



中鋼 WE CAN

CSC Group Joint Conference

December 20, 2022

WE CAN!





Agenda

1 Operation and Development Strategies

2 Carbon Reduction & Carbon Neutrality Pathway

3 Steel & Raw Material Dynamics

4 Appendixes:
Sales Analysis, Financial Performance and Dividend Policy



Safe Harbor Statement

This presentation may contains forward-looking statements. All statements other than historical and current fact, without limitation, including business outlook, predictions, estimates, are forward-looking statements.

Such statements are based upon management's current beliefs and expectations and are subject to various risks, uncertainties and other factors that could cause actual outcomes and results to differ materially.

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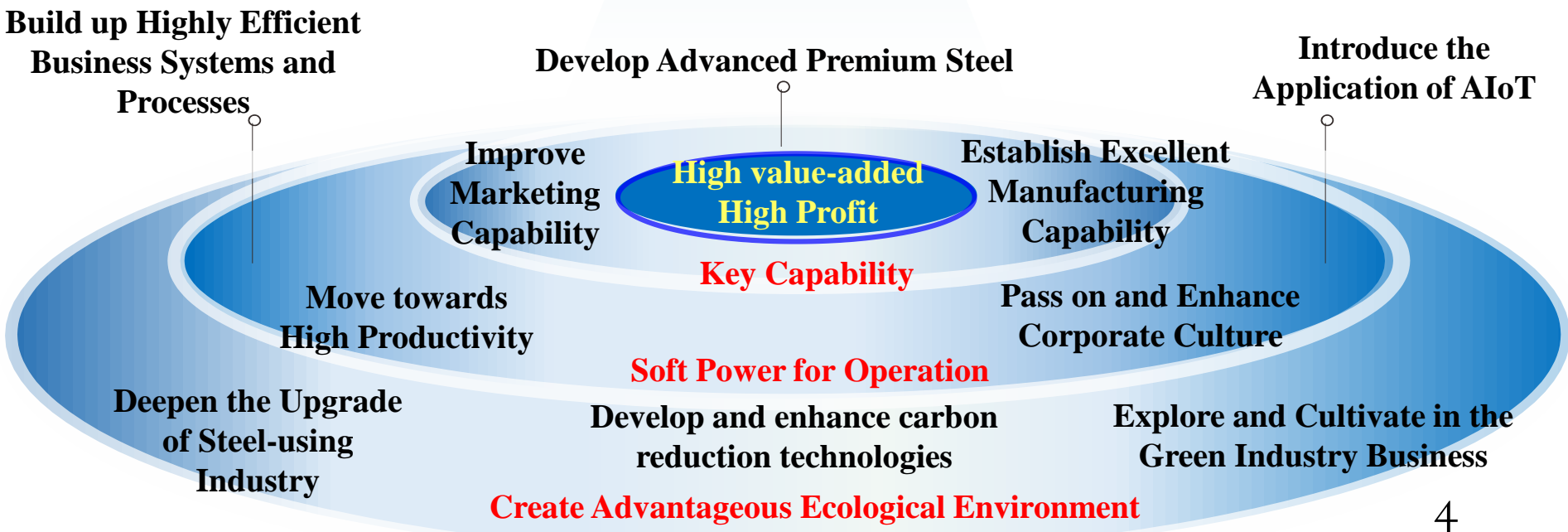
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Operation and Development Strategies

10-Year Operating Strategy

<p>Vision</p>	<p>We aspire to be a sustainable growth enterprise that distinguishes itself through a firm commitment to smart innovation, green energy, carbon reduction, and value co-creation.</p>
<p>Core</p>	<p>Promote to High Value-added Steel Mill Develop Green Energy Business</p>

10 Operating Strategies
Leading Technology
Cutting-edge Manufacture
Customer Trust



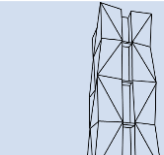







Develop Advanced Premium Steel

Definition of Advanced Premium Steel (APS)

Products with **”High Technical Content, High Industrial Benefit, High Profitability.”**

