



**CHINA STEEL**

OPERATION  
REPORT

2019





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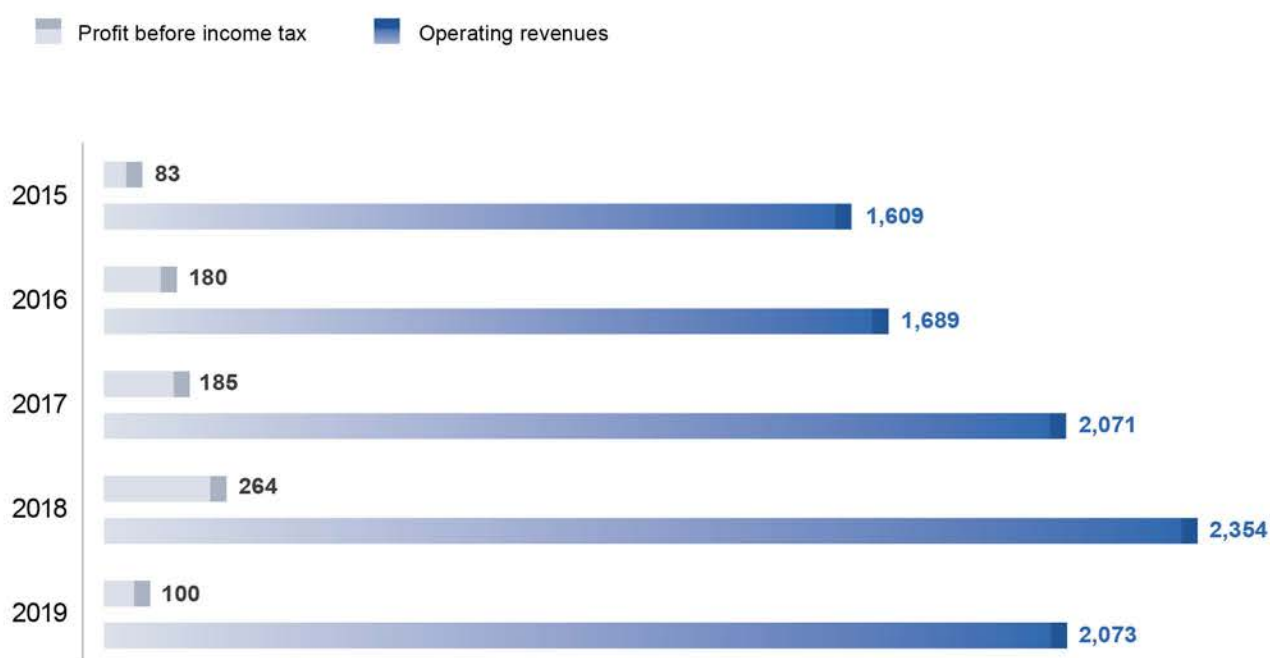
OPERATION REPORT 2019  
January 1 through December 31, 2019

\* This English version is a translation of the Operation Report 2019 published in Chinese. In case of any discrepancy, the Chinese version shall prevail.

# Highlights of Operating Results

## Operating revenues and profit before income tax

(in hundred millions of New Taiwan Dollars)

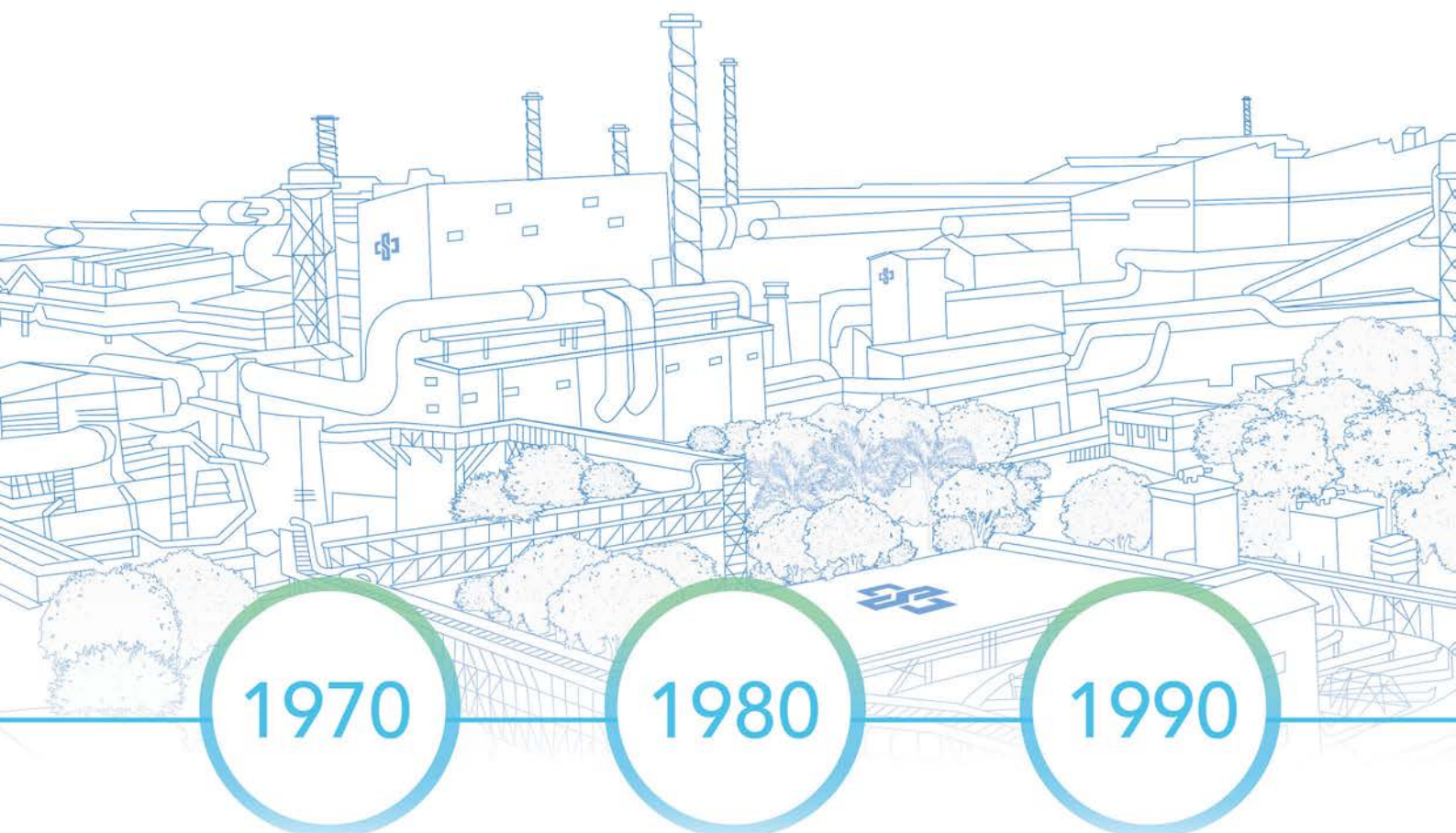




		2019	2018
Operating revenues	(Millions of New Taiwan Dollars)	207,298	235,403
Operating costs and expenses		202,849	219,023
Profit from operations		4,587	16,317
Profit before income tax		10,035	26,397
Employment costs <sup>1</sup>		18,037	20,260
Depreciation		17,429	17,610
Interest expenses net <sup>1</sup>		1,143	1,454
Total assets		466,079	481,082
Capital expenditures		8,249	11,514
Equity		302,559	312,908
Output of steel products	(Thousands of metric tons)	8,740	9,240
Sales volume of steel products		10,291	11,242
Number of employees <sup>2</sup>		10,230	10,424
Return on sales	(%)	4.84	11.21
Return on equity <sup>3</sup>		2.86	7.93

<sup>1</sup> Excluding capital expenditures    <sup>2</sup> As of the end of the calendar year    <sup>3</sup> Based on net income

# Chronology of Major Events



- 1971/12/03** China Steel Corporation <sup>4</sup> is officially registered, with head office located in Taipei.
- 1972/09/16** Kaohsiung Plant Site Office is established.
- 1974/09/01** Phase I construction commences.
- 1974/12/26** CSC stock is listed on Taiwan Stock Exchange Corporation.
- 1975/09/15** Head office relocates to Kaohsiung. Plant Site Office closes.
- 1977/07/01** CSC becomes a state enterprise.
- 1977/12/16** Phase I is completed, with capacity <sup>5</sup> of 1.5 million tons <sup>6</sup> per year.
- 1978/07/01** Phase II construction commences.

- 1982/06/30** Phase II is completed. Capacity <sup>5</sup> reaches 3.25 million tons <sup>6</sup> per year.
- 1984/07/01** Phase III construction commences.
- 1988/04/30** Phase III is completed. Capacity <sup>5</sup> reaches 5.652 million tons <sup>6</sup> per year.

- 1993/07/15** Phase IV construction commences.
- 1995/04/12** CSC is privatized.
- 1997/05/31** Phase IV is completed. Capacity <sup>5</sup> reaches 8.054 million tons <sup>6</sup> per year.
- 1998/06/02** CSC Group's <sup>7</sup> corporate identity system is formally introduced to the public.

<sup>4</sup> Hereinafter also referred to as "the Corporation", "the Company" or "CSC".

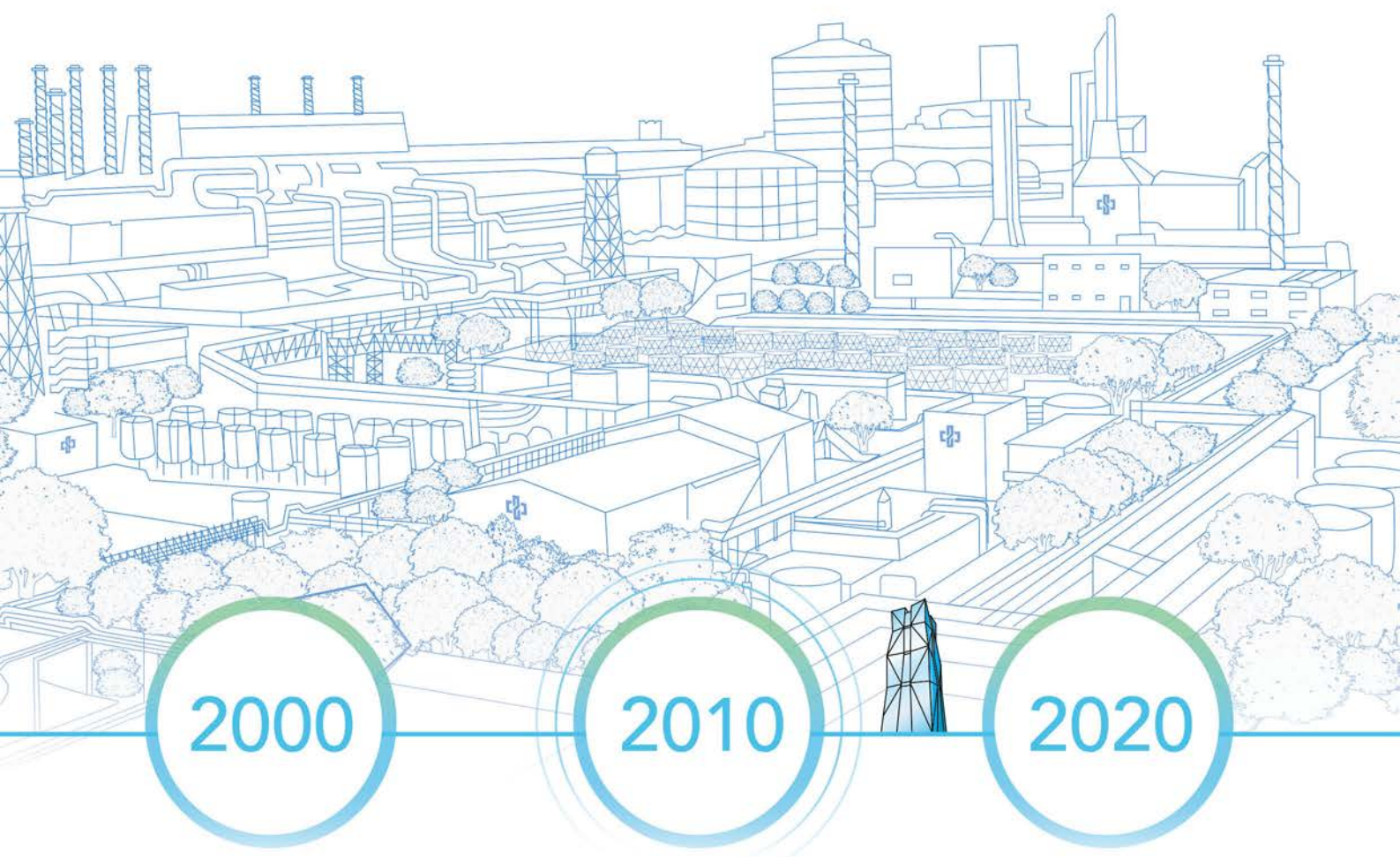
<sup>5</sup> In terms of crude steel.

<sup>6</sup> All references to "tons" mean metric tons of 1,000 kilograms.

<sup>7</sup> Hereinafter also referred to as "The group".

<sup>8</sup> Hereinafter also referred to as "DSC".





2000

2010

2020

**2006/04/15** Annual production capacity<sup>5</sup> is officially raised to 9.86 million tons<sup>6</sup> owing to success in equipment renovations and improvements carried out over the years.

**2006/11/22** Groundbreaking for the China Steel Building takes place.

**2008/10/06** Dragon Steel Corporation<sup>8</sup> becomes a wholly owned subsidiary of CSC.

**2010/06/30** DSC's stage II phase 1 expansion project is completed. CSC Group's capacity<sup>5</sup> reaches 13.36 million tons<sup>6</sup> per year.

**2013/03/05** DSC's stage II phase 2 expansion project is completed. CSC Group's capacity<sup>5</sup> reaches 15.86 million tons<sup>6</sup> per year.

**2013/10/22** China Steel Building is inaugurated.

**2017/12/20** The Board of Directors approves the initiation of the revamp of the coke ovens (phases I and II).

**2018/12/31** CSC Group's operating revenues in 2018 sets the record of exceeding NT\$400 billion for the first time.

**2020/01/16** CSC positions itself as a steel mill that produces premium products with high value and devotes itself to the development of the green energy industry as the operational and developmental cores in enhancing its competitiveness for the next 50 years.

**2020/02/21** CSC sets a new milestone in its pricing system by offering monthly and quarterly prices simultaneously for the first time.

# An Overview of the Business Situation



Chairman

Chao-Tung Wong

A handwritten signature in black ink that reads "Chao-Tung Wong".

## The major issues that the international steel industry faced in 2019 were:

### The growth of the global economy slowed down.

On January 20, 2020, the International Monetary Fund (IMF) published the 2019 global economic growth rate to be 2.9%, which was decreased by 3.7% in comparison with that of 2018.

### The global steel demand was steady.

In October, 2019, World Steel Association (worldsteel) published the statistics that the global apparent use of finished steel in 2019 was 1.775 billion metric tons, which was increased by 3.9% in comparison with that in 2018. Nonetheless, the levels of the steel users' stock remained high from the second half of the year.

### Global crude steel production remained full.

worldsteel also published on January 27, 2020 that the global crude steel production in 2019 was 1.87 billion metric tons, which was increased by 3.4% in comparison with that in 2018.





President  
Shyi-Chin Wang

*Shyi-Chin Wang*

## The main factors which influenced the operations of the steel industry in Taiwan included:

### The domestic demand of steel was stable but weak.

According to the statistics published by the Taiwan Steel & Iron Industries Association, there was a 0.9% slight decrease of the apparent use of finished steel in Taiwan in 2019 in comparison with that in 2018.

### Both export and import sales of steel products declined.

There were a 5.2% decrease in import sales and an 8.8% decrease in export sales, indicating that both overseas and domestic demands dropped. According to the statistics on imports and exports published by the Department of Statistics, MOEA, on January 20, 2020, the accumulated export value of base metals reached US\$25.29 billion in 2019, which was decreased by 14.6% in comparison with that of 2018 due to the trade war between the U.S. and China and recession of the global steel industry. Export sales in December, 2019 were US\$2.13 billion, which was a 10% increase in comparison with that in November, 2019. The statistics of manufacturing production were released in February 2020. The base metal production index was 53.26, which was a 6.3% increase over the same period. However, due to the wide spread of COVID-19 in the world since March, the adverse factors of the market situation have not subsided, and the demand is expected to be postponed to the third quarter of 2020.

CSC's 2019 operating revenue amounted to NT\$207.298 billion, which was 11.94% less than that in 2018 mainly due to the decrease of the sales volume. Gross profit in 2019 was NT\$12.706 billion, which was 49.12% less than that in 2018 mainly owing to the decrease of the unit prices and the increase of the unit costs. The non-operating income in 2019 was NT\$5.448 billion, which was 45.96% less than that in 2018 and mainly attributable to the decrease of the share of the profits from the subsidiaries and affiliates recognized under the equity method. Net profit in 2019 amounted to NT\$8.81 billion, which was 63.97% less than that in 2018.

## CSC's 2019 operating directives included the following key points:

### ✓ Zero accidents related to industrial safety and environmental protection:

- (1) Further improvement of industrial safety was promoted. Industrial safety awareness of the contractors' safety and health supervisors was strengthened. Effective audits as well as industrial safety exchanges within the subsidiaries of the Group were also promoted. Mid-term and long-term plans for traffic safety inspections on roads in the plants, etc., were implemented. All of the aforementioned measures were taken in order to achieve the goal of zero major occupational accidents.
- (2) The improvement of pollution discharge/emissions was continued in collaboration with the government's policy of reducing discharge/emissions in autumn and winter. In 2019, the emissions of SO<sub>x</sub> per metric ton of slabs were 0.657 kg, and the target achievement rate was 105%.

### ✓ Enhancement of quality and cost reduction to have better operational performance:

The campaign of "cost reduction" would be promoted continuously, and internal and external R&D resources would be linked in an open and innovative manner to accelerate the development of highly competitive products, low-cost production processes, and value-added application techniques to improve the cost-performance of products and create differentiated competitive advantages. In 2019, the costs reduced by CSC were NT\$7.25 billion in total, and the target achievement rate was 117%.

### ✓ Increase of profits with smart production and sales:

Forty company-level smart solutions had been promoted. Among them, 12 models had been completed and in the implementation stage of establishing application systems to improve the efficiency in production and sales and customer satisfaction. The ratio of high-grade orders in 2019 was 48.6%, and the target achievement rate was 103%.

### ✓ Maintaining stable operations with succession of culture:

CSC's excellent corporate culture was maintained. Observation of company discipline was promoted and safety awareness strengthened, which facilitated all of the employees to establish a common value identification and a sense of cohesion among themselves. In addition to conducting related courses with more than 2,000 participants, executives and supervisors from various departments were responsible for the promotion and implementation.



In December, 2019, IHS Markit released the forecast of the global economic growth rate to be 2.5% regarding 2020, which would be a slight increase. The overall economic growth rate of China was successfully maintained between 6% and 6.1% in 2019. Crude steel output was increased by 8.3%, reaching 0.996 billion metric tons. China would continue to expand its railways, highways, and infrastructure so that a stable steel demand would be maintained. The current economic situations in Japan and Europe are relatively pessimistic. The World Bank has predicted their economic growth rates in 2019 and 2020 to be only 0.7 and 1.4%, respectively. The U.S. economy has continued to expand; its employment and consumption data remain high, and the pace of interest rate cuts by the Central Bank has stabilized. With the reversal of raw material prices, steel demand is expected to increase further. However, Brexit, the US-China trade war, the outbreak of COVID-19, and other geopolitical risks are uncertain factors affecting the stability of international steel prices in 2020. On the whole, a cautiously optimistic view about the steel market in 2020 is maintained.

To enhance long-term competitiveness, CSC has mapped out its five-year operation and development strategies for the steel business as follows: (1) promotion of succession planning, enhancement of administrative effectiveness, establishment of the LOHAS environment, and promotion of the Group's image, (2) optimization of CSC's global operational capabilities, strengthening of strategic partnerships, promotion of lean overseas deployment, and introduction of smart business practices, (3) integration of the deployment of Group resources, continuous assessment of reinvestment, and promotion of the Group's operational synergy, (4) research and development of highly competitive products, low-cost production processes and application techniques, promotion of smart manufacturing and sales, and enhancement of industry services, (5) enhancement of the Group's engineering capabilities, development of green energy and environmentally-friendly engineering businesses, and (6) continuous reduction of costs and pooling of resources to shorten delivery, improvement of energy conservation and environmental protection, enhancement of safety and health and achievement of zero occupational disasters, and increasing the value and quantity of the Group's products.

Based on the operating strategies, directives for 2020 include: (1) total reduction of costs to boost profit and operational performance, (2) providing diversified services to expand markets, (3) establishing smart plants to promote efficiency, and (4) implementing industrial safety and environmental protection to enhance reputation. Targets for 2020 include: (1) reduction of costs equals to or exceeds NT\$3.03 billion, (2) delivery of steel products equals to or exceeds 9.32 million metric tons, (3) orders for high-grade products, including hot-rolled products produced by DSC, equal to or exceed 5.15 million metric tons and 48% of the total orders, and (4) no cases of major occupational accidents.



# Production and Sales



No. 34 hot stove in the No. 3 Blast Furnace

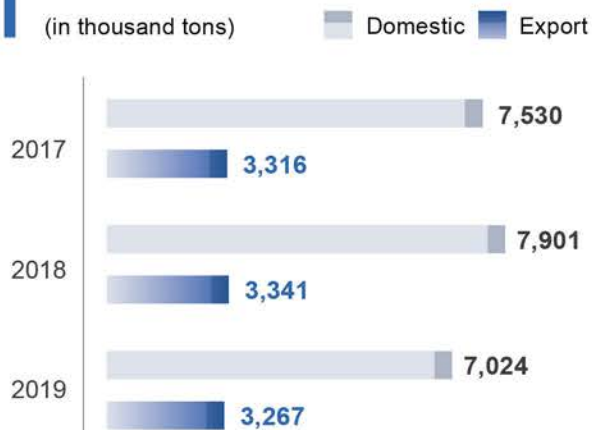


# Production and Sales

In terms of raw materials, the Chinese government launched infrastructure projects to boost the demand for steel and coal in the first half of 2019, which kept the price of the domestic coal high, and it was US\$20 to 30 higher per metric ton than that of the imported coal transported by sea. In the same period, the General Administration of Customs of the People's Republic of China (GACC) did not impose too many restrictions on coal imports; therefore, the price of premium coking coal hovered around the price of US\$200/MT FOB. Since the second half of 2019, there had been downturns in the steel market. The demand from steel mills in Europe, India, and East Asia became sluggish, and the news of production cuts had been reported continually. Furthermore, the demand in the Chinese market was not as stable as that in the first half of the year. To make matters worse, the GACC limited the amount of coal imports by lengthening customs clearance time, which lasted between two and three months. Consequently, the price of premium coking coal continued to decline to the price of US\$130/MT FOB. As the steel market bottomed out, and the coal import policy in China was loosened again in a new year, the price of premium coking coal rebounded to approximately US\$150/MT FOB in early 2020.

Regarding iron ore, due to (1) the collapse of a tailings dam (force majeure) of Vale, Brazil in January, 2019; (2) cyclones in western Australia in March and April, which affected the shipments of iron ore in ports; (3) and Rio Tinto's failing to supply because of the damage to the shipping docks (force majeure), the price of iron ore gradually increased and reached a new high in nearly four years in the middle of the year, i.e., US\$126.35/MT CIF China. In the second half of 2019, Vale gradually resumed its production capacity. China limited the production due to environmental protection. There was

## Steel product sales



depreciation of RMB due to the U.S.-China trade war. All of the aforementioned factors triggered the sales of iron ore in the spot market, and the price of iron ore fell to US\$81.45/MT CIF China. As China replenished its stock before National Day, there was a brief price rebound. Nonetheless, after the implementation of winter production limit, the price of iron ore dropped to US\$78.45/MT CIF China. As there were originally a great number of infrastructure projects in China, the price of iron ore gradually rose again to approximately US\$95/MT CIF China at the end of the year. However, in early 2020, China delayed the reopening of its economy owing to COVID-19, which brought about concerns in the steel market that the demand for steel products and iron ore would be restrained; consequently, the price of iron ore fluctuated between US\$80 and 85/MT CIF China.

