waste					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	19/63	1.5/5.2	
	103-2	The management approach and its components	56/58	5.1/5.2	
	103-3	Evaluation of the management approach	65/67/67	5.2.5/5.2.7/5.2.8	
GRI 306: Effluents and Waste 2016	306-1	Water discharge by quality and destination	65	5.2.5	
	306-2	Waste by type and disposal method	67/67	5.2.7/5.2.8	
	306-3	Significant spills	67	5.2.7	
	306-4	Transport of hazardous waste	67	5.2.8	
∗ Supplier Environmental Assessment					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	19/46	1.5/4.1	
	103-2	The management approach and its components	46	4.1	
	103-3	Evaluation of the management approach	46	4.1	
GRI 308: Supplier Environmental Assessment 2016	308-1	New suppliers that were screened using environmental criteria	46	4.1	
	308-2	Negative environmental impacts in the supply chain and actions taken	46	4.1	
∗ Labor/Management Relations					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	19/76	1.5/6.2	
	103-2	The management approach and its components	76	6.2	
	103-3	Evaluation of the management approach	76	6.2	
GRI 402: Labor/ Management Relations 2016	402-1	Minimum notice periods regarding operational changes	73	6.1.3	

Topic-specific Disclosures

Material Topics					
GRI Standard	Disclosure		Page	Ch.	Note
∗ Occupational Health and Safety					
GRI 103 Management Approach2016	103-1	Explanation of the material topic and its Boundary	19/81	1.5/6.4	
	103-2	The management approach and its components	81	6.4	
	103-3	Evaluation of the management approach	81	6.4	
GRI 403: Occupational Health and Safety 2016	403-1	Workers representation in formal joint management-worker health and safety committees	82	6.4.1	
	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	85	6.4.1	
	403-3	Workers with high incidence or high risk of diseases related to their occupation	87	6.4.1	
∗ Training and Education					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	19/78	1.5/6.3	
	103-2	The management approach and its components	78	6.3	
	103-3	Evaluation of the management approach	78	6.3	
GRI 404: Training and Education 2016	404-1	Average hours of training per year per employee	79	6.3	
	404-2	Programs for upgrading employee skills and transition assistance programs	78	6.3	
	404-3	Percentage of employees receiving regular performance and career development reviews	74/78	6.1.4/6.3	
∗ Supplier Social Assessment					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	19/46	1.5/4.1	
	103-2	The management approach and its components	46	4.1	
	103-3	Evaluation of the management approach	46	4.1	
GRI 414: Supplier Social Assessment 2016	414-1	New suppliers that were screened using social criteria	46	4.1	
	414-2	Negative social impacts in the supply chain and actions taken	46	4.1	
∗ Customer Health and Safety					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	19/37	1.5/3.2.3	
	103-2	The management approach and its components	43	3.5.1	
	103-3	Evaluation of the management approach	43	3.5.1	
GRI 416: Customer Health and Safety 2016	416-1	Assessment of the health and safety impacts of product and service categories	37	3.2.3	100%
	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	37	3.2.3	0

Non-material Topics					
GRI Standard	Disclosure		Page	Ch.	Note
GRI 202: Market Presence 2016	202-1	Ratios of standard entry level wage by gender compared to local minimum wage	75	6.1.4	
	202-2	Proportion of senior management hired from the local community	72	6.1.2	100%
GRI 204: Procurement Practices 2016	204-1	Proportion of spending on local suppliers	48	4.1.5	
GRI 205: Anti-corruption 2016	205-1	Operations assessed for risks related to corruption	26	2.4	100%
GRI 301: Materials 2016	301-1	Materials used by weight or volume	59	5.2.1	
	301-2	Recycled input materials used	59	5.2.1	
		Reclaimed products and their packaging materials	68	5.2.9	
GRI 304: Biodiversity 2016	304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	90	7.2.2	0
	304-2	Significant impacts of activities, products, and services on biodiversity	90	7.2.2	
	304-3	Habitats protected or restored	90	7.2.2	0
	304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	90	7.2.2	0