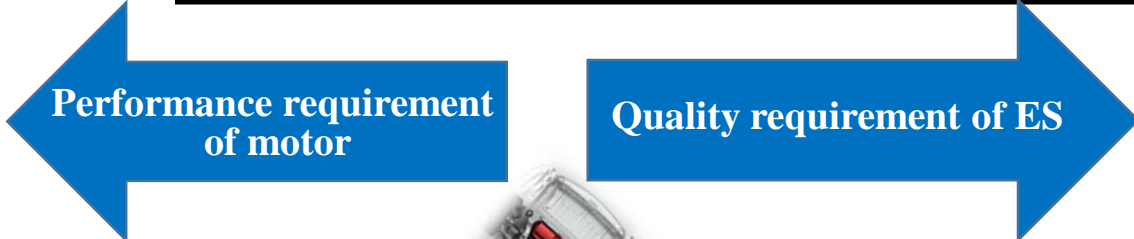
Focus on 8 items (Meet customers' needs & Industry trend)

High-Quality Forging Steels	Superior Hand Tool Steels	High Performance Structural Steels	Steel for Green Energy	Ultra-High Strength and Toughness Steels	Advanced Alloy Steels	Cross-Generational Automotive Steels	Ultra-High Efficiency Electrical Steels
							
Year			2021	2022	2023	2024	2025
Advanced Premium Steel proportion target (%) (APS sales volume target divided by total sales volume target, which does not include leeways, secondary and salvage products, and semi-products)			4.2%	7.5%	8.0%	9.0%	10.0%

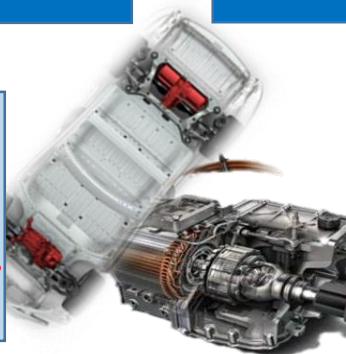
- Become the customer's **favorite** materials and establish an **irreplaceable trust relationship**.
- Sales volume of the 8 items of **APS** to achieve **10% in 2025** and **20% in 2030**.
- In **2022Q1~Q3**, the **sales volume** of APS reached **6.8%**, **sales revenues** of APS reached **9.1%**, and **gross profits** of APS reached **17.9%**.

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Ultra-High Efficiency Electrical Steels

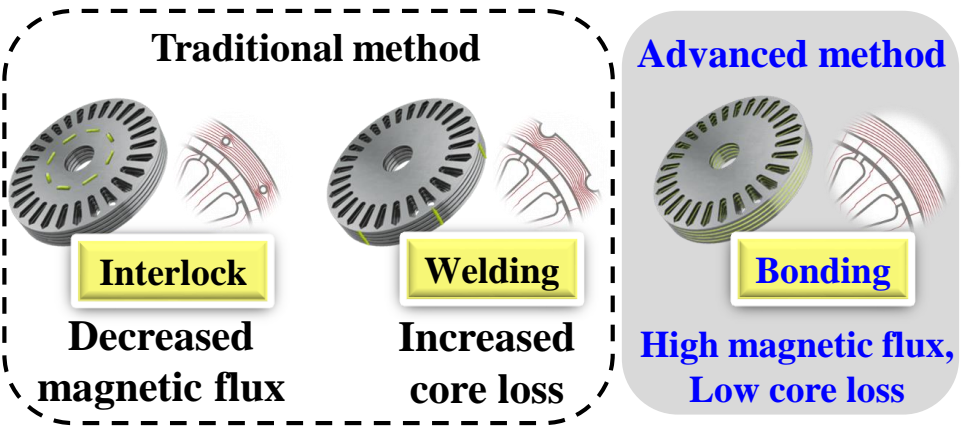
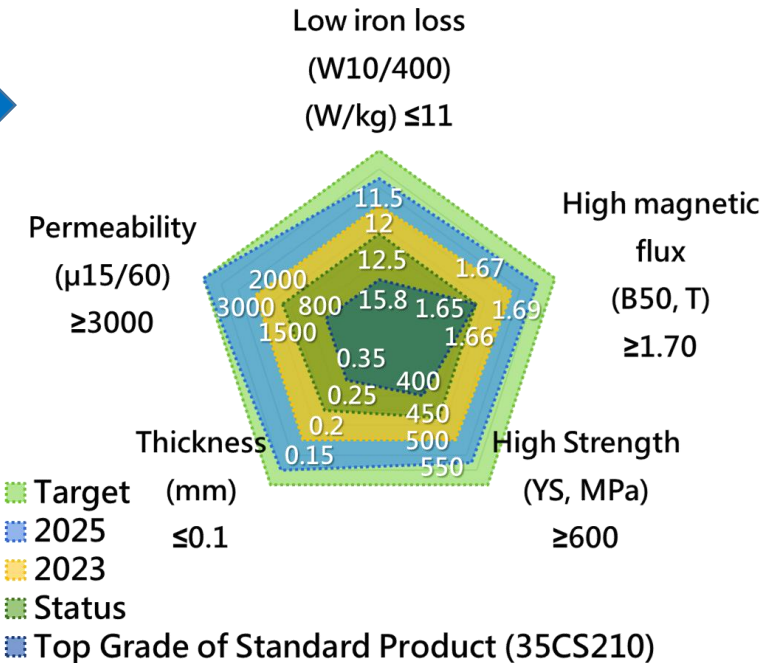