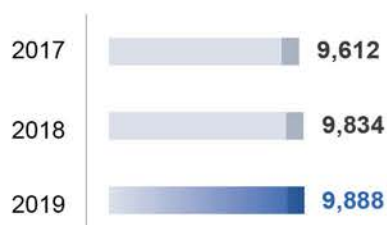
In terms of production and sales in 2019, production of molten iron was 9.741 million metric tons and liquid steel 9.888 million



Production of casted billets

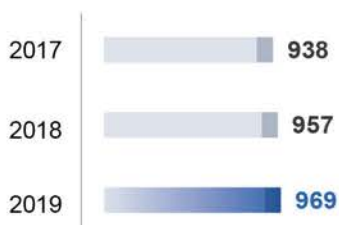
### Crude steel production

(in thousand tons)



### Output per employee in terms of crude steel

(in tons)



### Energy consumption per ton of crude steel

(in million calories)



metric tons. The total release of finished steel products was 8.74 million metric tons. Sales volume of CSC's steel products was 10.29 million metric tons, 68% of which was domestic sales, and 32% of which was overseas sales.

CSC generated 55.5% of the electricity it required in 2019; it was 1.6% more than the amount in 2018. The main reason was that there was adjustment in the production lines, which resulted in lower total power consumption. Energy consumption per ton of crude steel (slabs and blooms) was 5,383 million calories, which was 391 million calories less than that in 2018. The main reason was to act in concert with the Energy Bureau regarding the revision on the heating value of electricity (from 2,070kcal to 860kcal) and a result of the simultaneous adjustment of CSC's internal statistical heating value.

The sales of steam, oxygen, nitrogen, argon, etc. in 2019 were NT\$1.77 billion, which were 6.7% less than those in 2018 due to decrease in sales. The quantity of sales of steam in 2019 was 1.554 million tons, which was 119,000 kiloliters of oil equivalents in terms of energy conservation, 354,000 tons of CO<sub>2</sub>, 1,128 tons of SO<sub>x</sub>, 783 tons of NO<sub>x</sub>, and 111 tons of particulate matters if converted to benefits in reduction of air pollution and greenhouse gas emissions annually.

## Key tasks and results of the management platform of the Production and Marketing of Intelligent development Committee (PMIC) in 2019 were listed as follows:

CSC's artificial intelligence (AI) goals in 2019 were to expand the participation of all employees and to build a good expansive foundation for smart manufacturing based on 3T's (technology, talents, and teams) as the themes. The progress was listed as follows:

### 1. Establishment of a hybrid cloud intelligence platform (Technology)

Based on the promotion experience and actual needs, a variety of cloud data centers have been used to build a great number of important platforms that support CSC's smart projects.

### 2. Planning and assisting the training of group personnel (Talents)

Talents for smart manufacturing projects can be divided into three categories; namely, domain experts, AI technical talents, and business executives. The planning priorities, courses, and status of training of CSC's AI learning courses required by the Group are listed in the following table.



Targeted people for training	Goals	Training resources and planning	Numbers of people in training
Domain experts	To understand the role of AI and get ideas from the demonstration cases	National Center for High- Performance Computing (50 people/class, 3 classes/year)	424
AI technical talents	To establish basic programming skills, understand algorithms, and develop project implementation capabilities.	AI programs for Technical Professionals, AI Research and Promotion Center in NSYSU (40 people/class, 2 classes/year)	39
Business executives	To understand the content and limitations of algorithms and cross-industry cases.	AI programs for Business Managers (5 people/class, 1-2 classes/year)	13

### 3. Promotion of smart programs (Teams)

- (1) In 2019, AI was fully promoted, and 40 smart programs were selected. The technical teams assisted the planning and resource allocations of various smart programs, including the planning and implementation of 26 programs, three programs commissioned to InfoChamp, and 11 programs conducted with external resources, including the AI Research and Promotion Center in NSYSU.
- (2) The progress of the smart programs was divided into four stages; namely, installment of hardware and data collection (Internet of Things, IoT), collation and pre-processing of data (Data), testing of AI model designs (Model), and systematization (Information Technology). Fourteen smart programs were in stage three, and 12 smart programs were in stage four. The overall progress was 51% on schedule, which matched the planned progress.

### 4. Results of the smart programs

#### (1) The thickness control system for galvanized layers of products in the 2CGL

There are generally uneven thickness control problems in hot dip galvanizing production lines, which leads to the waste of zinc solution costs. With the introduction of AI, the complex equation correlation had been found with the data-driven approach, and cyber-physical systems (CPS) had been applied to develop virtual coating thickness soft sensors and active electromagnetic damping devices, respectively, to solve the problems of the excessive amount of zinc at the head end of the vertical zinc layers and lateral c-bow variations. Overall, the target of saving seven percent of excessive amount of zinc was reached, with an annual benefit of approximately NT\$42 million.



A mud gun machine at a blast furnace tap hole



A special training workshop for high-level bricklayers in furnace campaigns

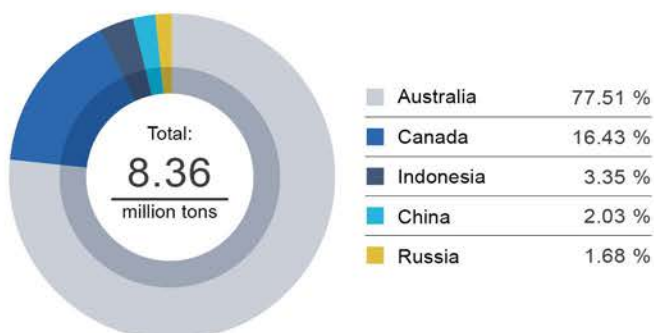
## (2) Optimization of boiler fuel scheduling in the No.2 Power Plant

Power plants are responsible for regulating the consumption of energy. It is a major challenge to maintain high efficiency and low costs with various equipment, fuels, and frequent changes. The development teams had collected operational data, applied production process simulation techniques, and optimized algorithms to establish a production process model and provide optimized adjustment suggestions, allowing fuel allocation suggestions to be made based on fuel consumption. The result demonstrated the unit costs of the main steam had been reduced by 1.09% on average, and the estimated annual benefit was NT\$6.36 million.

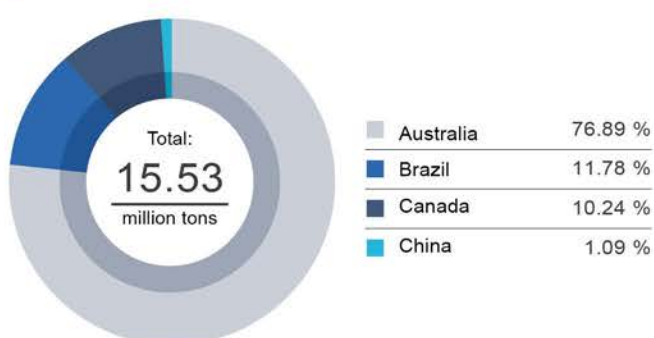
## (3) Development of driverless cranes

Driverless cranes can enhance operational accuracy and safety of cranes and improve the efficiency of crane operation. The development teams had developed core techniques, such as computer vision based location detection, anti-sway motion control, and utilization of smart grippers. With the RFID (Radio Frequency ID) and information integration system, a driverless crane system had been built, and the availability of automation of 99.9% was achieved when automatic loading and unloading took place on trucks. Subsequently, smart lifting and transportation, dynamic inventory checks, and active safety protection techniques had also been developed to perform smart transportation and storage functions. Relevant techniques were transferred to InfoChamp, and a lot of orders were obtained.

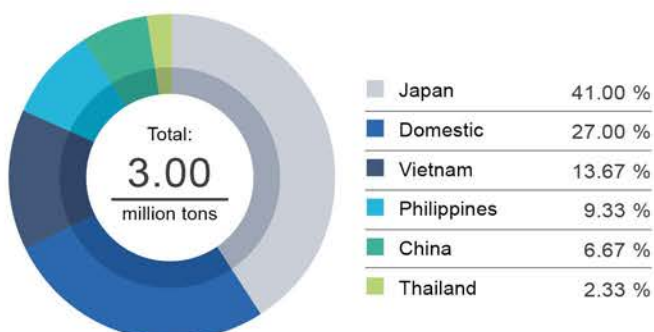
## Sources of coking coal, 2019



## Sources of iron ore, 2019



## Sources of flux materials, 2019





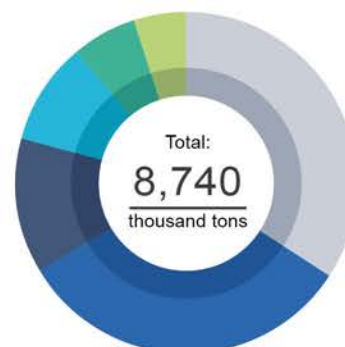
## Key tasks and results of quality management in 2019 were listed as follows:

### 1. New Product Development

Thirty-seven new products were developed in 2019, the highlights of which included:

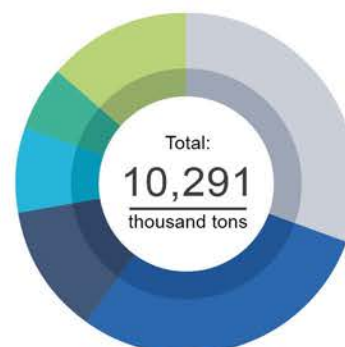
- (1) **Steel plates:** In coordination with the government's strategy to build national ships domestically to effectively enhance national defense and strength, the development of CRHS-56 CL1, steel plates for building naval ships, was completed.
- (2) **Bars and wire rods:** The development of SCM440, wire rods with high cleanliness for the manufacture of high-speed rail bolts which fasten bogies, was completed. The products were certified and replaced imported materials, meeting the demand to manufacture high-speed rail spare parts domestically.
- (3) **Hot rolled products:** The development of CSC DP980Y, steel with ultra-high strength, was completed. The level of hot rolled automotive steel was successfully upgraded from 80 kgf/mm<sup>2</sup> to 100 kgf/mm<sup>2</sup>, which completed a full series of dual-phase steel products and patent deployment. In addition, SK85, tool steel with Cr high-carbon, effectively improved hardening, followed the trend in the material market, and strengthened CSC's market competitiveness.
- (4) **Cold rolled products:** In response to the requirements of consumer electronics and customization of the automobile industry, the development of SL250Y (R42), cold rolled steel products with a shallow dull surface finish, and HC420L, cold rolled products with high-extensibility, was completed. In addition, the 100 kgf/mm<sup>2</sup> ultra-high strength steel with a high hole expansion ratio was developed to enhance product competitiveness and overcome the bottleneck of the existing equipment to successfully develop the production technique of manufacturing composite annealed medium-carbon wide steel plates.

### Percentage of steel production volume by product, 2019



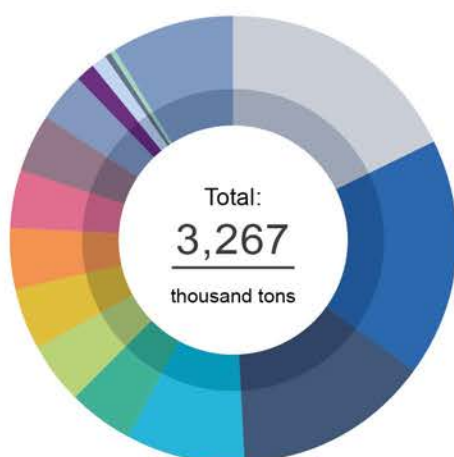
Cold rolled products	34.23 %
Hot rolled products	32.20 %
Wire rods	12.87 %
Plates	9.62 %
Bars	6.19 %
Others	4.89 %

### Percentage of steel sales volume by product, 2019



Hot rolled products	30.67 %
Cold rolled products	29.42 %
Wire rods	12.27 %
Plates	8.19 %
Bars	5.99 %
Others	13.46 %

## Percentage of export by region, 2019



China (including Hong Kong)	18.00 %
Japan	17.21 %
Vietnam	14.03 %
Thailand	8.69 %
Mexico	4.57 %
India	4.55 %
Indonesia	4.50 %
Italy	4.30 %
Malaysia	4.27 %
Pakistan	4.00 %
Spain	3.86 %
Philippines	1.30 %
Singapore	1.05 %
Australia	0.48 %
Korea	0.43 %
Others	8.70 %

(5) **Galvanized products:** The development of JAC440P, top-notch high-strength deep-drawing steel, and CR550LA, top-notch low-alloy high-strength steel, was completed to respond to the trend of utilizing high-strength auto steel. As for electrogalvanized products, special materials for the manufacture of large LCD backplanes were developed. They were high processing and corrosion-resistant products with good deep drawability and suitable to make large LCD backplanes which required high formability.

(6) **Electrical steel:** The development of 27CS1450FY, ultra-thin electrical steel sheets with lower iron loss and high strength, was completed. These electrical steel sheets were applied to manufacture motor core materials used in electric vehicles. The performance of the finished products had been approved and certified by customers to meet the demand of the rapidly growing electric vehicle market.

## 2. Technological Advancement of Production Processes

(1) **Steelmaking:** Cost-saving production processes of Electrical Steel (ES) with general specifications were developed to maintain existing quality and reduce production costs. The development of the streamlined production processes of 15B22, hot stamped steel, was completed, the cleanliness of which met the car manufacturers' requirements. The annual benefit was NT\$3.63 million. The production capabilities to manufacture tinplate materials were improved and management optimized to reduce the oxidation burning loss of blooms/slabs and improve the quality. The annual benefit was NT\$18.59 million.

(2) **Production of steel plates:** The ACC cooling process was extended with the direct quenching (DQ) equipment. With the advantages of intensive high-pressure cooling water, controllable head and tail cooling rates, adjustment functions of the width-wise convexity of water, etc., the specification strength of the API X65 liquid petroleum gas (LPG) pipes was effectively enhanced to meet the customers mechanical requirements in coiling steel plates.

(3) **Production of bars and wire rods:** With the combination of research and development energy, the technique of determining the precipitation ratio of ferrite in NLP82B, high carbon steel wire, was developed to effectively improve the torsion failure of the drawn wire products.



(4) **Hot rolling:** Black plate (BP) products maintain the structures and rolling stability of steel by changing the shapes of slabs and low-temperature rolling, which effectively reduce the rejection rates of defects in plants and the cost of energy consumption.

(5) **Cold rolling:** The improvement on the creases on the outer panels of automobiles and the chisel marks on the glossy surface of low carbon steel was completed. The defects resulted from the sensitivity of the substrates used to manufacture electrical steel sheets for export were solved.

(6) **Hot-dip galvanized products:** With the introduction of rolls with fine grooves, defects of immersed roll marks on GI computer cases were improved to successfully beautify the surface quality of the products and improve the product pass rates. The dotted rust on the cold-rolled surfaces of the single-sided galvanized products was improved by electrogalvanizing, which ensured the strict quality requirements of steel materials in motorcycle fuel tanks.

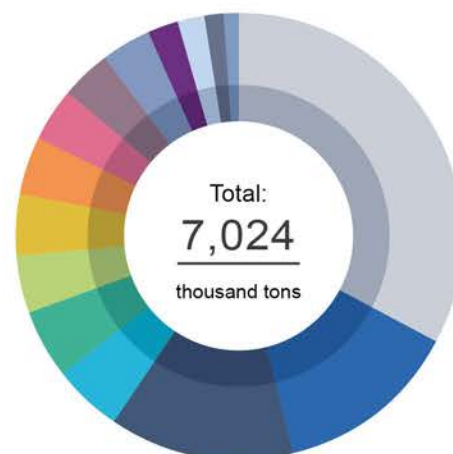
(7) **Electrical steel sheets:** The technique to manufacture products with high-silicon contents was developed. Continuous pickling cold rolling replaced the original reversing cold rolling, which effectively improved the yield, pass rates, and shift output, and met the customers' quality requirements related to thickness variations.

### 3. Certification of Management Systems

The audits of the follow-ups of the IATF 16949 and ISO 9001 were completed.

The audit of the new version of QC 080000 was also completed. In terms of international certification, CSC was granted certificates of the JIS MARK (Japan), CE Marking (EU), SIRIM (Malaysia), SNI (Indonesia), BIS (India), TISI (Thailand), CNS marks (Vietnam and Taiwan), etc., which demonstrated that CSC not only offered its overseas customers products that complied with laws and regulations and allowed them to have smooth import customs clearance, but also enhanced its competitiveness in exporting steel products. In response to the expansion demand in the export markets, the certification of SAE J403: 2014 10B06 and SAE J403: 2014 1009, the Malaysian MS MARK, was granted to CSC for two types of hot rolled products, which expanded the applications of its products and sales channels.

### Percentage of domestic sales by industry, 2019



Steel Service Center	32.91 %
Screw and Nuts	13.42 %
Re-roller	13.19 %
Drawing and Cold Finished Steel Bar	5.06 %
Steel piping	4.99 %
Traders	4.31 %
Automotive	4.24 %
Steel Shearing and Cutting	4.12 %
Steel Structures	3.90 %
Direct Users	3.68 %
Motors	3.59 %
Building Material and Pre-painted Galvanized Steel	2.36 %
Hand tools	1.83 %
Shipbuilding	1.43 %
Others	0.98 %



## Research & Development (R&D)



The unveiling ceremony of Hand Tools Researching and Testing Center



# Research & Development (R&D)

## The Trends of the Patent Applications and Certification

### The ranking of the top 100 applicants



2017	<div><div></div></div> 203	9th
2018	<div><div></div></div> 214	7th
2019	<div><div></div></div> 195	8th

### The ranking of the top 100 certificate recipients



2017	<div><div></div></div> 223	6th
2018	<div><div></div></div> 215	7th
2019	<div><div></div></div> 183	7th

## R&D Strategies

Abundant R&D results had been accomplished in 2019. Thirty-seven new products were developed in 2019. All these new products propelled CSC to continue to strengthen its competitive advantage in promoting product differentiation.

Regarding patent applications and certificates, CSC filed applications for 195 patent cases and ranked the eighth, and was granted patent certification for 183 cases, which ranked the seventh among the top 100 patent recipients in 2019 according to the Intellectual Property Office, MOEA. CSC, the only corporation in the traditional industry, was on the list of the top 10 patent recipients.

According to the operational development strategies and industrial trends, planning for five R&D themes, namely, core technology for the electric vehicle industry, smart production technology, technologies for environmental protection and reduction of carbon emissions, development of key industrial materials, and development of key materials for the



Ceremony for the Awards of R&D Results and Patent Promotion by Excellent Departments

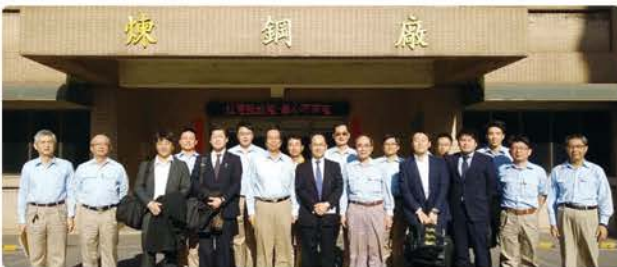
government's "5+2" Innovative Industrial Plan, was completed to focus on CSC's R&D resources on key research projects for its sustainable development. CSC had displayed outstanding results in 2019, and the more significant ones were listed as follows:

## Core Technology of the Electric Vehicle Industry

- 1. Development of electrical steel:** With the establishment of key technology, CSC had developed thin electrical steel sheets with lower iron loss, higher magnetic flux, and higher strength, such as 25CS1250FY, 30C2000P, and many others with ultra-specifications, which could be applied to manufacture drive-motors in electric vehicles. CSC had become the only supplier of electrical steel to a well-known international electric vehicle plant which adopted CSC's electrical steel in their production.
- 2. Hot stamping techniques and applications:** In order to meet the requirements of lightweighting and safety, hot stamping has become the most important technical development trend in manufacturing automotive structural parts. Having applied its independent development technology, CSC had set up many hot stamping production lines and received orders from many auto manufacturers. These products had been in production and available for sale.

## Smart Production Technology

- 1. The smart control system for the hot dip galvanizing layers of products in the 2CGL:** With the introduction of artificial intelligence (AI), the complex equation correlation had been found with the data-driven approach, and cyber-physical systems (CPS) had been applied to develop virtual coating thickness soft sensors and active electromagnetic damping devices, respectively, to solve the problems of the excessive amount of zinc at the head end of the vertical zinc layers and lateral c-bow variations. Overall, the target of saving seven percent of excessive amount of zinc was reached.
- 2. The ladle health monitoring system:** The thermal image technology was used to develop the system to detect the condition of the ladle and complete the AI image training of the sand filling condition between the mixing hole and the tap hole, which would be integrated with the online system for real-time identification. In combination with the analysis of temperature drops of molten steel, the aforementioned information could assist steel mills to reduce costs of temperature rises.
- 3. Optimization of boiler fuel scheduling in the No.2 Power Plant :** With the application of production process simulation techniques and optimized algorithms, the guiding technique on the optimal scheduling with various equipment and fuels was developed to provide optimized operational recommendations for the operations of all unit equipment under the condition of frequent load changes, solving the problem of matching human scheduling with complex systems correctly to effectively raise the fuel utilization rates.



An exchange seminar on steelmaking technology was held by CSC and Nippon Steel.



CSC researchers were granted the Zhan Tianyou Awards for outstanding engineering thesis contributors.

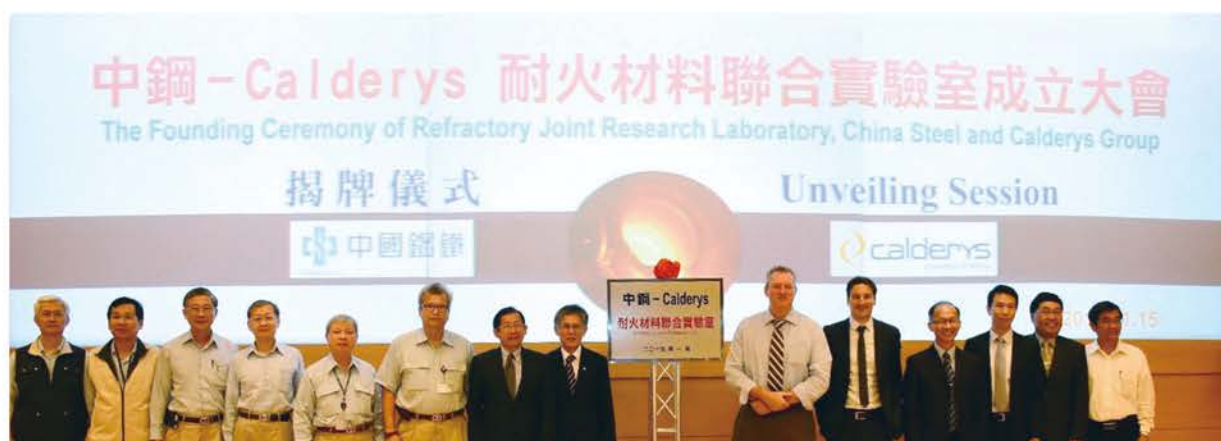


## Energy and Environmental Protection Technology

- 1. The establishment and applications of the solar photovoltaic (PV) operation and maintenance techniques:** In coordination with the construction of a PV farm, module diagnostic techniques, such as spectral analysis, measurement of the infrared temperature, and measurement of the string voltage and current, were established and applied according to the needs of the PV farm. The technique to compound cleaning agents in the No.1 Power Plant was developed, and the application significantly improved the efficiency of power generation after the plant had been cleaned.
- 2. The analysis technique of the thermal performance of hot stoves:** The technique had been applied to the Nos. 3 and 4 hot stoves regarding heating operation guidelines, combustion control adjustment, and acceptance of efficiency, etc., so that the heating operations and efficiency of the hot stoves could be successfully achieved to ensure the safety of the linings.
- 3. The development of the techniques of new production processes of coal chemical:** The establishment and applications of the basic design techniques of desulfurization, deamination, and denitrification of coal chemical were completed. The impact mechanisms that the new production processes had on the quality of the coke oven gas as well as the quality of the coking wastewater were quantitatively clarified. Moreover, the monitoring techniques were also developed to effectively prevent the occurrences of abnormal coking wastewater and reduce operating costs in the long run.