Non-material Topics					
GRI Standard	Disclosure		Page	Ch.	Note
GRI 307: Environmental Compliance 2016	307-1	Non-compliance with environmental laws and regulations	58	5.1	
GRI 401: Employment 2016	401-1	New employee hires and employee turnover	71/74	6.1.2/6.1.3	
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	74	6.1.4	
	401-3	Parental leave	73	6.1.2	
GRI 405: Diversity and Equal Opportunity 2016	405-1	Diversity of governance bodies and employees	25/72	2.3/6.1.2	
	405-2	Ratio of basic salary and remuneration of women to men	74	6.1.4	
GRI 406: Non-discrimination 2016	406-1	Incidents of discrimination and corrective actions taken	71/76	6.1.1/6.2.1	
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 408: Child Labor 2016	408-1	Operations and suppliers at significant risk for incidents of child labor	-	-	0
GRI 409: Forced or Compulsory Labor 2016	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	47	4.1.4	0
GRI 410: Security Practices 2016	410-1	Security personnel trained in human rights policies or procedures	47	4.1.3	100%
GRI 411: Rights of Indigenous Peoples 2016	411-1	Incidents of violations involving rights of indigenous peoples	-	-	0
GRI 412: Human Rights Assessment 2016	412-1	Operations that have been subject to human rights reviews or impact assessments	76	6.2.1	100%
	412-2	Employee training on human rights policies or procedures	76/78	6.2.1/6.3	
GRI 413: Local Communities 2016	413-1	Operations with local community engagement, impact assessments, and development programs	56/92	5.1/7.3	
GRI 415: Public Policy 2016	415-1	Political contributions	-	-	0
GRI 418: Customer Privacy 2016	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	44	3.5.3	
GRI 419: Socioeconomic Compliance 2016	419-1	Non-compliance with laws and regulations in the social and economic area	83	6.4.1	

Note: ∗ denotes material topics for 2017.

CSC-specific Topics

GRI Standard	Disclosure		Page	Ch.	Note
∗ R&D/Product Quality					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	19/35	1.5/3.2	
	103-2	The management approach and its components	35	3.2	
	103-3	Evaluation of the management approach	35	3.2	
∗ Environmental Policy/Management System					
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	19/56	1.5/5.1	
	103-2	The management approach and its components	56	5.1	
	103-3	Evaluation of the management approach	56	5.1	

Appendix 2 Assurance Statement

INDEPENDENT ASSURANCE OPINION STATEMENT

China Steel Corporation 2017 Corporate Sustainability 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 assurance of this report.

This independent assurance opinion statement has been prepared for 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 2017 Corporate Sustainability Report.
2. The evaluation of the nature and extent of the CSC's adherence to all three AA1000 AccountAbility Principles in this report as conducted in accordance with type 1 of AA1000AS (2008) assurance engagement and therefore, the information/data disclosed in the report is not verified through the verification process.

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

Opinion Statement

We conclude that the China Steel Corporation 2017 Corporate Sustainability Report provides a fair view of the CSC CSR programmes and performances during 2017. The CSR report subject to assurance is free from material misstatement 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 2017 economic, social and environmental performance information are fairly 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 AA1000 Assurance Standard (2008). 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 AA1000 Assurance Standard and their self-declaration of 'in accordance' with the GRI Standards (2016): the Core option were fairly stated.

Methodology

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

- review of topics 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 and staffs on approach to stakeholder engagement. However, we had no direct contact with external stakeholders.
- 10 interviews with staffs involved in sustainability management, report preparation and provision of report information were carried out.
- review of key organizational developments.
- review of the findings of internal audits.
- review of supporting evidence 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 and responsiveness as described in the AA1000 AccountAbility Principles Standard (2008).

Conclusions

A detailed review against the AA1000 AccountAbility Principles of Inclusivity, Materiality and Responsiveness and the GRI Standards(2016) is set out below:

Inclusivity

This report has reflected a fact that CSC has continually made a commitment to its stakeholders, as the participation of stakeholders has been conducted in developing and achieving an accountable and strategic response to sustainability. The reporting systems are being developed to deliver the required information. 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.

Materiality

CSC has established relative procedure in organization level, as the issues which were identified by all departments have been prioritized according to the extent of impact and applicable criterion for sustainable development of organization. Therefore, material issues were completely analyzed and the relative information of sustainable development was disclosed to enable its stakeholders to make informed judgments about the organization'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 CSC is developed and 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.

GRI Sustainability Reporting Standards (GRI Standards)

CSC provided us with their self-declaration of 'in accordance' with the GRI Standards(2016): the Core option (For each material topic covered by a topic-specific GRI Standard, comply with at least one topic-specific disclosure). Based on our review, we confirm that social responsibility and sustainable development disclosures with reference to the 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 level assurance provided is in accordance with AA1000 Assurance Standard (2008) 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 industrial sector, and trained in a range of sustainability, environmental and social standards including AA1000 AS, ISO14001, OHSAS18001, ISO14064 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.

For and on behalf of BSI:

Peter Pu
Managing Director BSI Taiwan
2018-05-07

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