Small volume
Energy saving
High horsepower



Low iron loss
High magnetic flux
Thin thickness

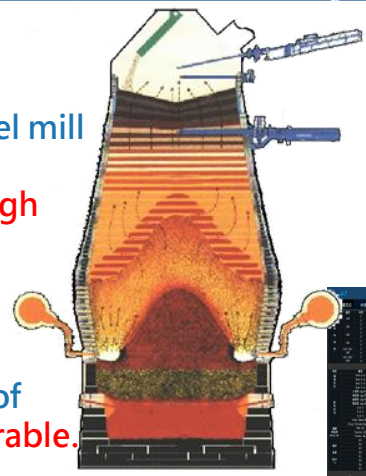
- ▶ Cooperates with **T brand** and supplies ES required for the motors of various models through **EVI**. → **Grow up with T brand.**
- ▶ Supplies to **T, V, A, P brand** EV makers. The shipments is expected to be around **100 thousand tons** in 2022, taking around **20%** of the global market.
- ▶ With the general trend of vehicle **electrification**, CSC continues to develop **series of Ultra-High Efficiency Electrical Steels** and its application technology to grasp the **business opportunities of low-carbon transformation.**



Introduce AIoT - BF Iron-making Smart Center

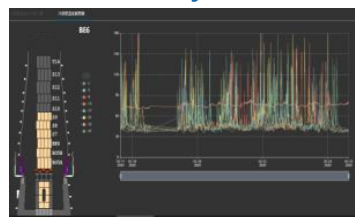
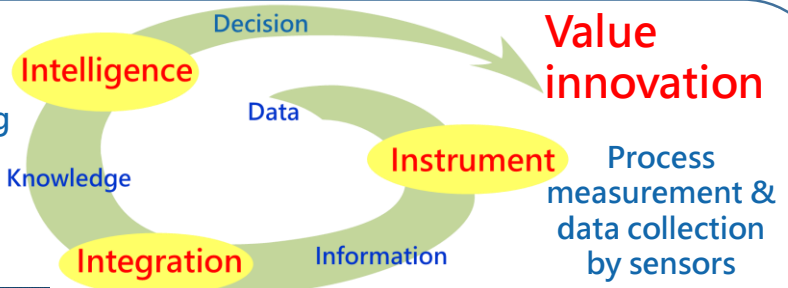
BF

- Core process of steel mill
- Large volume, **high temperature and high pressure**
 V:3400 m³
 T>2000 °C、
 P>3.4 atm、
 Reduction reaction of iron ore is **unmeasurable**.



AI calculations, smart modules, decision-making assistance

Big data collection



8 smart instructions

Channeling treatment, Equipment condition, Smart burden charging, BF operation, etc.

5 smart indices

Energy Balances, BF condition index, Channeling index, Thermal index, etc.

Developed **27 AI modules**
 Decreasing fuel cost **13million NTD/y**
 Decreasing GHG **2,200 tons/y**

5 smart condition monitoring systems

Main conveyor monitoring, Burden profile, BF equipment monitoring, Level gauge monitoring, etc.