## Promotion of the Industrial Service Corps

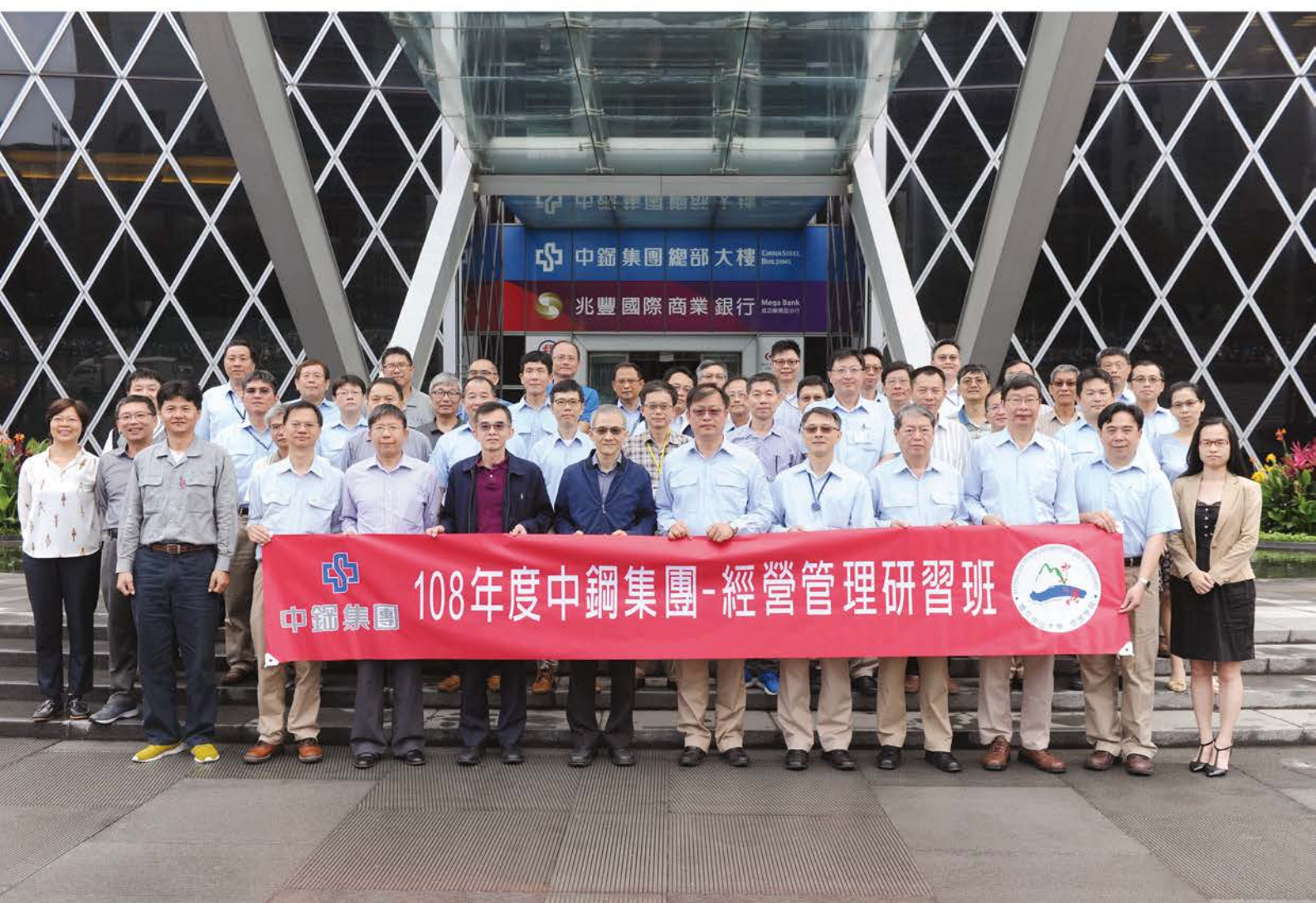
1. The research and survey of the hand tool, fastener, EV motor, automotive component, and single-rolling industrial chains had been launched to conduct response action plans and subsequently promote the Transformation and Upgrade of the Steel Industry Alliance.
2. In collaboration with the Taiwan Hand Tool Manufacturers' Association, Metal Industries Research & Development Centre, and Corporate Synergy Development Center, CSC promoted the establishment of the Hand Tools Research and Testing Center to offer testing services and innovative R&D. The planning and development focused on: (1) the development of the next-generation products, (2) the development of advanced technology, (3) strengthening of reverse engineering, (4) expansion of international market channels, (5) improvement on production efficiency, (6) nurturing of new generation talents, and (7) introduction of professional certification marks, etc.



The establishment of the Refractory Joint Research Laboratory by CSC and Calders Group

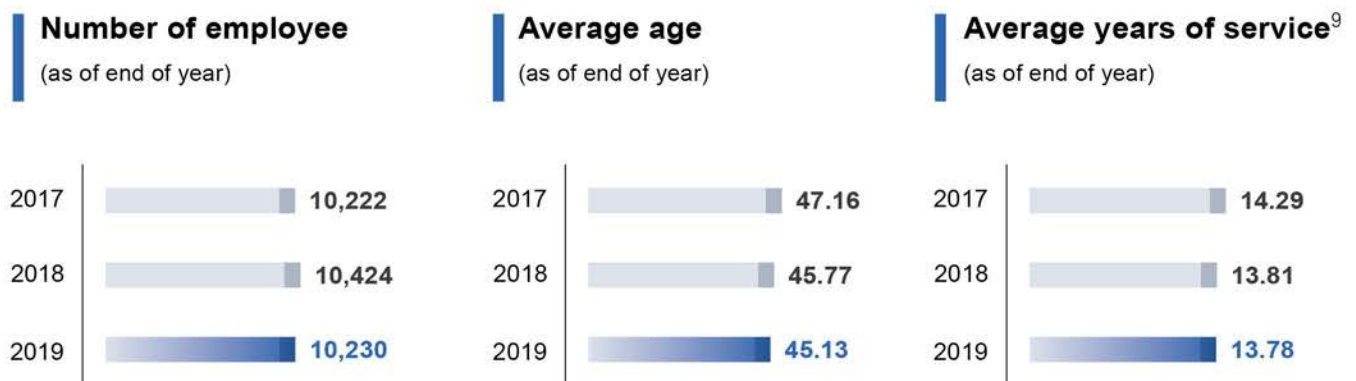


# Employee Relations and Human Resource Development



Management programs are held for middle- and high-ranking executives of the Group.

# Employee Relations and Human Resource Development



<sup>9</sup> Not counting years of employment prior to the privatization of the Corporation on April 12, 1995.

As of the end of 2019, there were 10,230 employees at CSC. Their average age was 45.13 years. Among the 10,137 employees, 99.09% of whom were eligible for membership in the CSC Labor Union.

It is estimated that over 2,161 senior employees will retire in the next five years. By upholding CSC's excellent corporate culture, future manpower development will be focused on succession of manpower, strengthening of talent training and education, employee relations, etc.

## Succession of Manpower

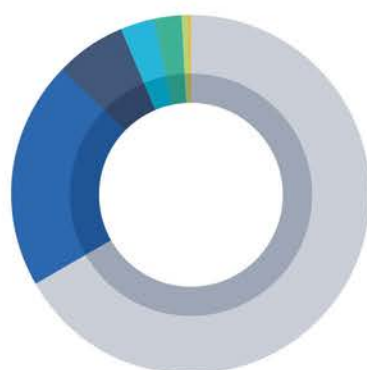
- 1. Succession in advance:** CSC has mapped out appropriate employment plans according to its corporate development strategies and investment plans, which are supplemented by the retirement and resignation forecasts as well as the periodic manpower requirement reviews by each of the departments. Employees are hired as reserve personnel in advance to facilitate the succession of manpower.
- 2. Implementation of mentor-apprenticeship and knowledge management:** Senior employees are appointed to act as mentors for new recruits and impart their experiences for effective succession in conjunction with knowledge communities, knowledge management systems, e-Learning, knowledge sharing, etc.
- 3. Promotion of cooperative education programs:** To reduce the gap between schooling and applications, CSC has formed cooperative education programs with National Cheng Kung University, Kaohsiung Municipal Chung-Cheng Industrial High School, Municipal Kaohsiung Industrial High School, and National Hualien Industrial Vocational Senior High School to meet its manpower need. As of the end of 2019, 292 students had been hired officially to undertake the business of various departments.



## Strengthening of Talent Training and Education

The Development Roadmap of the CSC Group's Talent Training and Education was established to nurture manpower and carry out tasks related to talent training and education, including those for the Group's management talents, dispatched personnel, and new recruits as well as those regarding general education, e-Learning and knowledge management, and professional expertise and quality control. The details were listed as follows:

- (1) **Training abroad:** High-ranking executives of the Group took part in short-term overseas management programs. Selected engineers were sent abroad to conduct special research projects on engineering. Selected technicians were sent to College of Industrial Technology in Japan to attend programs. Nine employees in total were sent abroad for training in 2019.
- (2) **Talent training for middle- and high-ranking supervisors of the Group:** CSC collaborates with renowned domestic universities to hold management programs every year, the purpose of which is mainly to arrange for high-ranking reserve supervisors. As of 2019, 40 supervisors had been trained in these programs. Moreover, the "Management Training Program" and "Assessment Center" will be held continually. Nine sessions with 126 participants took part in these programs in 2019.
- (3) **Training for new recruits:** Training courses for new recruits include new entry basic training, new technical training, practical training on steel production, steel simulation contests, etc. Three hundred seventy-seven employees were trained in 2019.
- (4) **Strengthening of the culture and management of industrial safety:** In order to enhance fourth-echelon supervisors' and engineers' understanding of industrial safety management, perspectives regarding how to strengthen the establishment of disaster prevention measures, and willingness to take active industrial safety measures, industrial safety training programs in the form of seminars were held. Different sessions with teaching, mutual discussions of industrial safety cases, and hands-on practice had been conducted to demonstrate the effectiveness of implementing industrial safety training. One hundred thirty-one employees were trained in 2019.
- (5) **Training on professional expertise and quality control:** Programs regarding autonomous management, statistical quality control, and advanced mechanical and electrical engineering were



### Breakdown by employees' position level

(as of December 31, 2019)

Blue-collar workers	66.75 %
Professional and specialists	20.54 %
Fourth echelon supervisors	6.54 %
Third echelon supervisors	2.96 %
Second echelon supervisors	2.39 %
First echelon supervisors	0.63 %
Executives	0.20 %

conducted continually. Moreover, in response to the Group's new businesses, special programs about quality management of public works and offshore wind power generation were also conducted. One hundred sixty-nine sessions with 4,169 participants (person-times) took part in these programs in 2019.

**(6) Training for internal instructors:** To strengthen the succession of experience within the company and enhance the autonomy of the training programs, a total of 40 internal TWI instructors, eight MTP instructors, 24 AC instructors, 12 instructors on management skills, ten instructors on problem analysis and decision-making, and 24 instructors on performance management had been trained as of 2019 in preparation for conducting future training courses for second-, third-, and fourth-echelon supervisors. Furthermore, more than 104 instructors with expertise on the maintenance of mechanical and electrical equipment had also been trained.

**(7) General education:** Twenty-eight sessions of corporate culture classes were held for executives and new recruits in 2019. Eight sessions of CSC Lectures related to arts, technology, and new management knowledge were held in the hope of establishing the concept of empathic thinking, which would help the establishment of consensus as well as enhance the executives' management and innovative capabilities. Moreover, knowledge management forums and sharing of training knowledge were held to strengthen the culture of knowledge sharing as well as the professional expertise of employees at CSC.

**(8)** In 2019, each employee averaged 34.9 hours of classroom work, including e-Learning.

In 2019, CSC reaped approximately NT\$70 million in cumulative benefits from its Creative Development Activities (CDA) and NT\$43 million in estimated tangible benefits from its Employee Suggestion System. These time-honored activities aim at encouraging employees to discover problems at their workplaces and to make suggestions and offer concrete solutions created by group endeavors. In 2019, CDA involved 595 "quality control circles" with 5,864 participants (80% of the blue-collar personnel of the departments concerned and 445 completed themes). They made 27,777 suggestions, 27,226 (98.02%) of which were adopted.

In order to spell out fair and reasonable labor conditions for both the Management and Labor to observe, CSC signed the fifth collective agreement with the Labor Union on August 15, 2019. Moreover, multiple communication channels have been provided, including



CSC signed the fifth collective agreement with the Labor Union.



Training for sales and technical personnel dispatched overseas



Core technology training for AI talents



A farewell party held for retirees



Senior executives visited on-site staff on duty on the Chinese New Year's Eve.

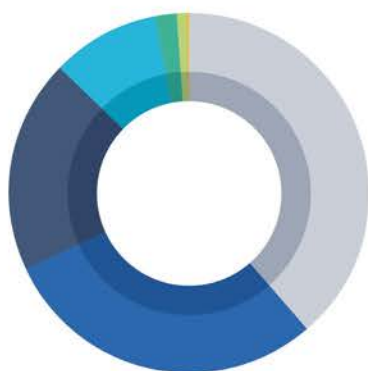


(1) regular communication meetings, which are held in each department/unit for opinion exchanges so that problems can be explored, and reasonable solutions can be found jointly, (2) the Staff Grievance Committee, in which employees can voice their complaints if those complaints aren't reasonably handled through the administrative channels when their rights are violated or mismanaged, and (3) the Sexual Harassment Grievance Committee, which deals with complaints so that an environment free of such annoyances could be provided to CSC employees and job applicants.

To offer good working conditions to satisfy CSC employees' welfare needs, the management of CSC and its employees jointly formed the CSC Employee Welfare Committee, which consists of 27 representatives chosen from both sides. Facilities such as employee canteens, restaurants, including Ming-bang Restaurant, the recreation center of the CSC Group, dormitories for singles, gyms, 22 shuttle bus lines, self-service laundry centers, and reading rooms have been established for employees. Among them, employee canteens, restaurants, gyms, and reading rooms, are also open to contractors and their employees and neighboring residents. The Welfare Section of the General Affairs Department is responsible for all the matters related to employee welfare, including large-scale outings, clubs and recreational activities, applications of fiduciary loans for employees, allocations of bonuses on the Chinese New Year, Dragon Boat Festival, Mid-Autumn Festival, and Labor Day, birthday cash gifts, marriage subsidies, cash gifts for employees' newborns, scholarships for employees' children, emergency care and subsidies, year-end lucky draws, subsidies of flexible welfare points, purchases at franchised stores, etc.

CSC has encouraged its employees to take part in club activities. As of the end of 2019, there were 43 clubs. Facilities for leisure and sports activities have been set up by CSC to care for the employees and help them to stay healthy. In response to the addition of new recruits, CSC holds group weddings for them regularly. In addition, CSC holds large-scale outings and anniversary celebration annually and commissions each department/unit to hold activities for good neighborliness purposes and year-end dinner parties to enhance a sense of unity.

To let employees and their family members better understand CSC to enhance a sense of unity and to strengthen the interaction among them, CSC has set up the regulations to promote good familyhood. Activities are subsidized by each department or unit, some of which included mountain climbing, hiking, and leisure outings. Employees are always encouraged to bring their family members to participate in these activities. A total of 9,844 participants, 93.65% of all CSC employees, took part in activities held by various departments and units in 2019.



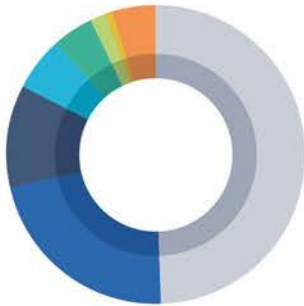
## ■ Educational background of employeesI

(as of December 31, 2019)

■ Bachelor's degree	38.73 %
■ Senior high (Vocational) school	29.59 %
■ Master's degree	19.15 %
■ Junior college	9.69 %
■ Doctor's degree	1.81 %
■ Junior high school	0.94 %
■ Elementary school	0.10 %



### Cases completed by creative development activities by subject matter, 2019



Safety	49.7 %
Maintenance	21.8 %
Production	11.2 %
Quality	5.8 %
Cost	4.3 %
Morale	1.8 %
Energy	0.9 %
Others	4.5 %

### Cases completed by creative development activities



As of the end of 2019, there are about 4,406 CSC retirees. To assist them to adapt to their new life after their retirement, keep them identified with CSC, and enhance their cohesiveness, CSC sets up a retiree service section to serve them. Two sessions of LOHAS seminars and four farewell tea parties were held for them in 2019. Retirees are always invited to take part in CSC's annual anniversary celebration.

### CSC's 48th anniversary celebrations and group weddings



CSC group wedding ceremony



Joyful road running



The Laser Tag battle



The crawling contest for babies

# Environmental Protection, Industrial Safety and Hygiene, and Fulfillment of Social Responsibilities



CSC was granted the No.1 Water Conservation Award by the Water Resources Agency, MOEA.



# Environmental Protection, Industrial Safety and Hygiene, and Fulfillment of Social Responsibilities

## Key tasks and results of energy conservation and environmental protection in 2019 were listed as follows:

1. Energy conservation services: The CSC Energy Conservation Service Corps was established in 2007 to offer energy conservation services outside CSC. In 2019, it collaborated with the Kaohsiung Municipal Energy Conservation and Carbon Reduction Technology Counseling Corps to offer counseling services to Grand Pacific Petrochemical Corporation, the Hot Rolling Department of Chung Hung Steel Corporation, etc., about energy conservation and reduction of carbon emissions.
2. Continuous promotion of the Energy Conservation Action Plan 2020, the third five-year plan: CSC has aimed at saving 100,000 kiloliters of oil equivalents between 2016 and 2020. One hundred sixty-three projects were completed in 2019; 15,000 kiloliters of oil equivalents were saved.
3. In response to MOEA's campaign to save electricity consumption by 1% annually between 2015 and 2024, CSC has actively implemented several electricity conservation projects, including improvement of electricity consumption in heating furnaces, fans, pumps, cooling towers, air conditioners, lighting fixtures as well as adoption of natural lighting in factories, etc.
4. Water consumption had been decreased from 10.33m<sup>3</sup>/ton of crude steel at the establishment of CSC to 3.57 m<sup>3</sup>/ton of crude steel in 2019; the recycling rate was 98.4%.

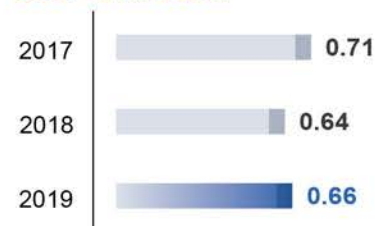
### Air quality

Kg/mt of crude steel

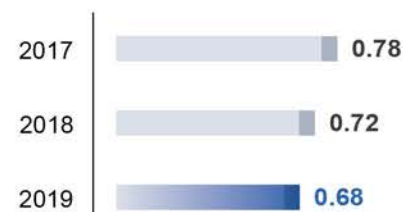
#### Particulate emission



#### SOx emission

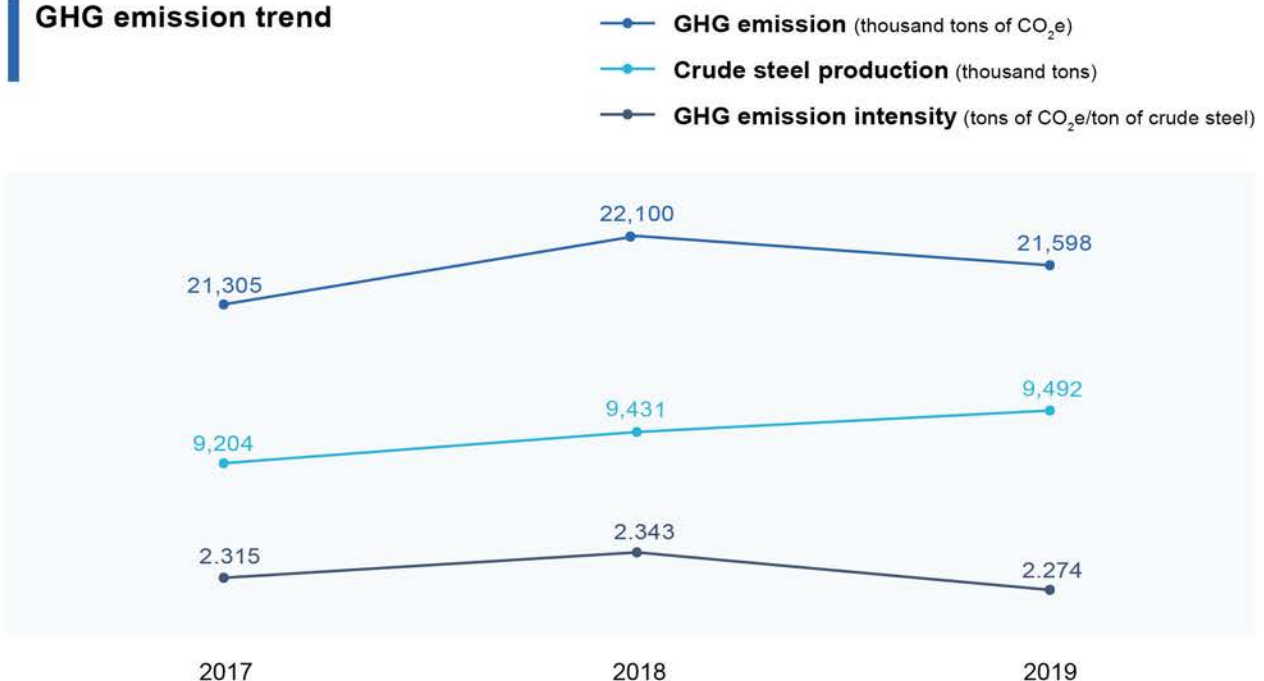


#### NOx emission



5. CSC continued the GHG Inventory and management of internal auditing and external certification. CSC completed its organizational GHG Inventory in 2018 and was verified by a third party certification agency.
6. In coordination with the Environmental Protection Agency and the Industrial Development Bureau, CSC, as the core, had formed a network of the eco-industrial link regarding the industrial waste generated inside and outside the Linhai Industrial Park.
7. Continuous reutilization of CSC's waste resources by water quenching: The operation of reutilization of the waste resources, including BF/BOF sludge, sludge from hot rolling, sludge from cold rolling, used refractories, waste acid liquids, EP dusts, BF/BOF dusts, IWI fly ash and bottom ash, zinc sludge, chromium sludge, and waste grinding wheels, was carried out.
8. Continuous assistance to the reutilization of the bi-products of the Group: Assistance had been provided to CSC's subsidiaries in reutilizing their bi-products and/or wastes, including oily waste from C.S. Aluminium Corporation, waste vessel oil from China Steel Express Corporation, sludge from hot rolling in Chung Hung Steel Corporation, crystallized calcium carbonate from China Ecotek Corporation, and waste acid liquids from China Steel Machinery Corporation and Chung Hung Steel Corporation.
9. The tests and reports for particulates, SO<sub>x</sub>, and NO<sub>x</sub> were completed. The total emission amounts matched the requirements of the environmental impact assessment in 2019. CSC will continue to promote greening inside the plants. The total area of greening has reached 443,921m<sup>2</sup>; the greening rate is 8.42%.

## GHG emission trend





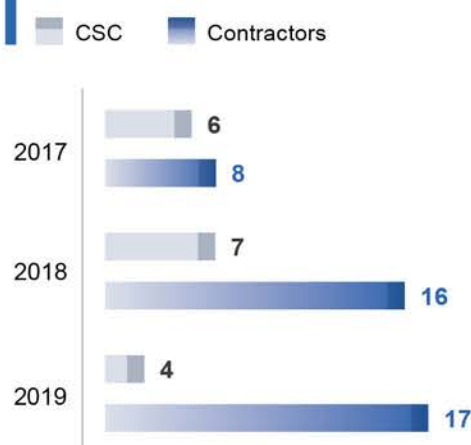
## Industrial Safety

Major tasks and results of industrial safety programs for 2019 were listed as follows:

1. CSC was granted the follow-up certification of the OHSAS 18001, TOSHMS, ISO 14001, and ISO 50001 systems, which had been verified by BSI.
2. ISO 45001, Occupational Safety and Health Management Systems - Requirements, was released on March 12, 2018. The business unit has a three-year buffer period for conversion. CSC is expected to complete the verification of conversion in 2020.
3. In collaboration with the authorized institutions, implementation of (1) the regular inspections of 1,052 pieces of hazardous machinery and equipment and (2) thorough inspections of ten pieces of hazardous machinery and equipment have been completed. The reassessment of the safety of the production processes in five type-C hazardous workplaces was carried out.
4. Educational training: (1) CSC held 14 training classes with 67 sessions of various safety licenses for 2,461 licensees on its own. (2) Four physical simulated training classes with 76 sessions were held for 661 participants. (3) The propagation on industrial safety, including briefings on backfire prevention devices, safety workshops on trapping of stray dogs, briefings of the new systems on dangerous mechanical equipment, basic training on explosion-proof electrical safety management practices, educational training on traffic safety, operational training on AEDs, etc., had been held. (4) Eight sessions of educational training on traffic safety were held for 775 participants.

## Occupational Accident Record of CSC

### Number of cases with disabling injuries



### Frequency ratio<sup>10</sup>



<sup>10</sup> FR = Number of cases with disabling injuries × 10<sup>6</sup> ÷ Total number of working hours of the entire company

## Employee Health and Hygiene

Having always complied with the laws and regulations, CSC has continued to hold physical check-ups for its employees, including special physical check-ups for those who work in special operating sites. Health management was conducted to those with abnormal physical check-up results. To promote the health of the employees, CSC had held a series of programs, such as management of health examinations, weight loss, health columns, psychological counseling, quarterly lectures on health, and special health campaigns for both female and male employees, with approximately 5,286 participants in 2019. Among them, 624 employees who took part in the weight loss program lost a total of 1,022 kg; the average lost weight was about 1.6 kg per person.

## Social Responsibilities

To fulfill its corporate social responsibility, CSC has continued to take action to provide assistance to the nearby communities for their development and sponsor charitable activities in Hsiao Kang District for a long period of time.

CSC, a corporation engaged in environmental protection, community care, and charity, has continued to make its contributions to the society, communities, and disadvantaged groups. Its contributions are as follows: (1) It sponsors equipment and facility upgrades to enhance the students' learning efficiency and greening of the elementary schools in Hsiao Kang District to slow down global warming. (2) It provides scholarships for meritorious students and tuition assistance to students from disadvantaged families in Hsiao Kang District. (3) It also sponsors various social activities for the communities and associations in Hsiao Kang District. (4) It offers funds for social relief of emergencies and gifts of money during the Chinese New Year, Dragon Boat Festival, and Mid-Autumn Festival to assist low-income families in Hsiao Kang District. (5) The ceremony for recognition and



Recognition of filial piety and granting of meritorious scholarships in Hsiao Kang District



The 2019 King of Wisdom Summer Camp held by CSC



Cellist Chen-Chieh Chang's charitable concert in the Kaohsiung Prison



CSC and KRTC collaborated with Cellist Chen-Chieh Chang to hold a concert for wheelchair users.





CSC invited students from remote rural areas to participate in the physical simulated training on work safety.



The "Steel Journey" Activity held by CSC in 2019



"Engineer E-week, Kaohsiung" was held by CSC in collaboration with IBM

promotion of filial piety is held to celebrate Mother's Day in Hsiao Kang District. (6) Graduating elementary school students in Hsiao Kang District are invited to participate in the Steel Journey Activity to get a sense of how steel is produced and the measures taken by CSC in environmental protection. (7) Elementary school students in Hsiao Kang District, especially those from disadvantaged families, are invited to participate in summer camps.

In order to enhance the learning efficiency of students and improve the teaching environment of schools, CSC assisted elementary and junior high schools in Hsiao Kang District to install air conditioners and air cleaners in 2019 to create a comfortable classroom environment for both teachers and students.

Domestic and international honors and awards granted to CSC in 2019 included: (1) the Bronze Class of the Sustainability Award by RobecoSAM, (2) a constituent of the DJSI-Emerging Markets, (3) the Sustainability Leaders Award by BSI, (4) a winner of the CDP's Climate B-List companies of the Climate Change Leaders Index and water program, (5) an excellent enterprise award in voluntary GHG reduction by the Industrial Development Bureau, MOEA, and (6) the Most Sustainable Corporate Award for the fifth time by TAISE. Furthermore, CSC was also granted the Top 50 Platinum Award in Corporate Sustainability Report, Sustainable Water Management Award, Climate Leadership Award, Circular Economy Leadership Award, Supply Chain Management Award, Growth through Innovation Award, and Talent Development Award.

To be involved in social activities in a broader and more diversified manner, CSC established the CSC Group Education Foundation. Activities conducted by the foundation in 2019 consisted of:

1. CSC organized/co-organized the King of Wisdom Summer Camps, the Steel Journey Activities, CSC Camps, teacher training courses on blast furnace slag, circular economy, and eco-friendly steel.



An observation and learning activity on energy conservation

2. In collaboration with National Taiwan University, National Tsinghua University, National Cheng Kung University, National Sun Yat-sen University, and National Chung Hsing University, CSC has continued to offer related courses about steelmaking in those universities. Scholarships have been offered to students with steel talent to encourage them to study hard. Nineteen students were awarded the scholarships for talent nurturing.
3. CSC adopted parks in Kaohsiung, set up environmental classrooms, promoted environmental education tours, and organized ecological camps, etc., to enhance people's knowledge and competence on ecology and environmental protection.
4. CSC assisted in the promotion of aboriginal music, shadow puppetry, ensemble performances by string (silk) and wind (bamboo) instruments in Chinese orchestras, the preservation of Taiwanese local music and artistic performances of the Kaohsiung Symphony Orchestra and the Chinese Orchestra. Moreover, it has held many charitable concerts for wheelchair users, prisoners, the visually-impaired, etc.
5. Micro movie workshops were conducted in remote rural elementary and junior high schools, and CSC collaborated with the Kaohsiung Film Festival to give students and the public the opportunity to become aware of various social viewpoints by appreciating the works of others.
6. CSC invited renowned speakers with expertise from different fields to deliver campus lectures, literary lectures in Kaohsiung, etc. to share their life stories.
7. CSC invited disadvantaged students who had to support their family livelihoods to participate in physical simulated training on work safety in order to improve their abilities to identify hazards in the workplaces to reduce the incidences of work accidents.
8. "Engineer E-week, Kaohsiung" was held to enhance high school students' abilities to solve problems and teamwork.

CSC upholds the concept that what is taken from the society must be returned to it, and sincerely takes action to care about and contribute to the society, communities, and disadvantaged groups from the aspects of environment protection, community care, and charity.



# Capital Expenditures and Engineering Business

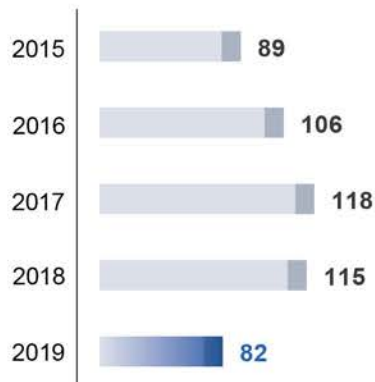


Taiwan's first transition piece mock-up to a jacket foundation

# Capital Expenditures and Engineering Business

## Capital expenditures

(in hundred million of New Taiwan Dollars)



The investment of capital expenditure projects amounted to NT\$8.249 billion in 2019. The projects were listed as follows:

### I. Projects related to equipment revamp:

1. Revamp of the program control and electronic control systems of the No. 2 Hot Strip Mill of Rolling Mill Dept. II
2. Revamp of the Nos. 1 and 2 heat furnaces of the No. 1 Hot Strip Mill
3. Revamp of the shells and linings of the No. 31 hot stove in the No. 3 Blast Furnace
4. Revamp of No. 1 heating furnace of Plate Mill I, Rolling Mill Dept. I
5. Revamp of the third campaign of the No. 2 Blast Furnace
6. Revamp of the LDG holders in the BOF Plant I
7. Advancement of the coal and iron ore transportation processes and relocation of the conveyor equipment
8. Revamp of the Nos. 3 and 4 ship unloaders
9. Revamp of the turbine air blowers in the No. 1 Power Plant

### II. Projects related to resource recycling or environmental protection equipment:

10. Addition of the indoor sinter warehouse project
11. Phase 1 construction of the new closed building for coal

Among the aforementioned projects, Projects 2, 4, and 10 were completed in 2019; the rest have been carried out on schedule. Major projects, which were expected to increase production capacity or effectiveness, with the investment amount of over NT\$2 billion were listed as follows:



1. Revamp of the program control and electronic control systems of the No. 2 Hot Strip Mill of Rolling Mill Dept. II	The estimated reduction of CO <sub>2</sub> emissions is 2,989 tons per annum because of the saved electricity consumption and low-temperature rolling, which is due to the reduction of delay rates and enhancement of equipment performance.
5. Revamp of the third campaign of the No. 2 Blast Furnace	Since the blow-in of the No. 2 Blast Furnace in January, 1996, the third campaign has been in operation for many years, and it will complete its production task after evaluation. It is necessary to carry out the shutdown and the revamp to enhance and stabilize production so that the operating costs can be reduced to make CSC become more competitive.
7. Advancement of the coal and iron ore transportation processes and relocation of the conveyor equipment	This is Phase 1 of the replacements of the coke ovens in the Phases 1 and 2 expansion projects. This project is a forerunner for relocating the main material yards indoors. The goal of replacing the coke ovens will eventually be achieved.
8. Revamp of the Nos. 3 and 4 ship unloaders	The Nos. 3 and 4 ship unloaders, located in the No. 97 Dock, Kaohsiung Port and dedicated to the transport of CSC's imported raw materials, have been in operation for more than 30 years. In order to ensure the smooth unloading of the raw materials and stabilize the production of the blast furnaces, the equipment must be revamped.
9. Revamp of the turbine air blowers in the No. 1 Power Plant	In order to supply the cold air blast required in the blast furnaces stably, enhance the efficiency of energy consumption, and meet the strict regulation requirements in the future, the equipment must be revamped.
11. Phase 1 construction of the new closed building for coal	Phase 1 construction of the new closed building for coal took place in the open-air coal storage yard. The construction consisted of two phases. The purposes were to improve environmental protection, increase the stock of the main material yard per unit area, and make up for the loss of the stacking volume in the main material yard for the construction of a new coke oven.



Autonomous engineering on revamping projects of the CSC Group

## Engineering Businesses

Revenue generated from engineering businesses from outside parties amounted to NT\$2.090 billion in 2019, which was 78.63% more than that in 2018 (NT\$1.170 billion). CSC will continue to actively expand its engineering and technical services businesses. Key tasks and results in 2019 were listed as follows:

1. The EPC construction project (Phase 1) of the Danhai Light Rail Transit System: The construction was initiated on November 23, 2014. As of December 31, 2019, the overall project was 95.11% on schedule.
2. The EPC Project (Phase II) of the Circular Line (KMRT): The construction was initiated on October 11, 2016. As of December 31, 2019, the overall project was 67.36% on schedule.
3. The EPC project of the electromechanical systems of the Ankeng Light Rail Transit System: The construction was initiated on May 1, 2017. As of December 31, 2019, the overall project was 23.06% on schedule.
4. The manufacturing and supply project of maintenance vehicles for Taiwan High Speed Rail Corporation (THSRC) was initiated on September 27, 2018. As of December 31, 2019, the overall project progress was 33.60%.
5. With respect to the other engineering businesses from outside parties, the revenue exceeded the annual target value, which was mainly due to the increase on demand for (long-term) resident and short-term consultancy services, technical assistance agreements, establishment of production lines, and maintenance services from customers.



The completion ceremony of the first transition piece mock-up made in Taiwan



## Investments and Other Equity Interests

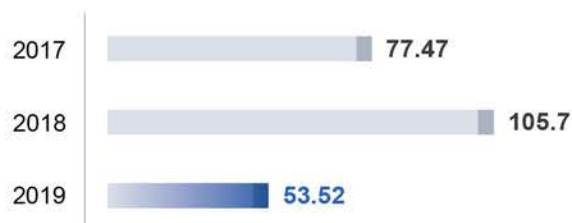


The completion and blessing ceremony of Sing Da Marine Structure Corporation's plant

# Investments and Other Equity Interests

## CSC recognized income from invested companies in the past three years

(including the dividend income, in hundred million of New Taiwan Dollars)



As of the end of 2019, China Steel Power Corporation, engaged in the offshore wind power business, was a newly added company. White Biotech Corporation was liquidated and dissolved, and all the shares of Adimmune Corporation held by CSC were disposed.

## Operating Performance

Because the steel market declined in 2019, CSC's recognized reinvestment gains in 2019 amounted to NT\$5.352 billion, including the dividend income, and were decreased in comparison with those in 2018. The operating performance of the subsidiaries was listed as follows:

1. **Steel Business:** The profit before income tax of Dragon Steel Corporation in 2019 was NT\$1.821 billion, which was NT\$8.541 billion less than that in 2018 mainly due to the decrease in the sales volume and the fact that the unit costs of goods sold increased while the average sales prices decreased,

resulting in the decrease in the gross profit of steel products sold. The profit before income tax of Chung Hung Steel Corporation in 2019 was NT\$11 million, which was NT\$3.022 billion less than that in 2018 due to the fact that the decrease in the sales prices of the steel products was more than that in the costs of goods sold, and there was increase in export sales, resulting in the increase of the freight and miscellaneous expenses for exports. Regarding CSC's overseas operations, the profit before income tax of CSC Steel Sdn. Bhd. in 2019 was RM39.60 million, which was RM 18.28 million more than that in 2018 due to the increase in sales volume, decrease in exports, resulting in the decrease in the operating expenses, and recognized valuation gains of financial assets. The loss before income tax of China Steel And Nippon Steel Vietnam Joint Stock Company<sup>11</sup> in 2019 was US\$30.56 million, which was US\$25.771 million less than that in 2018 due to the decrease in the sales volume, the fact that the decrease in the sales prices of the steel products was more than



that in the costs of goods sold, and changes of trade terms and conditions for some exports, resulting in the increase in the sales expenses. The loss before income tax of China Steel Corporation India Pvt. Ltd. in 2019 was INR1.316 billion, which was INR 0.375 billion less than that in 2018 due to the decrease in the sales volume and the fact that the increase in the costs of goods sold was more than that in the sales prices, resulting in a combined effect of the operating gross loss, operating expenses, and reduction of net loss in exchange.

<sup>11</sup> China Steel Sumikin Vietnam Joint Stock Company was renamed China Steel And Nippon Steel Vietnam Joint Stock Company on August, 2019.

- 2. Engineering Business:** The profit before income tax of China Steel Machinery Corporation in 2019 was NT\$219 million, which was NT\$26 million more than that in 2018, which was mainly attributable to the combined effect of the increase in the operating gross profit of the engineering projects, the increase in the R&D management expenses, and the expenses of the provision for bad debts. With the decrease in the recognized engineering losses, resulting in the increase in the operating gross profit, and decrease in the recognized exchange gains and investment gains in 2019, the profit before income tax of China Ecotek Corporation was NT\$148 million, which was NT\$25 million more than that in 2018. The profit before income tax of China Steel Structure Corporation in 2019 was NT\$136 million, which was NT\$31 million more than that in 2018, resulting from the combined effect of the fact that there was increase in the utilization of steel structures in some engineering projects with better operating gross profit, mainly attributable to the increase in its operating gross profit and decrease in the recognized investment gains. The profit before income tax of InfoChamp Systems Corporation in 2019 was NT\$201 million, which was NT\$2 million less than that in 2018. Sing Da Marine Structure Corporation was established in April, 2018. The construction of the factory was completed in the end of 2019. Its loss before income tax was NT\$131 million in 2019.



The delivery ceremony of China Steel Liberty



A visit to China Steel Corporation India Pvt. Ltd. by the high-ranking executives and union president

**3. Industrial Material Business:** The loss before income tax of C. S. Aluminium Corporation in 2019 was NT\$313 million, which was NT\$241 million more than that in 2018, mainly attributable to the fact that the decrease of the sales prices of aluminium products was less than that of the costs of goods sold, resulting in the increase in the gross profit, and that there were increased financial expenses and recognized losses in investment under the equity method. The profit before income tax of China Steel Chemical Corporation in 2019 was NT\$1.590 billion, which was NT\$279 million less than that in 2018, mainly attributable to the fact that the decrease of the purchase prices of raw materials was less than that of the product prices, resulting in the decrease in the operating gross profit, and the recognized exchange losses of the depreciation of the US dollar. The profit before income tax of CHC Resources Corporation in 2019 was NT\$1.026 billion, which was NT\$24 million more than that in 2018, mainly attributable to the increase in the sales volume of GBFS powder products and promotion and processing expenses of resource products. The profit before income tax of HIMAG Magnetic Corporation in 2019 was NT\$45.04 million, which was NT\$3.03 million more than that in 2018, mainly attributable to the decrease in the operating expenses and the increase in the recognized re-investment losses. The profit before income tax of Changzhou China Steel Precision Materials Corporation in 2019 was RMB\$33.85 million, which was RMB\$13.08 million more than that in 2018, mainly attributable to the increase in the sales volume of titanium and nickel products, resulting in the increase in the operating gross profit. The profit before income tax of China Steel Resources Corporation in 2019 was NT\$12.32 million, which was NT\$1.79 million less than that in 2018, mainly attributable to the increase in the costs of processing mineral fine aggregates. The profit before income tax of CSC Precision Metal Industrial Corporation in 2019 was NT\$9.93 million, which was NT\$12.92 million more than that in 2018, mainly attributable to the operating income generated from the official operations in July, 2018.

**4. Trading and Logistics Business:** The profit before income tax of China Steel Express Corporation in 2019 was NT\$2.047 billion, which was NT\$47 million more than that in 2018. The profit before income tax of China Steel Global Trading Corporation in 2019 was NT\$527 million, which was NT\$160 million less than that in 2018, mainly attributable to the decrease in the labor service income and recognized investment gains. The profit before income tax of Qingdao China Steel Precision Metals Co., Ltd. was RMB\$11.72 million, which was RMB\$2.19 million more than that in 2018, mainly attributable to the recognized partial compensation for the loss of steel coils and the increase in the recognized industrial support funds from the government. The loss before income tax of China Steel Precision Metals Kunshan Co., Ltd. in 2018 was RMB\$550,000, which was RMB\$870,000 more than that in 2018, mainly attributable to the increase in the amount of the recognized raw material performance discounts, resulting in the increase in the operating gross profit and the decrease in the operating expenses.

**5. Service and Investment Business:** The profit before income tax of Gains Investment Corporation in 2019 was NT\$548 million, which was NT\$176 million more than that in 2018, mainly attributable to the increase in the dividend income and recognized investment gains. The profit before income tax of China Steel Security Corporation in 2019 was NT\$116 million, which was NT\$2 million more than that in 2018. The profit before income tax of China Prosperity Development Corporation in 2019 was NT\$2.968 billion, which was NT\$2.737 billion more than that in 2018, mainly attributable to the recognized sales of the CPDC Qianzhen Residential Building. The profit before income tax of China Steel Management Consulting Corporation was NT\$4.41 million, which was NT\$970,000 more than that in 2018, mainly attributable to the increase in the operating gross profit from the increase in the number of consultants. The profit before income tax of CSC Solar Corporation was NT\$127 million, which was NT\$50 million more than that in 2018, mainly attributable to the increase



in the number of electric meters installed, resulting in the increase in the operating gross profit. China Steel Power Corporation was established in December, 2019, and is engaged in the offshore wind power generation business. Its loss before income tax was NT\$ 140,000 in 2019.

## Business Development

In terms of the investment in raw material sources, CSC seeks prudent investment in valuable raw material sources to increase its self-sufficiency rates to reach the target by taking the advantage of the market dynamics. As of the end of 2019, the self-sufficiency rates of metallurgical coal and iron ore were 1.8% and 15%, respectively. CSC's average self-sufficiency rate of raw materials was 10.8%. In the future, CSC will form strategic alliances with other steel plants or steel trading companies to raise the bargaining chips for raw material investment. Moreover, CSC will adjust its raw material investment flexibly according to the pulse of the steel market.

In collaboration with the demand for expanded sales from overseas production bases, existing overseas coil centers, sales bases, and potential overseas customers, the CSC Group actively expands its sales bases and sets up coil centers in its main and potential markets to provide services to local customers in real time to extend its supply service chain in order to consolidate its overseas sales distribution channels.

From the perspective of the CSC Group's overall deployment and cross-support capabilities among its production and sales bases as well as the specific steel demands in emerging Asian countries with relatively higher growth of steel demands and its products with comparative advantages in various markets, it will expand the operational territories of its overall steel business to achieve the goal of the sound development of the CSC Group by utilizing the advantage of the Group's operational synergy to promote the operational efficiency of its non-steel businesses.



High-ranking executives visited China Steel And Nippon Steel Vietnam Joint Stock Company



A group photo of SDMS personnel for technology transfer in Spain



## Customer Services



A technical seminar on non-oriented electrical steel sheets



# Customer Services

A total of 39 new enterprises became CSC's customers in 2019. New customers accounted for 3.12% of the total customers while the old ones accounted for 99.43% of the total operating revenue. On the basis of technological services, CSC not only offers steel products with the appropriate quality, at the adequate amount, and at the appropriate time by providing multi-stage, multi-layer pre-sale, sale, and after-sale services, but it also assists customers to solve their problems in material utilization and processing techniques to promote the growth of the steel-consuming industries.

CSC obtains feedback, which serves as a reference for improvement or development of marketing policies, from its customers by holding regular production and sales confabs with trade associations (or professional groups) in the downstream steel industry, visiting its customers, and holding technological seminars.

## Sales Services

- In 2019, 40 confabs regarding domestic sales and four confabs regarding export sales had been held. Overall sales supporting services are provided through e-business and initiation to the supply chain. Moreover, executives and personnel in related businesses visit CSC's customers actively and take orders according to the scheduled production capacity to promote punctual delivery. To offer even better services, marketing resources from CSC's subsidiaries, e.g. DSC and Chung Hung Steel Corporation, are integrated to mutually support and extend the scope of CSC's services to its customers.

## Technical Services

- Key activities of technical services in 2019 included: (1) Technical assistance to customers with a total of 160 cases in improving their manufacturing processes were completed, which boosted the customers' confidence in using CSC's products. Thirty surveys of market quality feedback were obtained to effectively promote quality improvement. (2) Certification of eight steel products for automobile use was granted. Moreover, CSC has been granted certification of a total of 250 items so far by 27 automobile manufacturers, which is a necessary threshold for CSC's steel products to be used in automobile manufacturing. (3) Eleven domestic and international technical symposia and seminars were held. (4) Representatives from CSC paid 117 visits to key customers. Moreover, professional staff (248 persons-days) were sent abroad to conduct technical interaction and promote CSC's products in China, Japan, Europe, the United States, Mexico, Southeast Asia, the Middle East, and India. (5) To have a full grasp of the customers' demands and explore the opportunities for new product development, 11 surveys of material applications and quality trends according to industries as well as nine surveys of new products and quality functions were completed.