9 AI prediction modules

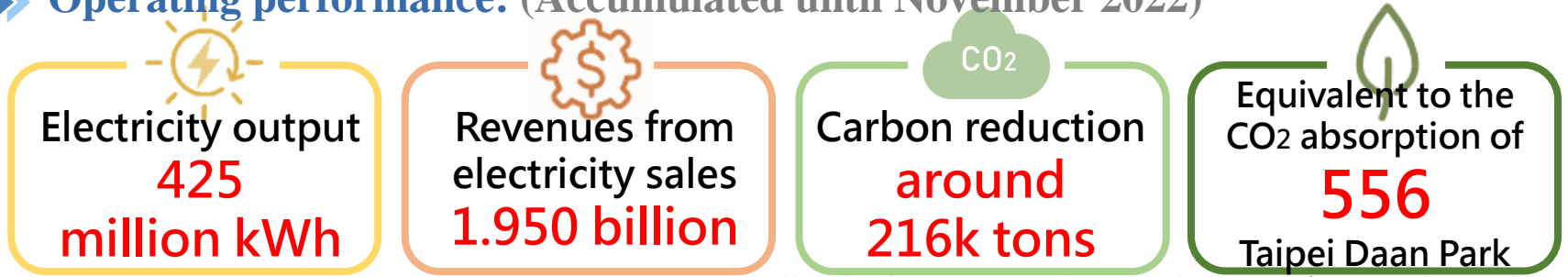
Tuyere image, Hot metal temperature, Smart hot stove, Stave thickness, etc.

➤ Turn the **black box** system into a **visible, predictable and easily controlled** progress by introducing AIoT to **improve the stability of blast furnace condition, process efficiency and energy saving benefit**. AI is an effective tool for **process stability**, and has been **fully introduced** to the Company.

Green Business - Solar Power & Energy Storage System

Develop Solar Photovoltaics

- Capacity Installed: **92.3MW**;
110mn kWh of annual power generation & 55 thousand tCO2e reduction per year
- Future installation: 3~5MW / year ; Installation target: **over 120MW**
- Operating performance: (Accumulated until November 2022)



*Estimated based on the 2021 Taipower electricity carbon emission factor, 0.509 kg CO2e/kWh

Year	2017~2019	2020	2021	2022	Total
Actual Capacity Installed (MW)	83.2	1.6	2.5	5.0 (until Nov.)	92.3
Electricity Output (100m kWh)	1.25	1.04	1.01	0.95 (until Nov.)	4.25

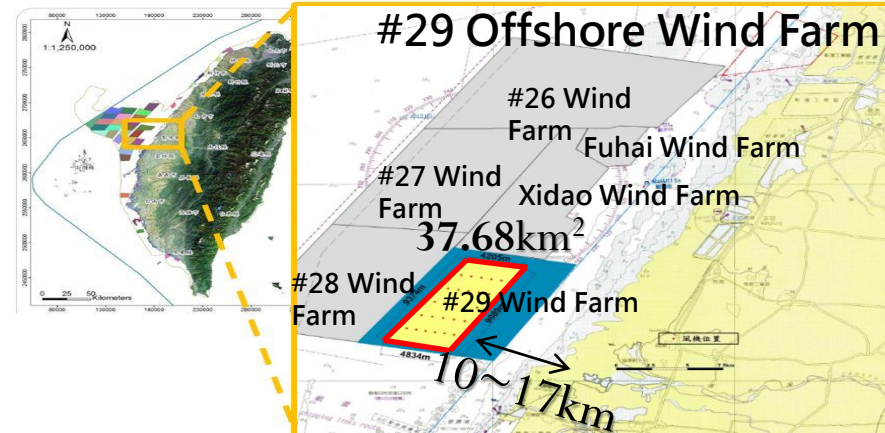
Establish Energy Storage System

- CSC has established **1.8MWh energy storage system** and participates in Taipower's **Automatic Frequency Control (AFC)** service. CSC is now building **2.2MWh energy storage system** and planning to **connect with the PV system** for the **PV output smoothing function**.

Green Business – Substructure & Offshore Wind Farm

Offshore Windfarm Development

- **China Steel Power Corporation (CSPC)**, a joint venture between CSC and Copenhagen Infrastructure Partners (CIP), is developing **300MW** offshore wind farm.
- The wind farm is expected to connect to the grid in 2024 with estimated **annual power generation 1.15 billion kWh/year** and **550k tons/year** carbon reduction potential.
- The most localized offshore wind farm in Taiwan.