A seminar on the forming processes of fasteners

## The Supply Chain System of Production & Sales

The purpose of CSC's Supply Chain System is to effectively match CSC's production and sales with its customers' order demands by bilateral coordination. With standard ordering procedures and allocation of its production capacity, CSC provides timely and flexible responses to the customers online regarding their orders, which closely meets the demand of the market and promotes the overall efficiency of the production and sales in the supply chain.

Operation flexibility and efficiency have markedly increased by the constant optimization and improvement of CSC's Supply Chain System regarding production and sales. Customers can get instant answers in regard to the delivery dates, quantities, and prices of their orders by linking up with CSC's Supply Chain System, which keeps track of the planning of sales and production, quotations, order entries and revisions, production plans and schedules, follow-ups of existing orders, storage and transportation, and delivery in a smooth and fast manner. The results and benefits of the system are listed as follows: (1) Assistance of the linking service of the ERP information systems between CSC and its customers has been offered. The operation of customers' purchases, receipt of their orders, inspection, and requests of reimbursement can be interacted with CSC's information on orders, production, delivery, and invoices. Efficiency and precision have been enhanced, and tasks have been simplified. Product value has been raised because there are no borders for accompanying experts, and CSC offers instantaneous information responses. (2) CSC has established the Metallurgical Technology Service Cloud to offer differentiated services to its customers. A mobile knowledge databank and the apps for handling customer complaints instantaneously have also been established to further service its customers. (3) In accordance with the government's policy



on the cloud computing industry and the CSC Group's promotion of its private service cloud, CSC has applied cloud technology in the fastener industry to enhance the overall competitiveness, which will facilitate relevant fastener enterprises to enhance the effectiveness, sales, and succession of knowledge of the industry chain. (4) CSC's customer service cloud mobilizes the daily services that customers need so that they can utilize their mobile devices to issue bills of lading, confirm quotations, and track the progress of their orders. Price spreadsheets are also offered so that salespeople at CSC can respond to customers' inquiries immediately. (5) CSC has raised its on-time delivery rates by improving order preparations, rationalizing delivery, tracking overdue delivery, coordinating production, sales, shipping of export products, etc. (6) Based on production at the lowest costs and the e-commerce information which meets customers' requirements, CSC will gradually establish its smart production and sales to further cut costs to meet the customers' demand.

## Customer Satisfaction

CSC always commissions an academic institution to conduct a domestic and overseas customer satisfaction survey every year. Results of the 2019 survey were satisfaction indices of 84.18 points, which was an increase of 10.58 points compared with those of 2018, from domestic customers and 85.48 points, which was an increase of 13.48 points compared with those of 2018, from overseas customers. The top three items of the domestic satisfaction index were the service attitudes of the salespeople, salespeople's interaction with customers, and the technical staff's expertise in products. The top three items of the overseas satisfaction index were the service attitudes of the salespeople, the responses of the acting personnel/deputies when the salespeople were unavailable or on leave, including handling of telephone calls, and the speed of the salespeople's responses to customers' inquiries.



A seminar on the applications of steel and aluminum in the automotive industry



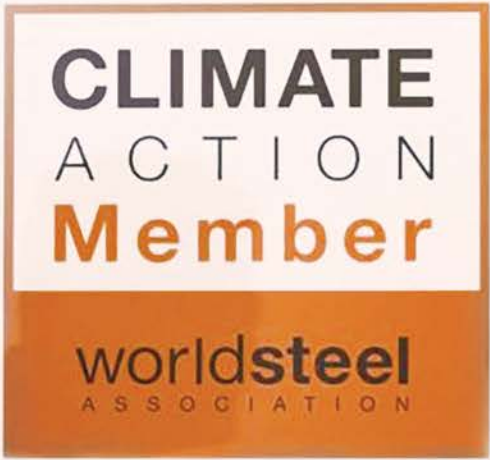
A seminar on the development technology of offshore wind power generation and high-functioning structural steel



A seminar on the operations management of the steel industry

# Risk Management

worldsteel  
ASSOCIATION



CSC was granted the Climate Action Recognition by worldsteel.



# Risk Management

## Market Risk Control

To disperse liable risks of concentrated sales in the steel market, CSC has managed its risk control in two areas. In terms of sales, CSC has adopted the distribution channel strategy of regarding the domestic market as its principal outlet and supplementing it with export sales and adjusted their ratios according to the changes in the market. New product development has been significantly enhanced to create new value at CSC. Moreover, CSC has a full grasp of the dynamics of related industries, expands the range of its supplies, and seeks investment opportunities in the downstream steel industry or industries which consume steel products. Overseas coil centers have been established to have a full grasp of sales channels. In terms of production, on the basis of the amount of estimated orders, sales and production plans are simulated to avoid the risks of economic fluctuations. Concrete measures include coordination of the allocation of slab purchase quotas among the subsidiaries in the CSC Group, reduction of production in the furnaces and campaign adjustments, adjustments of the schedules of seasonal/annual maintenance of the production lines, scheduling of raw material transportation, and planning of commissioned rolling. In a nutshell, production plans can be adjusted by various means whenever necessary.

## Risk Control of Raw Material Supply

### 1. Procurement of Raw Materials

To avoid the disruptions of the supply of raw materials, such as coal, iron ore, and limestone, due to the weather or the conditions of the mines, railways, and loading ports, CSC has adopted the following countermeasures:

- The sources and suppliers are cautiously evaluated.
- Safe inventory levels are properly maintained.
- The sources of the raw material supply are diversified; short-term, medium-term, and long-term contracts, ranging from one to five years, are signed with various suppliers in different countries.
- Contracts are executed in good faith; relationships with mutual trust and assistance are maintained with the suppliers.
- Some of the retained amounts are retailed in the spot markets in response to the flexibility in production demand so that opportunities to reduce costs can be sought.
- New sources of the raw material supply are actively developed to intensify competition and avoid domination by only a few suppliers.
- CSC has its own vessels for raw material transportation so that it can control and reduce its transportation costs when there is a price hike in freight; nonetheless, it will also charter vessels for timely transportation of some of its raw materials when necessary.

## 2. Development of Raw Material Sources

- Cooperative investment projects are carefully carried out only with prestigious miners with the experiences of coal and iron mining and exploration or joint venture partners, including steel plants and trading companies.
- Investigation on the spot is carried out with due diligence so that CSC can fully grasp the status of its raw material investment.
- Professional consultants in geology, finance, taxation, and law are commissioned to help carry out feasibility assessment.
- Overall assessment and reviews are conducted by related departments internally when necessary.
- Decision-making meetings of raw material joint ventures are attended to protect CSC's investment interests.
- The development and operations of raw material joint ventures are closely monitored and fully controlled.

## Transportation Risk Control

At the weekly raw material purchase and transportation meeting, various units communicate and review the proper shipping plans according to the raw material inventories, planned amounts of input, and safety inventories. In order to make breakthroughs in the existing port restrictions and reduce the costs of raw material supply and transportation, the Transportation Department has planned to transfer the fully loaded ships on long-haul routes to berth temporarily at Luoyu Port, and then dispatched barges to freight raw materials back according to production needs. The new transfer operations of iron ore transportation have been added to overcome the issue of the lack of storage yard space onsite for unloading in a timely manner since 2019; back-up storage yards will be established to reduce supply chain risks and shorten the waiting time at ports for the fleet.

As for inland transportation, all of the trucking companies have to present both their signed letters of guarantee and bankers' irrevocable letters of guarantee on fixed amounts to CSC to ensure that products will be delivered to CSC's customers according to agreed-upon schedules and in perfect conditions. If the steel products in delivery are damaged, lost, or delayed, CSC maintains the right to deduct the loss from the freight or the guarantee deposits from the transportation companies to control transportation risks.

## Emergency responses to leakages of liquid ammonia



Rescue operations performed by the personnel in a drill



Water sprinkling to reduce the concentration of ammonia in the air



## Risk Control of Utilities

Joint energy systems, including the water, electricity, oil, steam, and gas systems, are monitored and dispatched by the Utility Dispatching Center (UDC) at CSC. Besides the implementation of economic dispatching to control system safety by UDC, PDAs are also utilized to facilitate the examination of the facilities in periodic patrol checks. Revamp of pipelines and power distribution facilities has been conducted continuously to ensure the safety of all systems. Emergency drills in regard to facility failures are held every year to reduce the risks of energy supply. The measures in risk control of utilities taken by CSC include:

### 1. Electricity and gas:

- To promote the reliability of power supply, replacement of the old equipment used for power generation will be continued, and the revamp of the structural members of transmission towers will also be implemented.
- Replacement of the old gas pipelines will be carried out to reduce risks.
- The equipment revamp of the natural gas decompression station was implemented.

### 2. Water:

Emergency limited water usage administrative regulations were established to avoid the damage in the furnaces and coke ovens caused by the tightening of water supply by Taiwan Water Corporation in dry seasons. CSC hopes to reduce the damage in production or facilities caused by the lack of water supply; therefore, it actively takes part in the municipal project of recycling waste water from the Fongshan Creek Sewage Treatment Plant, which serves as the second source of water supply, to reduce the risk of water supply. 22,000 m<sup>3</sup>/day of recycled water had been generated in 2018, and it was increased to 41,000 m<sup>3</sup>/day in the end of 2019. It is estimated that 20,000 m<sup>3</sup>/day of reclaimed water coming out of the Linhai Sewage Treatment Plant can be generated by 2022.

## Emergency responses to leakages of gas pipelines in a blast furnace



Teaming and job assignments of the personnel in a drill



Cooling of the temperature by spraying water

## Risk Control of Information Systems

To avoid adverse effects on CSC's business operations due to computer software, hardware, and network irregularities, it has drawn up standard operating procedures and implemented education and training programs as well as instituted strict control measures to effectively reduce the risk of abnormalities, including implementation of (1) multiple backup mechanisms of computer software, hardware, and networks; when activated, the time difference of the taking over of the backup mechanisms can be shortened, (2) backup and restoring mechanisms of files with multi-version support, (3) online control of application systems and version changer mechanisms, (4) prevention of virus and network intrusions, (5) uninterrupted power supply systems and automatic fire suppressing systems, and (6) entrance control with closed circuit televisions. In addition, drills are held periodically.

The following measures have been taken to enhance cyber security:

Regarding the external networks:

1. Master/standby backup switch mechanisms have been installed in the firewalls.
2. The Security Operation Center (SOC) has been set up to prevent hackers from invading and paralyzing the networks.

Regarding the internal networks:

1. Anti-virus software has been installed in every computer.
2. The networks have been subnetted into different segments, and each network node has been equipped with an intrusion prevention system (IPS) for protection purposes to avoid the lateral spread of attacks.

In addition, to enhance the Group's security protection capacity and response to security incidents, CSC has invited the subsidiaries of the Group to hold joint quarterly cyber security meetings since 2019 to share new information on security protection and review case responses, prevention, and results of regular security inspections to strengthen the cyber security protection of the Group and reduce cyber security risks.

## Emergency responses to gas leakage in a converter



Cooling of the temperature by spraying water from fire engines



Repairs carried out by technical personnel



## Risk Control of Facility Maintenance

### 1. Machinery:

- **Spare management:** Proper inventory levels are maintained according to past maintenance experience and the amounts of spare consumption. When the insured materials are lower than the safety stock, the material management system will immediately notify the material management unit to carry out procurement operations as soon as possible to avoid the risk of downtime in production lines caused by lack of materials.
- **Maintenance résumés:** Abnormalities in mechanical and electrical equipment and facilities are looked for through downtime management; the records of the equipment résumés are kept. The tracking mechanisms for handling measures and improvement of maintenance strategies were strengthened to ensure that maintenance techniques and experience were fully kept and passed down to reduce the maintenance time at downtime.
- **Establishment of the online monitoring center:** The operational data of equipment in important production lines was monitored through systematic mechanisms to deliver daily and weekly reports about abnormalities. Countermeasures to handle abnormalities were researched to give early warnings and prevent possible sudden downtime of the production equipment.

### 2. Electrical Control Facilities:

- Risk management of the IATF 16949 and ISO 9001 quality management systems is carried out.
- Preparation of the off-site backups of the process control systems and operations of backup and restoring mechanisms of files are implemented.
- Fault-tolerant master systems are installed in part of the important process control systems to reduce the frequencies of hardware downtime and increase the reliability of system operations.
- Uninterruptible power systems are applied in all process control systems. Entrance control is implemented, and so are fire and emergency evacuation response drills and preparation of the off-site backups of the process control systems.
- The computers for program control are equipped with anti-virus software, and the virus codes are updated regularly to ensure information security and normal operations of the computer systems.

## Risk Control of Construction Management

Standardization is carried out in accordance with the ISO 9001 quality management systems. Standard documents such as "Management regulations for the establishment of engineering projects," "Management regulations of engineering contracts," and "Management regulations for submitting project profit and loss statements" have been established to strengthen engineering organizations, contracts, and cost control of projects.

In terms of the implementation of requirements beyond the scope of the contracts, all documents between CSC and related parties are completely preserved, and the professional advice of the engineering and legal consultants are sought as a basis for future contract changes, including claims for project costs and extensions of work periods.

The construction costs of projects are strictly controlled. The utilization of the budget for each project is regularly reviewed, and the project expenditure is also strictly controlled by each subsystem. Project budget control systems are developed to integrate personnel management costs, project revenue and expenditure details, cash flow estimates of projects, warnings of abnormalities, etc.

In order to have a full grasp of the contractors' financial statuses, CSC commissions domestic credit reporting agencies to conduct credit checks on registered contractors/subcontractors on a regular basis. If the checks of the persons in charge (contractors/subcontractors) bounce, or when they are classified as dishonored account holders by banks, they will be considered as suspended and/or disqualified contractors/subcontractors and prohibited from bidding, or their maximum bidding amounts will be limited.

## Risk Control of Environmental Protection, Safety, and Hygiene

Hazard identification and risk assessment are carried out to promote the culture of industrial safety. Measures are taken to reduce the risks in the high and major categories, and emergency drills are held periodically.

CSC has been actively devoted to reducing the emissions of air pollutants and waste water; moreover, it has reinforced water conservation and recycling of waste water.

CSC has taken proper action in response to the trend of environmental protection and reduction of carbon emissions and reduced the risk of climate change.

## Risk Control of Climate Change

Based on the concept of sustainable development, the goal of the reduction of carbon emissions and promotional strategies are set. The performance of the reduction of carbon emissions is enhanced by best available technology, development and applications of low-carbon energy, the expansion of regional energy integration, etc.

Steel products which conserve energy consumption and reduce carbon emissions will be developed and their life cycles will be assessed to expand the effectiveness of external reduction of carbon emissions.

CSC will be actively involved in the new green businesses, domestic and overseas cooperative projects regarding reduction of carbon emissions, carbon capture and storage (CCS), and operations of carbon rights.

Low carbon lifestyles and consumption will be promoted within CSC in the hope of developing a low carbon society.

In collaboration with the government's targets for the reduction of carbon emissions at different phases, CSC has formulated the corresponding roadmap for the reduction of carbon emissions and implemented related projects for energy conservation and reduction of carbon emissions.



## Financial Risk Control

CSC keeps close watch on the daily balance of foreign currency transactions. In accordance with its demand for foreign exchange funds and the trends of the foreign exchange market, it adjusts its holdings of strong and weak foreign currencies flexibly to promote the effectiveness of foreign currency manipulation. For short-term foreign exchange funds, natural hedging is adopted by offsetting revenue and expenses. If there is a demand (mainly in international currencies) in a new foreign investment project or procurement of imported equipment, CSC will, in principle, hedge against exchange rate risks by taking out an equivalent long-term loan in foreign currencies or undertaking forward foreign exchange trading as the priority. Relevant practices can be adjusted at all times depending upon the costs of currency hedging and exchange rate trends. Occasionally, when there is a need for capital injection, the funds are raised in the New Taiwan Dollar if it is a strong currency in terms of its exchange rates.

Clear interest rate risk tolerances are set to control floating interest rate debts. When interest rates in the financial markets turn around significantly, CSC will apply early repayments or interest rate swaps (IRS) to convert the interest rates to fixed rates. In regard to the medium- and long-term demand of NT dollars, corporate bonds will be issued according to the environment of the capital market. Regular assessment will be conducted to decide the optimal timing to issue corporate bonds. Bank quotas will be utilized in a timely manner to reduce capital costs to mitigate the impact of future interest rate fluctuations.

With the utilization of the outright sale of accounts receivable without recourse, CSC can obtain payment in advance and enhance the efficiency of fund utilization. Furthermore, by means of e-commerce and digital signature security systems, CSC simplifies the payment procedures for its customers to ensure them that their ordered products will be delivered according to normal delivery practice.

CSC also keeps close watch to ensure the faultless operation of its electronic business and security mechanisms and the accuracy and timeliness of the information at all times; it raises the degree of customer satisfaction by offering services through the e-commerce financial operation.

To prevent its production and sales supply chains from being affected by natural disasters caused by climatic anomalies, which may incur losses in its assets and operations, CSC perfected the contents of the fire insurance policies of the Group to offer risk compensation for business interruptions and huge asset losses.

Various indicators are regularly used to analyze CSC's and its subsidiaries' financial structures, solvency, operating capability, profitability, cash flow, and degrees of leverage. Early warning mechanisms are set to prevent the occurrence of any risk. The value of CSC's financial assets is monitored in real time; recommendations of investment or reduction of investment are proposed. Moreover, capital allocation among the companies within the CSC Group will be strengthened to increase the efficiency of capital utilization.

## Authorized Economic Operator (AEO)

There are four themes in CSC's AEO risk management, namely, prevention of illegal entries, physical cargo security, risk management of business partners, and information security. In addition to the annual and regular external audits of business partners and the internal self-examination, CSC strongly recommends its subsidiaries and business partners in the supply chain to obtain their AEO certification so that the control of cargo security can be horizontally and vertically promoted from CSC alone to its partners in the upstream and downstream industries.

# Corporate Governance



CSC was granted the 2019 Taiwan Corporate Sustainability Award



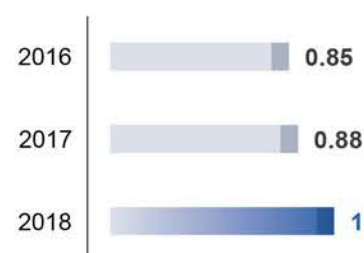
# Corporate Governance

## Annual Shareholders' Meeting

Starting from 2011, every motion was discussed and voted, and the results of all motions were announced at the regular annual shareholders' meeting first and openly posted on the Market Observation Post System and CSC Website afterwards as references for investors. 2019 was the eighth year when electronic voting was adopted. Approximately 30.18% of all the totaled issued shares were voted in such a manner by shareholders when exercising their rights. The foreign shareholders' voting rights were approximately 20.86% of the total number of shareholders' voting rights. On the Book Closure date, 21.73% of all the totaled issued shares were foreign-owned; in particular, over 95% of foreign shareholders also exercised their rights by voting electronically. The aforementioned facts helped to promote the public's assessment of CSC's corporate governance.

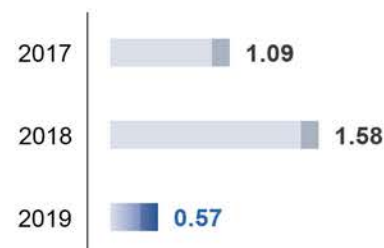
## Common stock cash dividend payout

NT\$/share



## Earnings per share

NT\$/share



## Shareholders' structure<sup>12</sup>

Domestic natural person and other juristic person	49.23 %
Overseas foreign investment of juristic person, nature person, and trust fund (GDR included)	20.45 %
Government (official) institution	20.10 %
Domestic securities investment trust fund	6.56 %
Domestic financial institution	3.66 %

<sup>12</sup> As of August 1, 2019, the record date for ex-right/dividend.



The winner of the Taiwan Excellence Award in the aspect of R&D.



CSC was granted the Sustainability Leaders Award by BSI.



CSC's 2019 shareholder's meeting

CSC has paid much attention to its shareholders' rights and interests. To ensure that investors and shareholders have smooth communication channels to voice their opinions and maintain their rights to be fully aware of and participate in decision-making regarding major events taking place at CSC, special personnel from the Finance Department have been designated to be responsible for relevant matters. The following measures have been adopted: (1) Shareholders' service channels, such as a toll-free telephone line and an e-mail address, have been established to answer their suggestions and doubts. (2) Significant and instant information regarding CSC's monthly consolidated operating revenue, consolidated operating income, and consolidated income before income tax as well as its sales volume and domestic price adjustments is e-mailed to analysts and investors. Furthermore, relevant data are always updated on CSC's corporate website with transparency and a high degree of timeliness. (3) Designated staff will receive domestic and foreign investors, answer their questions, and make factory tours. The management will also take part in earnings conferences/conference calls actively to let domestic and foreign investors have a better understanding of CSC. (4) Financial, business, and corporate governance information is fully disclosed in the "Shareholders' services" and "Corporate governance" sections on CSC's corporate website; moreover, CSC's CSR Report Section, which posts major issues related to energy and environment management and CSC's annual CSR reports over the years and serves as a reference for investors, is also available on the same website.

## The Board of Directors

There are currently 11 directors in the Board of Directors, three of whom are independent directors. "Rules Governing the Election of Directors" have been established, and nominated candidates who are elected will be appointed as directors. In 2019, seven board meetings were held.

Under the Board of Directors are three functional committees, namely, the Audit Committee, the Remuneration Committee, and the Corporate Governance and Sustainability Committee, all of which enhance the operations of the Board of Directors.



The Audit Committee consists of three independent directors, one of whom should have accounting and finance expertise. The functions of the Audit Committee include the supervision of the following items: (1) fair presentation of CSC's financial reports, (2) the hiring (and dismissal), independence, and performance of CSC's certified public accountants, (3) the effective implementation of CSC's internal control systems, (4) compliance with relevant laws and regulations by CSC, and (5) management control of the existing or potential risks of CSC. Five meetings were convened in 2019, and the minutes of the resolutions were presented to the Board of Directors.

The Remuneration Committee consists of three independent directors. Five meetings of the Remuneration Committee were convened in 2019, the key points of which were the discussion of the performance evaluation system for commissioned senior managers and their pay adjustments and the implementation of performance management, and the proposals drawn from the resolutions of the meetings were presented to the Board of Directors.

The Corporate Governance and Sustainability Committee consists of five directors, three of whom are independent directors. In order to implement corporate governance and sustainable management, CSC has set up four teams, namely, the corporate governance and ethical management team, sustainable environmental development team, employee care and social participation team, and corporate social responsibility (CSR) information disclosure team. The company secretary is responsible for running the corporate governance and ethical management team. The vice presidents of the relevant departments are responsible for running the remaining teams. These teams are responsible for the operations, promotion, and implementation of the resolutions of the committee. The committee regularly presents the results of implementation to the Board of Directors.

To implement vigorous energy conservation and reduction of carbon emissions, CSC had established the paperless meeting management system in June 2013, which was switched to the CSC Group Meeting Cloud System in June, 2019. Notices, agendas, information, and proceedings of the meetings of



Earnings conferences/conference calls are held.

the Board were uploaded to the system; attendees were notified electronically to browse the aforementioned information by logging in the system.

## Independent Directors

### 1. Communication with the Internal Auditor

- The Internal Auditor explains to the independent directors on the management of the control of information flow security, subsidiaries and reinvestment, and raw material procurement.
- The Internal Auditor links the audit results to the performance appraisals. If there is malpractice in the unit under audit, the department which the unit belongs to should be listed as a reference for performance appraisals. For example, people with defects in conduct should be collectively punished in addition to being dealt with strictly.
- Regarding the audits of the subsidiaries, the focuses will be on the subsidiaries in the engineering business domain, as suggested by the independent directors, to see whether there may be a risk of false income because individual business units falsely increase their revenues or profits.
- Elaborations on matters related to the signing mechanisms of the internal control declarations and the procedures for reporting to the Financial Supervisory Commission (FSC).

### 2. Communication with the Certified Public Accountants

- CSC's certified public accountants attend the quarterly audit committee meetings as well as board meetings to communicate matters related to the financial statements. Based on their professional judgment, they may meet with the independent directors to conduct communication by means of the Audit Committee.
- Quarterly financial reports reviewed by the certified public accountants are submitted to the Audit Committee for communication and discussion. Annual financial statements will be presented to the Audit Committee after being audited by the certified public accountants, who will obtain the Audit Committee's issued consent for reporting.
- The certified public accountants communicate and discuss the key audit items of the audit report with the Audit Committee annually according to regulations.

## Internal Auditing

To forestall irregularities and strengthen the effectiveness of corporate administration, key point activities of the Internal Auditor for 2019 were to test and assess whether the operational procedures in the eight operational cycles, which included business of: (1) sales and receipt, (2) purchase and payment, (3) production, (4) labor and wage, (5) finance, (6) property, plant, and equipment, (7) investment, and (8) research and development, were adequately comprehensive and precise. Moreover, issues such as whether there were risks involved and whether the systems were designed with a cross-checking function were also assessed.



The Internal Auditor conducted the audits required by the Regulations Governing Establishment of Internal Control Systems by Public Corporations promulgated by the Financial Supervisory Commission, Executive Yuan, on a number of controls, which included the following: (1) management of the use of seals, (2) management of the receipt and use of negotiable instruments, (3) management of budgets, (4) management of assets, (5) management of endorsements and guarantees, (6) management of liabilities, commitments, and contingencies, (7) implementation of authorization and deputy systems, (8) management of loans to others, (9) management of financial and non-financial information, (10) management of related parties' transactions, (11) management of the procedures for preparation of financial statements, (12) supervision and management of subsidiaries, (13) management of the operation of board meetings, (14) management of shareholder services, (15) management of the protection of personal information, (16) management of the operation of the audit committee meetings, (17) management of the operation of the remuneration committee, (18) management of prevention of insider trading control of information flow security inspection, (19) management of prevention of insider trading, and (20) management of the computerized information systems. Furthermore, the Internal Auditor also assessed the internal control systems of CSC's 22 subsidiaries with due diligence.

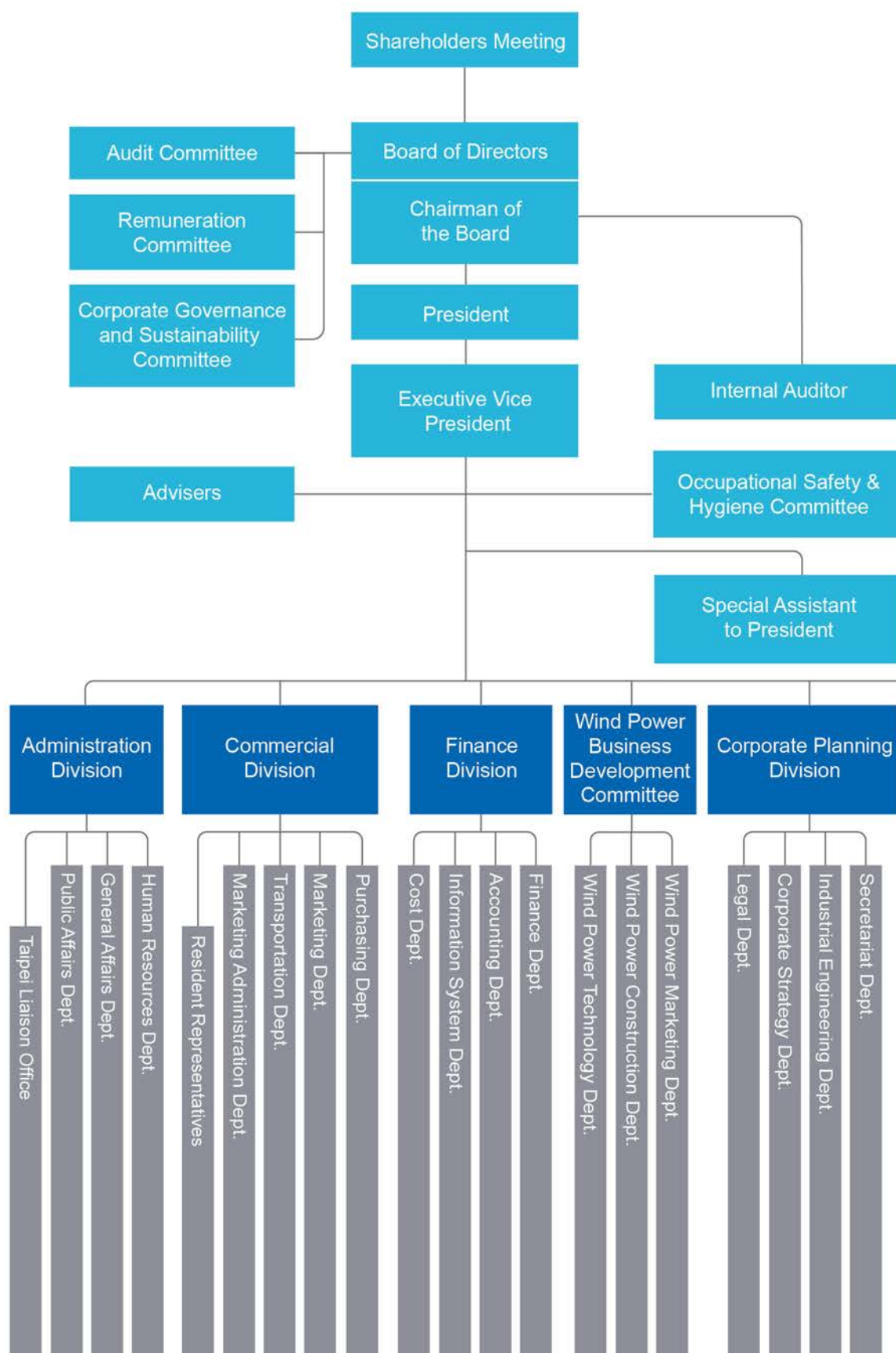
In 2019, 46 audit reports and 508 items for improvement were presented by the Internal Auditor. The audited units/departments and subsidiaries were notified in regard to the items for improvement. The suggestions for improvement were then keyed into CSC's audit management system; the progress of improvement was followed up. Each audit, when completed, was sent by letter to the Independent Directors for examination and perusal according to regulations.

## Performance of Corporate Governance

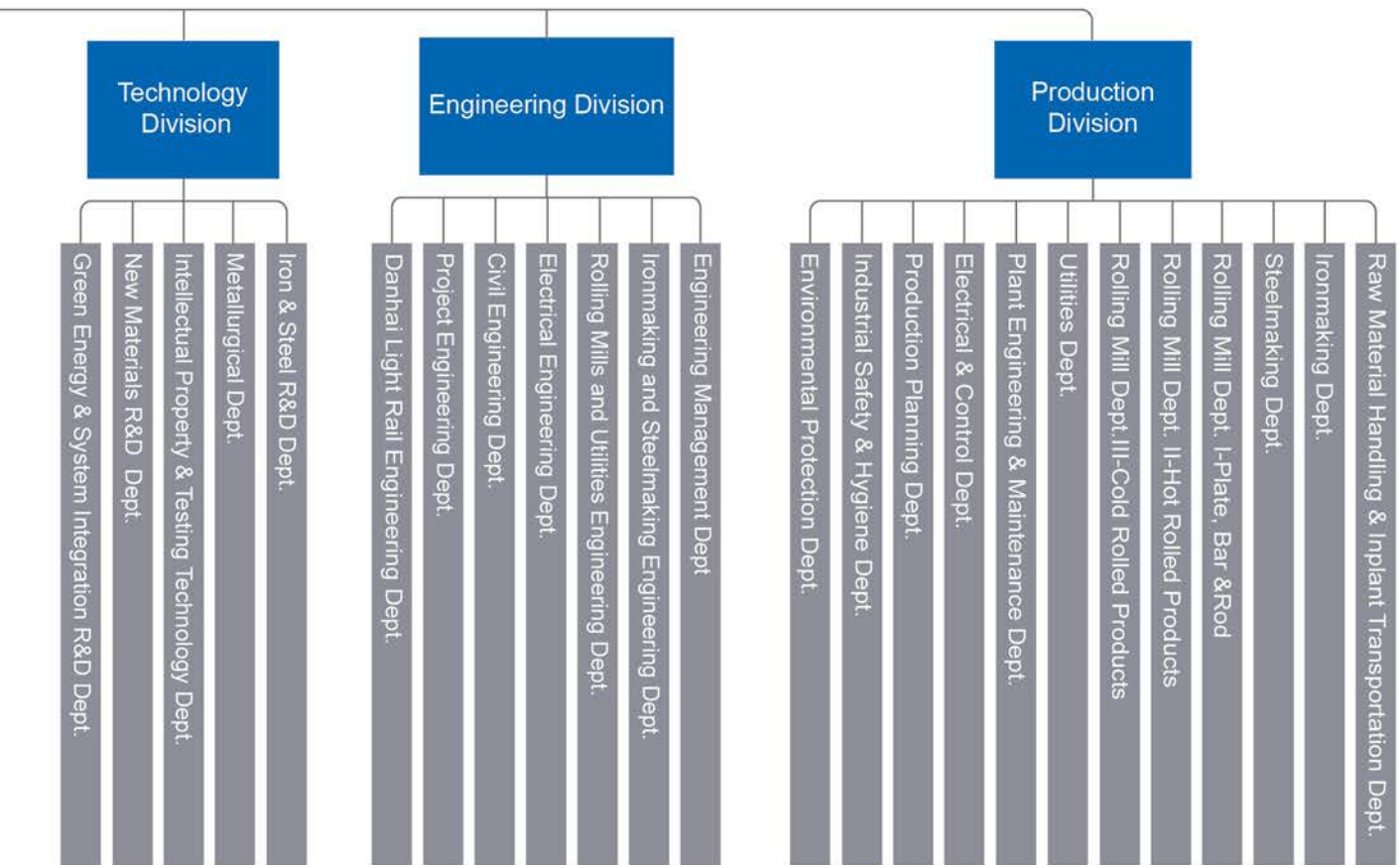
CSC approved the appointment of a company secretary, who would be responsible for supervising corporate governance related matters, at the 23rd meeting of the 16th board of directors on March 25, 2019. The Financial Supervisory Commission published the "Corporate Governance Roadmap 2014," which would be modified periodically on a rolling basis in the next five years. "Evaluation of corporate governance" has been implemented since 2015; the scope of evaluation has expanded from merely information disclosure to corporate governance. CSC's ranking has always been among the top 20% of the exchange-listed or OTC-listed companies. Furthermore, the Taiwan Stock Exchange (TWSE) released the results of the corporate governance evaluation, and CSC belonged to the TWSE Corporate Governance 100 Index.

In terms of CSC's performance in the environmental, social, and corporate governance aspects, it has been listed as a constituent of the FTSE4Good Index, showing recognition of CSC's efforts in corporate governance and corporate social responsibility by the FTSE Group and FTSE Russell.

# Organization Chart







## Board of Directors

(as of December 31, 2019)



Chairman of the Board  
**Chao-Tung Wong**

Representing Ministry of  
Economic Affairs, R. O. C.



Director  
**Wen-Sheng Tseng**

Representing Ministry of  
Economic Affairs, R. O. C.



Director  
**Fong-Sheng Wu**

Representing Ministry of  
Economic Affairs, R. O. C.



Director  
**Shyi-Chin Wang**

Representing Ever Wealthy  
International Corporation



Director  
**Chien-Chih Hwang**

Representing Chiun Yu  
Investment Corporation



Director  
**Cheng-I Weng**

Representing Hung Kao  
Investment Corporation



Director  
**Yueh-Kun Yang**

Representing Gau Ruei  
Investment Corporation



Director  
**Chun-Sheng Chen**

Representing Labor Union  
of China Steel Corporation



Independent Director  
**Shyue-Bin Chang**



Independent Director  
**Min-Hsiung Hon**



Independent Director  
**Lan-Feng Kao**



## Senior Management

(as of December 31, 2019)



President

Shyi-Chin Wang



Executive Vice President  
(Concurrently Spokesman  
for the Corporation)

Chien-Chih Hwang



Vice President -  
Administration

Chiu-Po Chang



Vice President -  
Commercial

Min-Hsiung Liu



Vice President -  
Finance

Yueh-Kun Yang



Vice President -  
Corporate Planning  
(Concurrently Company  
Secretary)

Pai-Chien Huang



Vice President -  
Technology

Song-Jau Tsai



Vice President -  
Engineering

Hsin-Chin Kuo



Vice President -  
Production

Chih-Tai Chang

## Five-Year Summary of Selected Financial Data and Operating Results

(In thousands of New Taiwan Dollars, unless stated otherwise)

	2019	2018	2017	2016	2015
Operating revenues	207,297,533	235,403,151	207,098,630	168,927,075	160,909,464
Operating costs	194,591,389	210,430,943	187,568,805	147,174,784	148,511,291
Gross profit	12,706,144	24,972,208	19,529,825	21,752,291	12,398,173
Realized (unrealized) gain on transactions with subsidiaries and affiliates	138,254	(63,751)	147,162	(384,546)	225,679
Operating expenses	8,257,497	8,591,826	8,101,943	8,286,601	7,469,515
Profit from operations	4,586,901	16,316,631	11,575,044	13,081,144	5,154,337
Non-operating income and expenses	5,448,207	10,080,759	6,945,620	4,952,067	3,161,977
Profit before income tax	10,035,108	26,397,390	18,520,664	18,033,211	8,316,314
Net profit for the year	8,809,555	24,454,152	16,905,588	16,038,369	7,604,721
Other comprehensive income (loss) for the year, net of income tax	(3,684,510)	(1,450,139)	(2,475,273)	(87,519)	(2,531,685)
Total comprehensive income for the year	5,125,045	23,004,013	14,430,315	15,950,850	5,073,036
Current assets	82,799,286	85,311,954	73,703,417	65,458,991	63,791,939
Property, plant and equipment	146,141,153	155,897,997	162,042,223	167,632,162	175,420,761
Other assets	237,138,749	239,872,226	236,681,872	237,184,216	225,187,698
Total assets	466,079,188	481,082,177	472,427,512	470,275,369	464,400,398
Current liabilities	68,415,109	68,011,905	65,066,190	45,556,399	57,914,294
Noncurrent liabilities	95,105,546	100,162,235	103,351,259	122,159,084	112,165,285
Total liabilities	163,520,655	168,174,140	168,417,449	167,715,483	170,079,579
Share capital	157,731,290	157,731,290	157,731,290	157,731,290	157,731,290
Capital surplus	38,877,269	38,545,884	38,211,082	37,807,466	37,612,027
Retained earnings	115,476,131	122,682,396	109,227,145	106,917,266	99,630,738
Other equity	(861,959)	2,595,167	7,372,935	8,680,706	7,924,408
Treasury shares	(8,664,198)	(8,646,700)	(8,532,389)	(8,576,842)	(8,577,644)
Total equity	302,558,533	312,908,037	304,010,063	302,559,886	294,320,819
Total liabilities and equity	466,079,188	481,082,177	472,427,512	470,275,369	464,400,398
Equity per common share (NT\$)	19.58	20.25	19.67	19.58	19.04
Earnings per common share (NT\$)	0.57	1.58	1.09	1.04	0.49
Earnings per common share (NT\$) <sup>13</sup>	-	-	-	1.04	0.49

<sup>13</sup> Recalculated using retroactively adjusted earnings and common shares after taking compensation paid to employees by shares and stock dividends into account.



## Five-Year Summary of Selected Financial Ratios and Percentages

		2019	2018	2017	2016	2015
Current ratio	(%)	121	125	113	144	110
Ratio of long-term liabilities and equity to property, plant and equipment	(%)	272	265	241	244	223
Total liabilities to total assets	(%)	35	35	36	36	37
Net profit ratio	(%)	4	11	8	10	5
Return on total assets	(%)	2	5	4	4	2
Return on equity	(%)	3	8	6	5	3
Revenue growth rate, year to year	(%)	(11.94)	13.67	22.60	4.98	(21.57)
Equity growth rate, year to year	(%)	(3.31)	2.93	0.48	2.80	(3.40)

# Analysis of the Financial Status and Operating Results

## 1. Two-year analysis of flow ratios

		2019	2018	Increase (Decrease)(%)
Cash flow ratio	(%)	10	57	(82)
Cash flow adequacy ratio <sup>14</sup>	(%)	93	122	(24)
Cash reinvestment ratio	(%)	-1.18	3.24	(136)

<sup>14</sup> Based on the data over the past five years.

### Analysis of the increase (decrease) of percentages:

- (1) The cash flow ratio: The 82% decrease in the cash flow ratio over the previous year was mainly attributable to the decrease in the pre-tax income, resulting in the decrease in the net cash flow from the operation activities.
- (2) The appropriate cash flow ratio: The 24% decrease in the appropriate cash flow ratio over the previous year was mainly attributable to the decrease in the net cash flow from the operation activities.
- (3) The cash reinvestment ratio: It was mainly attributable to the decrease in the net cash flow from the operation activities.

## 2. Analysis of operating results

- (1) The NT\$28,105,618 thousand decrease in the operating revenue was mainly attributable to the decrease of the sales volume of steel products.
- (2) The NT\$15,839,554 thousand decrease in the operating costs was mainly attributable to the decrease of the sales volume of steel products.
- (3) The NT\$12,266,064 thousand decrease in the gross profit was mainly attributable to the fact that the unit sales prices of steel products were decreased, and the unit costs of steel products were increased.
- (4) The NT\$202,005 thousand increase in the realized (unrealized) gains on the transactions with the subsidiaries and affiliates was mainly attributable to the fact that the realized gross profit of the steel products sold to the subsidiaries and affiliates this year was increased in comparison with that over the previous year.
- (5) The NT\$334,329 thousand decrease in the operating expenses was mainly attributable to the decrease of the personnel expenditure.
- (6) The NT\$11,729,730 thousand decrease in the operating income was mainly attributable to the causes in (1) ~ (5).
- (7) The NT\$4,632,552 thousand decrease in the non-operating net income was mainly attributable to the decrease of the share of profits from the subsidiaries and affiliates recognized under the equity method.
- (8) The NT\$16,362,282 thousand decrease in the profit before income tax was mainly attributable to the causes in (1) ~ (7).
- (9) The NT\$15,644,597 thousand decrease in the net income was mainly attributable to the decrease of the profit before income tax, the causes of which were listed in (1) ~ (7).



## Terms and Conditions of Corporate Bonds

Issue	1st Unsecured Corporate Bonds-A Issue in 2012	1st Unsecured Corporate Bonds-B Issue in 2012	1st Unsecured Corporate Bonds-A Issue in 2013	1st Unsecured Corporate Bonds-B Issue in 2013
Issue Date	From August 10, 2012 to August 10, 2019	From August 3, 2012 to August 3, 2022	From July 12, 2013 to July 12, 2020	From July 12, 2013 to July 12, 2023
Face Amount	NT\$1 million	NT\$1 million	NT\$1 million	NT\$1 million
Issue Price	At par value	At par value	At par value	At par value
Amount	NT\$5,000 million	NT\$15,000 million	NT\$6,300 million	NT\$9,700 million
Coupon	1.37%	1.50%	1.44%	1.60%
Maturity	Seven years	Ten years	Seven years	Ten years
Trustee	Taipei Fubon Bank, Trust Department	Taipei Fubon Bank, Trust Department	Mega International Commercial Bank, Head Office-Trust Department	Mega International Commercial Bank, Head Office-Trust Department
Lead Manager	-	-	-	-
Legal Advisor to the Issuer	Chien Yeh Law Offices	Chien Yeh Law Offices	Chien Yeh Law Offices	Chien Yeh Law Offices
Auditor of the Issuer	Deloitte & Touche	Deloitte & Touche	Deloitte & Touche	Deloitte & Touche
Repayment	Repay 50% of the principal at the end of the 6th and 7th year; interest shall be paid annually against interest coupon commencing from the issue date.	Repay 50% of the principal at the end of the 9th and 10th year; interest shall be paid annually against interest coupon commencing from the issue date.	Repay 50% of the principal at the end of the 6th and 7th year; interest shall be paid annually against interest coupon commencing from the issue date.	Repay 50% of the principal at the end of the 9th and 10th year; interest shall be paid annually against interest coupon commencing from the issue date.

## Terms and Conditions of Corporate Bonds

Issue	1st Unsecured Corporate Bonds-C Issue in 2013	1st Unsecured Corporate Bonds-A Issue in 2014	1st Unsecured Corporate Bonds-B Issue in 2014	1st Unsecured Corporate Bonds-C Issue in 2014
Issue Date	From July 12, 2013 to July 12, 2028	From January 23, 2014 to January 23, 2021	From January 23, 2014 to January 23, 2024	From January 23, 2014 to January 23, 2029
Face Amount	NT\$1 million	NT\$1 million	NT\$1 million	NT\$1 million
Issue Price	At par value	At par value	At par value	At par value
Amount	NT\$3,600 million	NT\$6,900 million	NT\$7,000 million	NT\$9,000 million
Coupon	1.88%	1.75%	1.95%	2.15%
Maturity	Fifteen years	Seven years	Ten years	Fifteen years
Trustee	Mega International Commercial Bank, Head Office-Trust Department	Taipei Fubon Bank, Trust Department	Taipei Fubon Bank, Trust Department	Taipei Fubon Bank, Trust Department
Lead Manager	-	-	-	-
Legal Advisor to the Issuer	Chien Yeh Law Offices	Chien Yeh Law Offices	Chien Yeh Law Offices	Chien Yeh Law Offices
Auditor of the Issuer	Deloitte & Touche	Deloitte & Touche	Deloitte & Touche	Deloitte & Touche
Repayment	Repay 30%、30%、40% of the principal at the end of the 13th、14th、15th year; interest shall be paid annually against interest coupon commencing from the issue date.	Repay 50% of the principal at the end of the 6th and 7th year; interest shall be paid annually against interest coupon commencing from the issue date.	Repay 50% of the principal at the end of the 9th and 10th year; interest shall be paid annually against interest coupon commencing from the issue date.	Repay 30%、30%、40% of the principal at the end of the 13th、14th、15th year; interest shall be paid annually against interest coupon commencing from the issue date.



Issue	1st Unsecured Corporate Bonds Issue in 2018	2nd Unsecured Corporate Bonds Issue in 2018	1st Unsecured Corporate Bonds-A Issue in 2018	1st Unsecured Corporate Bonds-B Issue in 2018
Issue Date	From May 28, 2018 to May 28, 2025	From August 8, 2018 to August 8, 2028	From October 9, 2018 to October 9, 2025	From October 9, 2018 to October 9, 2028
Face Amount	NT\$1 million	NT\$1 million	NT\$1 million	NT\$1 million
Issue Price	At par value	At par value	At par value	At par value
Amount	NT\$6,000 million	NT\$5,600 million	NT\$4,150 million	NT\$2,250 million
Coupon	0.95%	1.10%	0.90%	1.05%
Maturity	Seven years	Ten years	Seven years	Ten years
Trustee	Hua Nan Commercial Bank	Taipei Fubon Bank, Trust Department	Taipei Fubon Bank, Trust Department	Taipei Fubon Bank, Trust Department
Lead Manager	8 underwriters including Capital Securities, etc.	12 underwriters including KGI Securities, etc.	11 underwriters including Capital Securities, etc.	8 underwriters including Capital Securities, etc.
Legal Advisor to the Issuer	Chien Yeh Law Offices	Chien Yeh Law Offices	Chien Yeh Law Offices	Chien Yeh Law Offices
Auditor of the Issuer	Deloitte & Touche	Deloitte & Touche	Deloitte & Touche	Deloitte & Touche
Repayment	Repay 50% of the principal at the end of the 6th and 7th year; interest shall be paid annually against interest coupon commencing from the issue date.	Repay 50% of the principal at the end of the 9th and 10th year; interest shall be paid annually against interest coupon commencing from the issue date.	Repay 25% and 75% of the principal at the end of the 6th and 7th year; interest shall be paid annually against interest coupon commencing from the issue date.	Repay 50% of the principal at the end of the 9th and 10th year; interest shall be paid annually against interest coupon commencing from the issue date.