Located off the coast of Changhua County in Taiwan

- Water Depth : 27 ~ 40 m
- Wind Speed : 9.66 m/s

Substructure Manufacturing



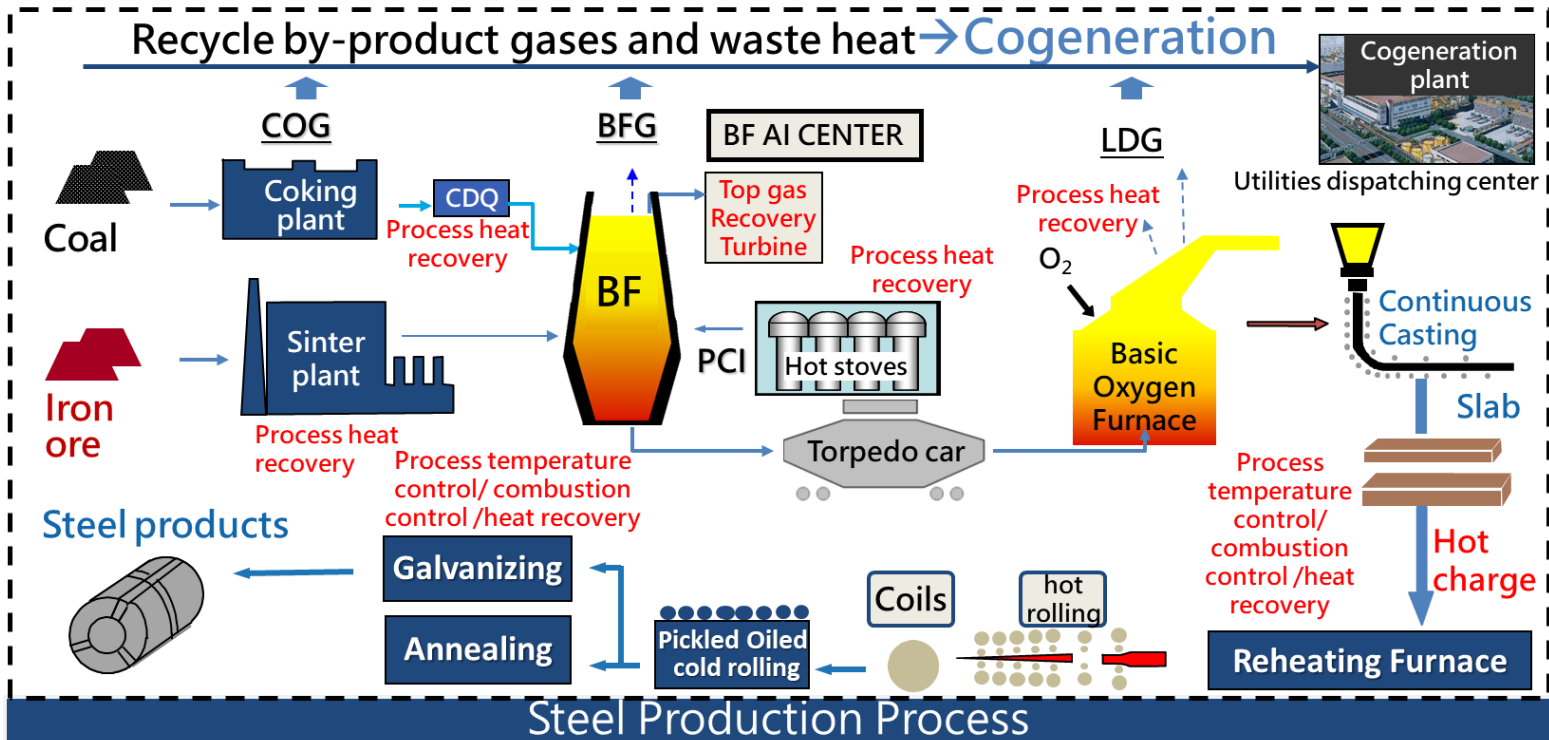
- **Sing Da Marine Structure:** For the manufacture of substructures
- The first contract of **six 100% localized substructures** for Orsted - Greater Changhua Offshore Wind Farm Project was **completed and installed**.
- The substructures for **Zhongneng Offshore Wind Farm Project** are currently under production.