## Preferred Stocks

Item \ Issuance date		Nov. 18, 1974	Jan. 31, 1980	Nov. 30, 1980	Dec. 31, 1981
Face value (NT\$)		10	10	10	10
Issue price (NT\$)		10	10	10	10
Number of shares		50,000,000	21,887,000	797,000	4,006,000
Total amount (NT\$)		500,000,000	218,870,000	7,970,000	40,060,000
Rights and liabilities	Dividend policy	After all the accounts are settled, taxes paid, deficits offset, and the legal reserve appropriated, the remaining earnings will be distributed as follows: (1) Preferred stock dividends at 14% of the par value (2) Common stock dividends at no more than 14% of the par value (3) The rest of the remaining earnings will be appropriated proportionally to the preferred stockholders and common stockholders as bonuses.			
	Appropriation of residual property	Same as those of common shareholders			
	Voting rights	No right to vote in the elections of board directors			
	Others	Other rights and obligations are the same as those of the common shareholders.			
Preferred stock in circulation	Retrieved / converted shares	0 shares (2019 and the first three months of 2020)			
	Unretrieved / unconverted shares	38,267,999 shares (as of March 31, 2020)			
	Retrieving or converting clause	The Corporation may retrieve the preferred stock using earnings or the proceeds from share issuance. Preferred shareholders have the right to convert preferred shares into common shares.			
Market price (NT\$)	2016	High	41.85		
		Low	38.60		
		Average(closing)	40.50		
	2017	High	44.00		
		Low	41.55		
		Average(closing)	42.44		
	2018	High	43.40		
		Low	40.20		
		Average(closing)	42.58		
	2019	High	55.40		
		Low	43.15		
		Average(closing)	48.27		



## Issuance of Global Depositary Shares

Item \ Issuance date		May 28, 1992	Feb. 10, 1997	Oct. 22, 2003	Aug. 1, 2011
<b>Issuance and Listing</b>		Asia, Europe, America	Asia, Europe, America	Asia, Europe, America	Asia, Europe, America
<b>Total Amount (US\$)</b>		US\$327,600,000	US\$186,607,572.50	US\$936,086,488	US\$751,067,478
<b>Offering Price Per GDS</b>		US\$18.2/1 unit	US\$18.35/1 unit	US\$15.56/1 unit	US\$19.67/1 unit
<b>Units Issued</b>		18,000,000 units	10,169,350 units	60,159,800 units	38,183,400 units
<b>Underlying Securities</b>		CSC Common Shares	CSC Common Shares	CSC Common Shares	CSC Common Shares
<b>Common Shares Represented</b>		360,000,000	203,387,000	1,203,196,000	763,668,000
<b>Rights and Obligations of GDS Holders</b>		Dividend appropriation is the same as CSC common shares. Other rights and obligation are regulated in Depositary Agreement.			
<b>Trustee</b>		Not Applicable	Not Applicable	Not Applicable	Not Applicable
<b>Depositary Bank</b>		Citibank, N.A.- New York	Citibank, N.A.- New York	Citibank, N.A.- New York	Citibank, N.A.- New York
<b>Custodian Bank</b>		Citibank, N.A.- Taipei	Citibank, N.A.- Taipei	Citibank, N.A.- Taipei	Citibank, N.A.- Taipei
<b>GDS Outstanding</b>		13,847,850 shares (as of March 31, 2020)			
<b>Apportionment of Expenses for Issuance and Maintenance</b>		Issuance-related expenses were borne by Ministry of Economic Affairs.	Issuance-related expenses were borne by Ministry of Economic Affairs.	Issuance-related expenses were borne by Ministry of Economic Affairs.	Issuance-related expenses were borne by the Company, CSC.
<b>Terms and Conditions in the Depositary Agreement &amp; Custody Agreement</b>		Omitted	Omitted	Omitted	Omitted
<b>Closing price Per GDS(US\$)</b>	<b>2019</b>	High	US\$ 16.57		
		Low	US\$ 14.56		
		Average	US\$ 15.69		









## Market Price of Stock over Past Three Years

(in NT\$ / share)

Stock	Price	2019	2018	2017
Common	Highest	25.50	25.55	26.40
	Lowest	22.80	23.20	23.65
	Average(closing)	24.21	24.20	24.92

Source of Information: Taiwan Stock Exchange Corporation

## Principal Products and Uses

Steel Product	Major Uses
 <b>Plates</b>	Shipbuilding, bridges, steel structures, oil country tubular goods (OCTGs), storage tanks, boilers, pressure vessels, die, truck chassis, general construction, offshore wind power, etc.
 <b>Bars</b>	Nuts and bolts, hand tools, loudspeaker parts, automobile and motorcycle parts, suspension spring, bearing, machinery parts, free cutting rod, gear, polished bar, etc.
 <b>Wire rods</b>	Nuts and bolts, steel wire and rope, P. C. wire and strand, hand tools, welding electrodes, tire cord, bearing, free cutting rod, umbrella parts, polished bar, etc.
 <b>Hot rolled coils, plates and sheets</b>	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.
 <b>Cold rolled coils</b>	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.
 <b>Electro-galvanized coils</b>	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.
 <b>Hot-dip galvanized coils</b>	Automobile panels and parts, home appliance panels/parts and accessories, computer cases/parts and accessories, PPGI substrate, construction materials, furniture hardware and components, etc.
 <b>Electrical steel coils</b>	EV Motors, compressors, home appliance motors, servomotors, industrial motors, machinery motors, generators, transformers, reactors and traditional ballast, etc.



## Three-Year Summary of Production and Sales Volumes

(in tons)

Product	Volume	2019	2018	2017
Plates	Production	840,934	959,739	870,478
	Sales	843,277	968,031	882,917
Bars	Production	541,234	683,745	616,330
	Sales	616,837	776,079	703,774
Wire rods	Production	1,124,925	1,288,107	1,318,994
	Sales	1,262,691	1,530,206	1,497,478
Hot rolled steel products	Production	2,814,129	2,689,845	2,389,443
	Sales	3,156,007	3,099,588	3,001,523
Cold rolled steel products <sup>15</sup>	Production	2,991,575	3,317,014	3,419,413
	Sales	3,027,089	3,406,755	3,394,432
Commercial slabs	Production	342,738	184,655	103,690
	Sales	1,381,427	1,455,795	1,358,146
Pig iron	Production	16,844	10,439	10,909
	Sales	643	846	1,132
Others <sup>16</sup>	Production	67,289	106,793	102,413
	Sales	2,970	4,828	6,155
Total	Production	8,739,668	9,240,337	8,831,670
	Sales	10,290,941	11,242,128	10,845,557

<sup>15</sup> Including electrogalvanized, hot-dip galvanized products and electrical steel coils

<sup>16</sup> Including alloy products, stainless steels, blooms, and billets







CHINA STEEL CORPORATION

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# STANDALONE FINANCIAL STATEMENTS

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for the Years Ended December 31, 2019 and 2018 and

## Independent Auditors' Report



## INDEPENDENT AUDITORS' REPORT

China Steel Corporation

### Opinion

We have audited the accompanying standalone financial statements of China Steel Corporation (the Corporation), which comprise the standalone balance sheets as of December 31, 2019 and 2018, and the standalone statements of comprehensive income, changes in equity and cash flows for the years then ended, and the notes to the standalone financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying standalone financial statements present fairly, in all material respects, the standalone financial position of the Corporation as of December 31, 2019 and 2018, and its standalone financial performance and its standalone cash flows for the years then ended in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers.

### Basis for Opinion

We conducted our audits in accordance with the Regulations Governing Auditing and Attestation of Financial Statements by Certified Public Accountants and auditing standards generally accepted in the Republic of China. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Standalone Financial Statements section of our report. We are independent of the Corporation in accordance with The Norm of Professional Ethics for Certified Public Accountant of the Republic of China, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the standalone financial statements for the year ended December 31, 2019. These matters were addressed in the context of our audit of the standalone financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Key audit matters of the Corporation's standalone financial statements for the year ended December 31, 2019 are stated as follows:

#### Inventory Valuation

As of December 31, 2019, inventories of the Corporation amounted to NT\$55,940,988 thousand, representing 12% of the Corporation's total assets. Due to the drastic fluctuations in the prices of raw materials and finished goods in the steel industry, inventory valuation, which involved critical accounting estimates, is deemed to be a key audit matter. Refer to Notes 4, 5 and 11 to the Corporation's standalone financial statements for the related accounting policies and disclosures on inventory valuation.

We focused on inventory valuation, and the audit procedures we performed included the following:



1. We evaluated the appropriateness of the approach applied to the inventory valuation.
2. We verified the completeness of inventory included in inventory valuation.
3. We tested the net realizable value of inventory items on a sample basis and evaluated the underlying assumptions and supporting documents, re-performed and calculated the appropriateness of net realizable value and the value written-off.

#### Valuation of Financial Assets At Fair Value Through Other Comprehensive Income - Formosa Ha Tinh (Cayman) Limited

As of December 31, 2019, the Corporation's investment in Formosa Ha Tinh (Cayman) Limited (FHC) amounted to NT\$23,324,222 thousand, representing 5% of the Corporation's total assets. Such investment is an unlisted investment with no active market. Therefore, the Corporation engaged an appraiser who made an appraisal and issued a valuation report, which was used as the basis for determining the fair value of the investment. Assets of FHC were mainly from its wholly-owned subsidiary, Formosa Ha Tinh Steel Corporation (FHS). The appraiser adopted the market approach to appraise FHS which involved various assumptions and unobservable inputs, including comparable transaction, market multiplier, discount for lack of marketability and control premium. As a result, the fair value of the investment in FHC is deemed to be a key audit matter. Refer to Notes 4 and 5 to the Corporation's standalone financial statements for the related accounting policies on valuation of financial assets.

The audit procedures we performed included the following:

1. We assessed the professional qualifications, competence, objectivity and independence of the appraiser hired by the Corporation.
2. We discussed with the management the scope of work performed by the independent appraiser, reviewed the contract terms and conditions signed by the Corporation and the appraiser, and we identified no concerns over the appraiser's objectivity or any restriction imposed on the scope of the work.
3. We confirmed the valuation method adopted by the independent appraiser is complied with IFRSs.

We also consulted our internal valuation experts in the assessment of the appropriateness of the appraisal and in verifying the key assumptions and the reasonableness of key inputs, including the comparable transaction, market multiplier, discount for lack of marketability and control premium.

#### **Responsibilities of Management and Those Charged with Governance for the Standalone Financial Statements**

Management is responsible for the preparation and fair presentation of the standalone financial statements in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers, and for such internal control as management determines is necessary to enable the preparation of the Corporation's financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the standalone financial statements, management is responsible for assessing the Corporation's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Corporation or to cease operations, or has no realistic alternative but to do so.

Those charged with governance, including the audit committee, are responsible for overseeing the Corporation's financial reporting process.

## Auditors' Responsibilities for the Audit of the Standalone Financial Statements

Our objectives are to obtain reasonable assurance about whether the standalone financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the auditing standards generally accepted in the Republic of China will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these standalone financial statements.

As part of an audit in accordance with the auditing standards generally accepted in the Republic of China, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

1. Identify and assess the risks of material misstatement of the standalone financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
2. Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Corporation's internal control.
3. Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
4. Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Corporation's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the standalone financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Corporation to cease to continue as a going concern.
5. Evaluate the overall presentation, structure and content of the standalone financial statements, including the disclosures, and whether the standalone financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
6. Obtain sufficient and appropriate audit evidence regarding the financial information of entities or business activities within the Corporation to express an opinion on the standalone financial statements. We are responsible for the direction, supervision, and performance of the Corporation audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the standalone financial statements for the year ended December 31, 2019 and are therefore the key audit matters. We describe these matters in our auditors' report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would



reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partners on the audit resulting in this independent auditors' report are Jui-Hsuan Hsu and Cheng-Hung Kuo.

Deloitte & Touche  
Taipei, Taiwan  
Republic of China

March 23, 2020

Notice to Readers

*The accompanying standalone financial statements are intended only to present the standalone financial position, financial performance and cash flows in accordance with accounting principles and practices generally accepted in the Republic of China and not those of any other jurisdictions. The standards, procedures and practices to audit such standalone financial statements are those generally applied in the Republic of China.*

*For the convenience of readers, the independent auditors' report and the accompanying standalone financial statements have been translated into English from the original Chinese version prepared and used in the Republic of China. If there is any conflict between the English version and the original Chinese version or any difference in the interpretation of the two versions, the Chinese-language independent auditors' report and standalone financial statements shall prevail.*

# Standalone Balance Sheets

(In Thousands of New Taiwan Dollars)

ASSETS	December 31, 2019		December 31, 2018	
	Amount	%	Amount	%
<b>CURRENT ASSETS</b>				
Cash and cash equivalents	\$ 4,659,190	1	\$ 7,619,772	2
Financial assets at fair value through profit or loss-current	826,071	-	-	-
Financial assets at fair value through other comprehensive income - current	-	-	112,155	-
Financial assets for hedging - current	686,940	-	811,156	-
Contract assets - current	37,687	-	204,993	-
Notes receivable	424,724	-	686,507	-
Notes receivable - related parties	187,424	-	428,768	-
Accounts receivable, net	2,017,984	1	2,872,455	1
Accounts receivable - related parties	1,010,906	-	1,893,989	1
Other receivables	1,032,050	-	1,356,235	-
Other receivables - loans to related parties	9,270,000	2	10,794,160	2
Inventories	55,940,988	12	50,931,887	11
Noncurrent assets held for sale	-	-	594,606	-
Other financial assets - current	5,950,006	2	6,070,843	1
Other current assets	755,316	-	934,428	-
Total current assets	<u>82,799,286</u>	<u>18</u>	<u>85,311,954</u>	<u>18</u>
<b>NONCURRENT ASSETS</b>				
Financial assets at fair value through profit or loss - noncurrent	825,824	-	1,651,808	-
Financial assets at fair value through other comprehensive income - noncurrent	40,960,721	9	46,868,501	10
Financial assets for hedging - noncurrent	145	-	767	-
Investments accounted for using equity method	181,884,058	39	180,223,533	38
Property, plant and equipment	146,141,153	31	155,897,997	32
Right-of-use assets	1,409,621	-	-	-
Investment properties	7,441,922	2	6,532,164	1
Intangible assets	24,890	-	34,847	-
Deferred tax assets	4,485,947	1	4,500,087	1
Refundable deposits	105,619	-	60,519	-
Other financial assets - noncurrent	<u>2</u>	<u>-</u>	<u>-</u>	<u>-</u>
Total noncurrent assets	<u>383,279,902</u>	<u>82</u>	<u>395,770,223</u>	<u>82</u>
<b>TOTAL</b>	<u>\$ 466,079,188</u>	<u>100</u>	<u>\$ 481,082,177</u>	<u>100</u>



LIABILITIES AND EQUITY	December 31, 2019		December 31, 2018	
	Amount	%	Amount	%
<b>CURRENT LIABILITIES</b>				
Short-term borrowings and bank overdraft	\$ 20,143,975	4	\$ 17,328,763	4
Short-term bills payable	13,990,638	3	-	-
Financial liabilities for hedging - current	20,396	-	4,192,300	1
Contract liabilities - current	1,101,096	-	1,788,593	-
Accounts payable	4,966,533	1	7,205,398	1
Accounts payable - related parties	1,446,124	-	2,277,200	-
Other payables	13,963,546	3	18,238,258	4
Current tax liabilities	462,797	-	2,857,677	1
Provisions - current	2,511,033	1	4,933,753	1
Lease liabilities - current	328,823	-	-	-
Current portion of bonds payable	6,599,642	2	5,649,340	1
Refund liabilities - current	2,054,213	1	3,040,059	1
Other current liabilities	826,293	-	500,564	-
Total current liabilities	68,415,109	15	68,011,905	14
<b>NONCURRENT LIABILITIES</b>				
Financial liabilities for hedging - noncurrent	4,635,224	1	4,350,730	1
Bonds payable	65,713,769	14	72,304,214	15
Long-term bank borrowings	4,000,000	1	-	-
Long-term bills payable	1,998,687	-	5,897,729	1
Deferred tax liabilities	10,673,748	2	10,722,181	2
Lease liabilities - noncurrent	1,084,022	-	-	-
Net defined benefit liabilities	7,000,096	2	6,887,381	2
Total noncurrent liabilities	95,105,546	20	100,162,235	21
Total liabilities	163,520,655	35	168,174,140	35
<b>EQUITY</b>				
Share capital				
Ordinary shares	157,348,610	34	157,348,610	33
Preference shares	382,680	-	382,680	-
Total share capital	157,731,290	34	157,731,290	33
Capital surplus	38,877,269	8	38,545,884	8
Retained earnings				
Legal reserve	65,674,189	14	63,228,774	13
Special reserve	27,803,906	6	27,649,488	6
Unappropriated earnings	21,998,036	5	31,804,134	6
Total retained earnings	115,476,131	25	122,682,396	25
Other equity	(861,959)	-	2,595,167	1
Treasury shares	(8,664,198)	(2)	(8,646,700)	(2)
Total equity	302,558,533	65	312,908,037	65
<b>TOTAL</b>	<b>\$ 466,079,188</b>	<b>100</b>	<b>\$ 481,082,177</b>	<b>100</b>

# Standalone Statements of Comprehensive Income

(In Thousands of New Taiwan Dollars, Except Earnings Per Share)

	For the Year Ended December 31			
	2019		2018	
	Amount	%	Amount	%
OPERATING REVENUES	\$ 207,297,533	100	\$ 235,403,151	100
OPERATING COSTS	<u>194,591,389</u>	<u>94</u>	<u>210,430,943</u>	<u>89</u>
GROSS PROFIT	12,706,144	6	24,972,208	11
REALIZED (UNREALIZED) GAIN ON TRANSACTIONS WITH SUBSIDIARIES AND ASSOCIATES	<u>138,254</u>	<u>-</u>	<u>(63,751)</u>	<u>-</u>
REALIZED GROSS PROFIT	<u>12,844,398</u>	<u>6</u>	<u>24,908,457</u>	<u>11</u>
OPERATING EXPENSES				
Selling and marketing expenses	2,904,573	1	3,093,162	1
General and administrative expenses	3,451,922	2	3,715,086	2
Research and development expenses	<u>1,901,002</u>	<u>1</u>	<u>1,783,578</u>	<u>1</u>
Total operating expenses	<u>8,257,497</u>	<u>4</u>	<u>8,591,826</u>	<u>4</u>
PROFIT FROM OPERATIONS	<u>4,586,901</u>	<u>2</u>	<u>16,316,631</u>	<u>7</u>
NON-OPERATING INCOME AND EXPENSES				
Other income	1,981,301	1	1,587,435	1
Other gains and losses	(11,675)	-	(61,193)	-
Finance costs	(1,336,991)	-	(1,652,214)	(1)
Share of profit of subsidiaries and associates	<u>4,815,572</u>	<u>2</u>	<u>10,206,731</u>	<u>5</u>
Total non-operating income and expenses	<u>5,448,207</u>	<u>3</u>	<u>10,080,759</u>	<u>5</u>
PROFIT BEFORE INCOME TAX	10,035,108	5	26,397,390	12
INCOME TAX EXPENSE	<u>1,225,553</u>	<u>1</u>	<u>1,943,238</u>	<u>1</u>
NET PROFIT FOR THE YEAR	<u>8,809,555</u>	<u>4</u>	<u>24,454,152</u>	<u>11</u>



For the Year Ended December 31				
	2019		2018	
	Amount	%	Amount	%
<b>OTHER COMPREHENSIVE INCOME (LOSS)</b>				
Items that will not be reclassified subsequently to profit or loss				
Remeasurement of defined benefit plans	(\$ 172,267)	-	(\$ 757,319)	-
Unrealized gains and losses on investments in equity instruments at fair value through other comprehensive income	( 5,888,537)	( 3)	( 1,154,367)	( 1)
Gains and losses on hedging instruments	( 70,861)	-	( 117,906)	-
Share of the other comprehensive income of subsidiaries and associates	3,319,480	2	432,420	-
Income tax benefit relating to items that will not be reclassified subsequently to profit or loss	50,304	-	158,592	-
Items that may be reclassified subsequently to profit or loss				
Exchange differences on translating foreign operations	( 733,134)	( 1)	92,177	-
Gains and losses on hedging instruments	( 3,417)	-	( 207,788)	-
Share of the other comprehensive income of subsidiaries and associates	( 186,078)	-	104,052	-
Other comprehensive income (loss) for the year, net of income tax	( 3,684,510)	( 2)	( 1,450,139)	( 1)
<b>TOTAL COMPREHENSIVE INCOME FOR THE YEAR</b>	<u>\$ 5,125,045</u>	<u>2</u>	<u>\$ 23,004,013</u>	<u>10</u>
<b>EARNINGS PER SHARE</b>				
Basic	<u>\$ 0.57</u>		<u>\$ 1.58</u>	
Diluted	<u>\$ 0.57</u>		<u>\$ 1.57</u>	

# Standalone Statements of Changes in Equity

(In Thousands of New Taiwan Dollars, Except Dividends Per Share)

	Share Capital			Retained Earnings		
	Ordinary Shares	Preference Shares	Capital Surplus	Legal Reserve	Special Reserve	Unappropriated Earnings
BALANCE AT JANUARY 1, 2018	\$ 157,348,610	\$ 382,680	\$ 38,211,082	\$ 61,538,216	\$ 27,655,869	\$ 20,033,060
Effect of retrospective application	-	-	-	-	-	3,842,218
Balance after adjustments at January 1, 2018	157,348,610	382,680	38,211,082	61,538,216	27,655,869	23,875,278
Appropriation of 2017 earnings						
Legal reserve	-	-	-	1,690,558	-	( 1,690,558)
Special reserve (reversal)	-	-	-	-	( 5,992)	5,992
Cash dividends to ordinary shareholders - NT\$0.88 per share	-	-	-	-	-	( 13,846,677)
Cash dividends to preference shareholders - NT\$1.4 per share	-	-	-	-	-	( 53,575)
Reversal of special reserve	-	-	-	-	( 389)	389
Net profit for the year ended December 31, 2018	-	-	-	-	-	24,454,152
Other comprehensive income (loss) for the year ended December 31, 2018, net of income tax	-	-	-	-	-	( 826,559)
Total comprehensive income (loss) for the year ended December 31, 2018	-	-	-	-	-	23,627,593
Purchase of the Corporation's shares by subsidiaries	-	-	-	-	-	-
Disposal of the Corporation's shares held by subsidiaries	-	-	262	-	-	-
Adjustment to capital surplus arising from dividends paid to subsidiaries	-	-	281,424	-	-	-
Disposal of investments in equity instruments at fair value through other comprehensive income	-	-	-	-	-	( 110,083)
Adjustment from changes in equity of subsidiaries and associates	-	-	53,116	-	-	( 4,225)
BALANCE AT DECEMBER 31, 2018	157,348,610	382,680	38,545,884	63,228,774	27,649,488	31,804,134
Appropriation of 2018 earnings						
Legal reserve	-	-	-	2,445,415	-	( 2,445,415)
Special reserve	-	-	-	-	154,480	( 154,480)
Cash dividends to ordinary shareholders - NT\$1.0 per share	-	-	-	-	-	( 15,734,861)
Cash dividends to preference shareholders - NT\$1.4 per share	-	-	-	-	-	( 53,575)
Reversal of special reserve	-	-	-	-	(62)	62
Net profit for the year ended December 31, 2019	-	-	-	-	-	8,809,555
Other comprehensive income (loss) for the year ended December 31, 2019, net of income tax	-	-	-	-	-	( 242,632)
Total comprehensive income (loss) for the year ended December 31, 2019	-	-	-	-	-	8,566,923
Purchase of the Corporation's shares by subsidiaries	-	-	-	-	-	-
Adjustment to capital surplus arising from dividends paid to subsidiaries	-	-	320,031	-	-	-
Disposal of investments in equity instruments at fair value through other comprehensive income	-	-	-	-	-	15,248
Adjustment from changes in equity of subsidiaries and associates	-	-	11,354	-	-	-
BALANCE AT DECEMBER 31, 2019	\$ 157,348,610	\$ 382,680	\$ 38,877,269	\$ 65,674,189	\$ 27,803,906	\$ 21,998,036



### Other Equity

Exchange Differences on Translating Foreign Operations	Unrealized Gains and Losses on Available-For-Sale Financial Assets	Unrealized Gains and Losses on Financial Assets at Fair Value Through Other Comprehensive Income	The Effective Portion of Gains and Losses on Hedging Instruments in a Cash Flow Hedge	Gains and Losses on Hedging Instruments	Total Other Equity	Treasury Shares	Total Equity
(\$ 2,110,593)	\$ 9,614,863	\$ -	(\$ 131,335)	\$ -	\$ 7,372,935	(\$ 8,532,389)	\$ 304,010,063
( 4,005,266)	( 9,614,863)	5,251,741	131,335	3,972,776	( 4,264,271)	-	( 422,053)
( 6,115,853)	-	5,251,741	-	3,972,776	3,108,664	(\$ 8,532,389)	303,588,010
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	( 13,846,677)
-	-	-	-	-	-	-	( 53,575)
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	24,454,152
196,229	-	( 950,911)	-	131,102	( 623,580)	-	( 1,450,139)
196,229	-	( 950,911)	-	131,102	( 623,580)	-	23,004,013
-	-	-	-	-	-	( 115,054)	( 115,054)
-	-	-	-	-	-	378	640
-	-	-	-	-	-	-	281,424
-	-	110,083	-	-	110,083	-	-
-	-	-	-	-	-	365	49,256
( 5,919,624)	-	4,410,913	-	4,103,878	2,595,167	( 8,646,700)	312,908,037
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	( 15,734,861)
-	-	-	-	-	-	-	( 53,575)
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	8,809,555
( 919,212)	-	( 2,271,323)	-	( 251,343)	( 3,441,878)	-	( 3,684,510)
( 919,212)	-	( 2,271,323)	-	( 251,343)	( 3,441,878)	-	5,125,045
-	-	-	-	-	-	( 17,498)	( 17,498)
-	-	-	-	-	-	-	320,031
-	-	( 15,248)	-	-	( 15,248)	-	-
-	-	-	-	-	-	-	11,354
(\$ 6,838,836)	\$ -	\$ 2,124,342	\$ -	\$ 3,852,535	(\$ 861,959)	(\$ 8,664,198)	\$ 302,558,533

# Standalone Statements of Cash Flows

(In Thousands of New Taiwan Dollars)

	For the Year Ended December 31	
	2019	2018
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Profit before income tax	\$ 10,035,108	\$ 26,397,390
Adjustments for:		
Depreciation expense	17,429,485	17,609,689
Amortization expense	9,957	9,963
Net gain on financial assets at fair value through profit or loss	( 14,534)	( 3,802)
Finance costs	1,336,991	1,652,214
Interest income	( 194,172)	( 197,865)
Dividend income	( 536,241)	( 363,401)
Share of profit of subsidiaries and associates	( 4,815,572)	( 10,206,731)
Loss on disposal of property, plant and equipment	7,148	51,676
Write-down of inventories	1,623,585	42,812
Unrealized (realized) gain on the transactions with subsidiaries and associates	( 138,254)	63,751
Recognition (reversal) of provisions	( 2,422,720)	1,783,317
Others	( 168,035)	( 154,575)
Changes in operating assets and liabilities		
Financial assets for hedging	63,422	118,500
Contract assets	189,967	( 137,438)
Notes receivable	261,783	( 4,606)
Notes receivable - related parties	241,344	( 205,695)
Accounts receivable	854,471	( 625,824)
Accounts receivable - related parties	883,083	632,138
Other receivables	318,714	( 543,113)
Inventories	( 6,646,390)	( 2,790,464)
Other current assets	179,112	955,387
Contract liabilities	( 627,061)	( 814,399)
Accounts payable	( 2,238,865)	3,059,942
Accounts payable - related parties	( 831,076)	463,342
Other payables	( 3,831,023)	3,277,721
Other current liabilities	325,729	46,449
Net defined benefit liabilities	( 59,552)	81,088
Refund liabilities	( 985,846)	1,215,587
Cash generated from operations	10,250,558	41,413,053
Income taxes paid	( 3,604,422)	( 2,369,887)
Net cash generated from operating activities	<u>6,646,136</u>	<u>39,043,166</u>
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Acquisition of financial assets at fair value through other comprehensive income	-	( 15,000)
Proceeds from disposal of financial assets at fair value through other comprehensive income	131,399	16
Proceeds from the capital reduction on financial assets at fair value through other comprehensive income	-	107,527
Acquisition of financial liabilities for hedging	349,389	3,642,472
Derecognition of financial liabilities for hedging	( 4,239,103)	( 18,406,432)
Acquisition of subsidiaries	-	( 26,000)
Proceeds from the capital reduction on investments accounted for using equity method	-	550,000
Proceeds from disposal of noncurrent assets held for sale	561,918	-
Acquisition of property, plant and equipment	( 8,531,907)	( 10,914,218)



**For the Year Ended December 31**

	<b>2019</b>	<b>2018</b>
Decrease (increase) in refundable deposits	(\$ 45,100)	\$ 39,573
Decrease (increase) in other receivables - loans to related parties	1,524,160	( 3,437,210)
Decrease in other financial assets	120,835	198,391
Interest received	199,643	190,042
Dividends received from subsidiaries and associates	8,947,369	5,859,772
Dividends received from others	536,241	363,401
Proceeds from liquidation of subsidiaries	<u>18,665</u>	<u>-</u>
Net cash used in investing activities	( 426,491)	( 21,847,666)
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>		
Proceeds from short-term borrowings	68,199,596	21,006,626
Repayments of short-term borrowings	( 65,017,674)	( 17,508,172)
Proceeds from short-term bills payable	28,490,638	80,103,247
Repayments of short-term bills payable	( 14,500,000)	( 86,400,000)
Issuance of bonds payable	-	18,000,000
Repayments of bonds payable	( 5,650,000)	( 7,700,000)
Issuance of long-term bank borrowings	8,000,000	-
Repayments of long-term bank borrowings	( 4,000,000)	( 7,598,710)
Proceeds from long-term bills payable	1,998,687	-
Repayments of long-term bills payable	( 5,897,729)	-
Repayments of principal of lease liabilities	( 337,794)	-
Dividends paid	( 15,779,153)	( 13,892,306)
Acquisition of subsidiaries	( 2,899,200)	( 800,000)
Interest paid	( 1,529,216)	( 1,797,782)
Proceeds from the capital reduction on subsidiaries	<u>108,328</u>	<u>979,916</u>
Net cash used in financing activities	( 8,813,517)	( 15,607,181)
<b>NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS</b>	( 2,593,872)	1,588,319
<b>CASH AND CASH EQUIVALENTS AT THE BEGINNING OF THE YEAR</b>	<u>2,417,541</u>	<u>829,222</u>
<b>CASH AND CASH EQUIVALENTS AT THE END OF THE YEAR</b>	<u>(\$ 176,331)</u>	<u>\$ 2,417,541</u>
 Reconciliation of the amounts in the standalone statements of cash flows with the equivalent items reported in the standalone balance sheets as of December 31, 2019 and 2018:		
Cash and cash equivalents in the standalone balance sheets	\$ 4,659,190	\$ 7,619,772
Bank overdraft	( 4,835,521)	( 5,202,231)
Cash and cash equivalents in the standalone statements of cash flows	<u>(\$ 176,331)</u>	<u>\$ 2,417,541</u>

# Ownership of Subsidiaries and Other Equity Interests

December 31, 2019

Companies	Amount (NT\$1,000)	Ownership (%)
Investments Accounted for using Equity Method		
Investments in Subsidiaries		
Listed companies		
Chung Hung Steel Corporation	6,064,076	41
China Steel Chemical Corporation	2,104,642	29
China Steel Structure Corporation	1,274,475	33
China Ecotek Corporation	1,232,328	45
CHC Resources Corporation	951,904	20
Less : Shares held by subsidiaries accounted for as treasury stock	2,081,642	
Subtotal	9,545,783	
Unlisted companies		
Dragon Steel Corporation	98,857,201	100
China Steel Australia Holdings Pty Ltd.	19,743,722	100
China Steel Express Corporation	11,869,947	100
C. S. Aluminum Corporation	7,855,607	100
Gains Investment Corporation	7,112,136	100
China Prosperity Development Corporation	6,806,029	100
China Steel and Nippon Steel Vietnam Joint Stock Company	6,353,422	56
China Steel Asia Pacific Holdings Pte Ltd.	4,293,509	100
Sing Da Marine Structure Corporation	3,169,040	100
China Steel Global Trading Corporation	2,050,305	100
Kaohsiung Rapid Transit Corporation	1,338,049	43
China Steel Machinery Corporation	1,084,456	74
China Steel Corporation India Pvt Ltd.	1,063,968	100
CSC Solar Corporation	1,019,672	55
China Steel Resources Corporation	995,460	100
InfoChamp Systems Corporation	699,802	100
China Steel Security Corporation	526,997	100
Hi-mag Magnetic Corporation	388,716	69
CSC Precision Metal Industrial Corporation	299,268	100
United Steel International Co., Ltd.	254,547	80
China Steel Management Consulting Corporation	17,808	100
China Steel Power Holding Corporation	4,719	100
White Biotech Corporation	-	0
China Steel Power Corporation	-	0
Less : Shares held by subsidiaries accounted for as treasury stock	6,582,556	
Subtotal	169,221,824	
Investments in Associates		
Unlisted companies		
Taiwan Rolling Stock Co., Ltd.	968,793	48
Kaohsiung Arena Development Corporation <sup>17</sup>	519,599	18
Honley Auto Parts Co., Ltd.	461,258	35
Eminent II Venture Capital Corporation	441,446	46
Hsin Hsin Cement Enterprise Corp.	359,196	31
Dyna Rechi Co., Ltd.	287,626	23
Overseas Investment & Development Corp.	53,945	6
TaiAn Technologies Corporation <sup>18</sup>	24,588	17
Subtotal	3,116,451	
Total	\$181,884,058	



Companies	Amount (NT\$1,000)	Ownership (%)
Financial Assets at Fair Value Through Other Comprehensive Income - Noncurrent		
Domestic investments		
Listed shares		
Taiwan High Speed Rail Corporation	9,298,483	4
Tang Eng Iron Works Co., Ltd.	1,252,656	9
O-Bank Co., Ltd.	811,050	4
Rechi Precision Co., Ltd.	527,896	5
CSBC Corporation Taiwan	208,124	2
Subtotal	12,098,209	
Unlisted shares		
CDIB Partners Investment Holding Corporation	941,426	5
Taiwan International Windpower Training Corporation	13,213	15
CDIB BioScience Ventures I, Inc.	8,093	5
Phalanx Biotech Group, Inc.	6,722	1
Subtotal	969,454	
Foreign investments		
Listed shares		
Maruichi Steel Tube Ltd.	1,700,160	2
Yodogawa Steel Works, Ltd.	225,437	1
Subtotal	1,925,597	
Unlisted shares		
Formosa Ha Tinh (Cayman) Limited	23,324,222	20
Sakura Ferroalloys Sdn. Bhd.	1,338,034	19
CSN Mineracao S.A.	968,262	0
Sakura Ferroalloys Sdn. Bhd. - Preferred	336,943	19
Dongbu Metal Co., Ltd.	0	4
Subtotal	25,967,461	
Total	40,960,721	
Financial Assets at Fair Value Through Profit or Loss - Current		
Unlisted preference shares - overseas		
East Asia United Steel Corp.(A)	826,071	10
Total	826,071	
Financial Assets at Fair Value Through Profit or Loss - Noncurrent		
Unlisted preference shares - overseas		
East Asia United Steel Corp.(A)	825,824	9
Total	825,824	
<b>TOTAL</b>	<b>224,496,674</b>	

<sup>17</sup> The Corporation's total equity in Kaohsiung Arena Development Corporation is 29%, including 18% directly owned and 11% indirectly owned through United Steel Engineering and Construction Corporation and China Prosperity Development Corporation.

<sup>18</sup> The Corporation's total equity in TaiAn Technologies Corporation is 22%, including 17% directly owned and 5% indirectly owned through China Steel Chemical Corporation.

## Main Businesses and Addresses of Subsidiaries

(as of March 31, 2020)



### C. S. Aluminium Corporation

Chairman: C.S.Chen

President: J. L. Lee

Main business: Production and sale of aluminum and non-ferrous metal products

Address: No. 17, Donglin Rd., Hsiao Kang Dist., Kaohsiung City 812050, Taiwan, R.O.C.

Tel: +886-7-871-8666

Fax: +886-7-872-1852

CSC Ownership: 99.98%



### China Steel Express Corporation

Chairman: S. M. Lee

President: H. J. Chen

Main businesses: Shipping services for raw materials

Address: 24F., No. 88, Chenggong 2nd Rd., Qianzhen Dist., Kaohsiung City 806698, Taiwan, R.O.C.

Tel: +886-7-337-8888

Fax: +886-7-338-1296

CSC Ownership: 100%



### China Steel Chemical Corporation

Chairman: W. G. Lo

President: M. D. Fang

Main business: Manufacture of coal chemistry and speciality chemical

Address: 25F., No. 88, Chenggong 2nd Rd., Qianzhen Dist., Kaohsiung City 806698, Taiwan, R.O.C.

Tel: +886-7-338-3515

Fax: +886-7-338-3516

CSC Ownership: 29.04%



### China Steel Global Trading Corporation

Chairman: C. C. Hwang

President: Y. J. Kuo

Main businesses: Buy and sell, and act as an agency for steel products

Address: 10F., No. 88, Chenggong 2nd Rd., Qianzhen Dist., Kaohsiung City 806698, Taiwan, R.O.C.

Tel: +886-7-332-2168

Fax: +886-7-335-6411

CSC Ownership: 99.99%



### CHC Resources Corporation

Chairman: H. C. Chang

President: S. H. Shang Kuan

Main businesses: Manufacture and sale of GBFS powder, surveys and remediation of soil and groundwater, BOFS and air-cooled BFS, intermediate solidification, reutilization of resources

Address: 22F., No. 88, Chenggong 2nd Rd., Qianzhen Dist., Kaohsiung City 806698, Taiwan, R.O.C.

Tel: +886-7-336-8377

Fax: +886-7-336-8433

CSC Ownership: 19.83%



### China Ecotek Corporation

Chairman: C. T. Chen

President: T. A. Wu

Main businesses: Environmental engineering, M&E engineering, and O&M engineering

Address: 8F., No. 88, Chenggong 2nd Rd., Qianzhen Dist., Kaohsiung City 806698, Taiwan, R.O.C.

Tel: +886-7-330-6138

Fax: +886-7-339-4016

CSC Ownership: 44.76%



### China Steel Structure Co., Ltd.

Chairman: T. M. Chen

President: J. T. Chen

Main businesses: Manufacture and sale of products of steel structure

Address: No. 500, Zhongxing Rd., Yanchao Dist., Kaohsiung City 824415, Taiwan, R.O.C.

Tel: +886-7-616-8688

Fax: +886-7-616-8680

CSC Ownership: 33.24%



### Chung Hung Steel Corporation

Chairman: M. H. Liu

President: K. C. Wu

Main business: Manufacture and sale of steel products

Address: No. 317, Yuliao Rd., Qiaotou Dist., Kaohsiung City 825403, Taiwan, R.O.C.

Tel: +886-7-611-7171

Fax: +886-7-611-0594

CSC Ownership: 40.59%





## China Steel Machinery Corporation

Chairman: D. S. Chen

President: C. C. Chang

Main businesses: Manufacture and sale of products for iron and steel equipment, vehicle transportation equipment, power generation and other mechanical equipment

Address: No. 3, Taiji Rd., Hsiao Kang Dist., Kaohsiung City 812006, Taiwan, R.O.C.

Tel: +886-7-802-0111

Fax: +886-7-806-3833

CSC Ownership: 73.97%



## InfoChamp Systems Corporation

Chairman: J. J. Jeng

President: J. K. Kuo

Main business:

- Enterprise information system integration services
- Technology services of software and hardware platform
- Intelligent Automation control systems service

Address: 19F., No. 88, Chenggong 2nd Rd., Qianzhen Dist., Kaohsiung City 806698, Taiwan, R.O.C.

Tel: +886-7-535-0101

Fax: +886-7-535-0110

CSC Ownership: 99.99%



## Gains Investment Corporation

Chairman: P. C. Huang

President: C. H. Wu

Main business: General investment

Address: 26F., No. 88, Chenggong 2nd Rd., Qianzhen Dist., Kaohsiung City 806698, Taiwan, R.O.C.

Tel: +886-7-338-2288

Fax: +886-7-338-7110

CSC Ownership: 99.99%



## China Steel Management Consulting Corporation

Chairman: H. C. Chung

President: H. J. Tseng

Main business: Business management and management consulting services

Address: No. 88, Chenggong 2nd Rd., Qianzhen Dist., Kaohsiung City 806698, Taiwan, R.O.C.

Tel: +886-7-805-1088

Fax: +886-7-803-7819

CSC Ownership: 99.99%



## China Steel Security Corporation

Chairman: Y. T. Liang

President: C. C. Yu

Main businesses: On-site security, systematic security

Address: No. 3-1, Taiji Rd., Hsiao Kang Dist., Kaohsiung City 812006, Taiwan, R.O.C.

Tel: +886-7-229-9678

Fax: +886-7-226-4078

CSC Ownership: 99.96%



## HIMAG Magnetic Corporation

Chairman: C. F. Tu

President: F. F. Lin

Main business: Production and sale of industrial magnetic, chemical, and iron oxides

Address: No. 24-1, Jianguo Rd., Neipu Township, Pingtung County 912018, Taiwan, R.O.C.

Tel: +886-8-778-0222

Fax: +886-8-778-0227

CSC Ownership: 69.49%



## China Prosperity Development Corporation

Chairman: C. T. Wong

President: Y. C. Hsu

Main businesses: Real estate development

Address: 23F., No. 88, Chenggong 2nd Rd., Qianzhen Dist., Kaohsiung City 806698, Taiwan, R.O.C.

Tel: +886-7-536-2500

Fax: +886-7-536-2413

CSC Ownership: 99.99%

## Main Businesses and Addresses of Subsidiaries

(as of March 31, 2020)



### Dragon Steel Corporation

Chairman: S. C. Wang

President: C. S. Lee

Main business: Hot-rolled products, H beams, billets, and flat steels

Address: No. 100, Longchang Rd., Longjing Dist., Taichung City 434205, Taiwan, R.O.C.

Tel: +886-4-2630-6088

Fax: +886-4-2630-6066

CSC Ownership: 100%



### China Steel And Nippon Steel Joint Stock Company

(formerly known as China Steel Sumikin Vietnam Joint Stock Company)

Chairman& President: J. Y. Lee

Main business: Manufacture and sale of steel products

Address: My Xuan A2 Industrial Zone, My Xuan Ward, Phu My Town, Ba Ria-VungTau Prov., Vietnam

Tel: +84-64-3931168

Fax: +84-64-3932188

CSC Ownership: 56 %



### China Steel Resources Corporation

Chairman: H. W. Wang

Main business: Other non metallic mineral products manufacturing

Address: No. 38, Yanhai 3rd Rd., Hsiao Kang Dist., Kaohsiung City 812050, Taiwan, R.O.C.

Tel: +886-7-802-1111#6262

Fax: +886-7-805-1529

CSC Ownership: 100%



### Changzhou China Steel Precision Materials Corporation<sup>19</sup>

Chairman: R. Y. Hsieh

President: F. A. Feng

Main business: Production and sale of titanium and titanium alloys, nickel and nickel alloys

Address: No.18, Changyang Rd., Wujin Economic Development Zone, Changzhou, Jiangsu Prov., China

Tel: +86-519-89616168

Fax: +86-519-89616098

CSC Ownership: 70%



### CSC Precision Metal Industrial Corporation

Chairman: B. T. Hung

Main business: Other non-ferrous metal basic industries

Address: 28F., No. 88, Chenggong 2nd Rd., Qianzhen Dist., Kaohsiung City 806698, Taiwan, R.O.C.

Tel: +886-7-802-1111#2766

Fax: +886-7-805-1296

CSC Ownership: 100%



### China Steel Corporation India Pvt. Ltd.

Chairman: K. S. Tseng

President: H. C. Lai

Main business: Electrical steel

Address: Office No.204, 2F., Iscon Atria, Tower-2, Gotri Road, Vadodara Gujarat, India

Tel: +91-922-7989880

Fax: +91-264-1277511

CSC Ownership: 100%



### CSC Steel Sdn. Bhd.<sup>19</sup>

Managing Director: S. K. Yin

Main business: Manufacture and sale of steel products

Address: 180, Kawasan Industri Ayer Keroh, 75450 Melaka, Malaysia

Tel: +60-6-231-0169

Fax: +60-6-231-0167

CSC Ownership: 46.30%



### Qingdao China Steel Precision Metals Co., Ltd.<sup>19</sup>

Chairman: Y. J. Kuo

President: H. C. Ou

Main business: Cutting and processing of steel products

Address: No.500, Fenjin Rd., Economic & Technological Dist. Qingdao, Shandong, China

Tel: +86-532-58718558

Fax: +86-532-58718576

CSC Ownership: 60%





### **China Steel Precision Metals Kunshan Co., Ltd.<sup>19</sup>**

Chairman: Y. J. Kuo

President: P. C. Chang

Main business: Cutting and processing of steel products

Address: No.168, ShuangHua Rd., HuaQiao Kunshan  
Jiangsu Prov., China

Tel: +86-512-57601373

Fax: +86-512-57603567

CSC Ownership: 80%



### **CSC Solar Coporation**

Chairman: T. A. Wu

President: D. S. Tin

Main business: Solar energy generation

Address: 9F., No.88, Chenggong 2nd Rd., Qianzhen Dist.,  
Kaohsiung City 806698, Taiwan, R.O.C.

Tel: +886-7- 333-6138

Fax: +886-7-536-2955

CSC Ownership: 55%



### **Sing Da Marine Structure Corporation**

Chairman: Y. C. Wang

President: W. H. Lu

Main business: Foundation of offshore wind power

Address: No. 201, Sec. 1, Dongfang Rd., Qieding Dist.,  
Kaohsiung City 852005, Taiwan, R.O.C.

Tel: +886-7- 608-0088

CSC Ownership: 100%



### **China Steel Power Corporation<sup>20</sup>**

Chairman: S. C. Wang

Main business: Offshore wind power

Address: Rm. 1, 10F., No. 369, Zhonghua W. Rd., Changhua  
City, Changhua County 500023, Taiwan, R.O.C.

Tel: +886-2-2345-0128

CSC Ownership: 51%

<sup>19</sup> China Steel Corporation's investment is through China Steel Asia Pacific Holdings Pte. Ltd.

<sup>20</sup> China Steel Corporation's investment is through China Steel Power Holding Corporation

**Head Office**

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1, Chung Kang Rd., Hsiao Kang, Kaohsiung  
812401, Taiwan, Republic of China  
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Fax: 886-7-537-3570  
Web-site: <http://www.csc.com.tw>

**China Steel Building**

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806698, Taiwan, Republic of China  
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Fax: 886-7-537-3570

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