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Carbon Reduction & Carbon Neutrality Pathway

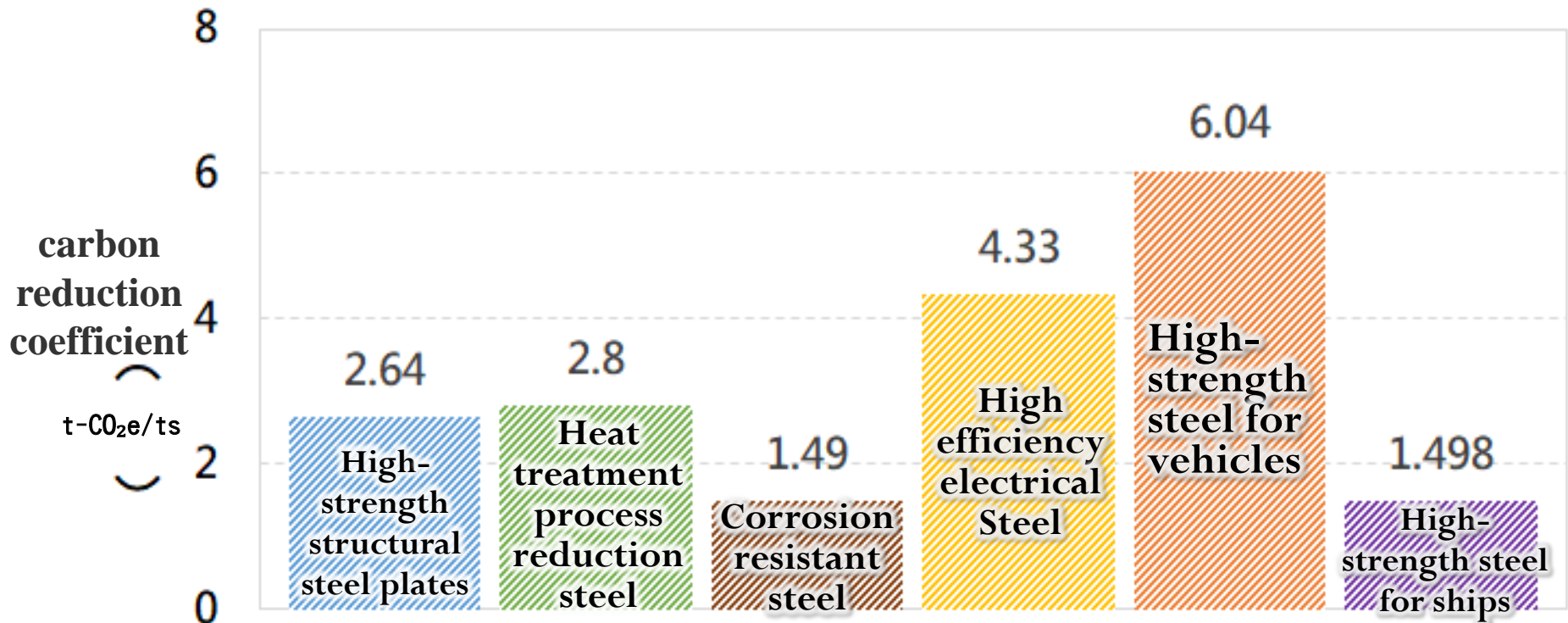
2 Enhance Carbon Reduction Technologies – Internal Energy Saving & Carbon Reduction

10 Carbon Reduction Strategies	Process Improvement Process Streamlining	Waste Heat Recovery Cogeneration (CHP)
Combustion Control Temperature Optimization	Improve Yield Rate & Equipment Efficiency	Energy Dispatch Intelligent Management



➤ **1,182** carbon reduction projects were implemented during 2011~2021. Accumulated annual carbon reduction reached **1.452 million tons CO₂**, equivalent to the CO₂ absorption of 3,733 Taipei Daan Park.

Green Steels - Create Global Low Carbon Development Value



- Green steels facilitates weight reduction and efficiency improvement in its **end products**, and help **save energy and reduce carbon emission during the product's life cycle**.
- In 2022Q1~Q3, the sales volume of **green steel products** reached **3.12 million tons**, which is estimated to help **reduce 5.79 million tons of carbon emissions** for end users.
- CSC actively develops steel products with **high ratio of recycled materials**. Certification of **products with 12% recycled material** was obtained in 2021, and the **certification for 20%** was obtained in this year. Products with even higher ratio will be continuously developed.

Task Force on Energy Saving & Carbon Reduction and Carbon Neutrality

Established on 2021.02 with Board's approval

Holds Meeting Quarterly

Headed by the Chairman

Leads Carbon Neutrality and Carbon Reduction Strategy

Corporate Governance and Sustainability Committee

Task Force on Energy Saving & Carbon Reduction and Carbon Neutrality
Head: Chairman
Deputy Head: President & Executive Vice President

Executive Secretary: VP of Production Division
Vice Executive Secretary: VP of Technology Division

Energy Efficiency Raising Unit

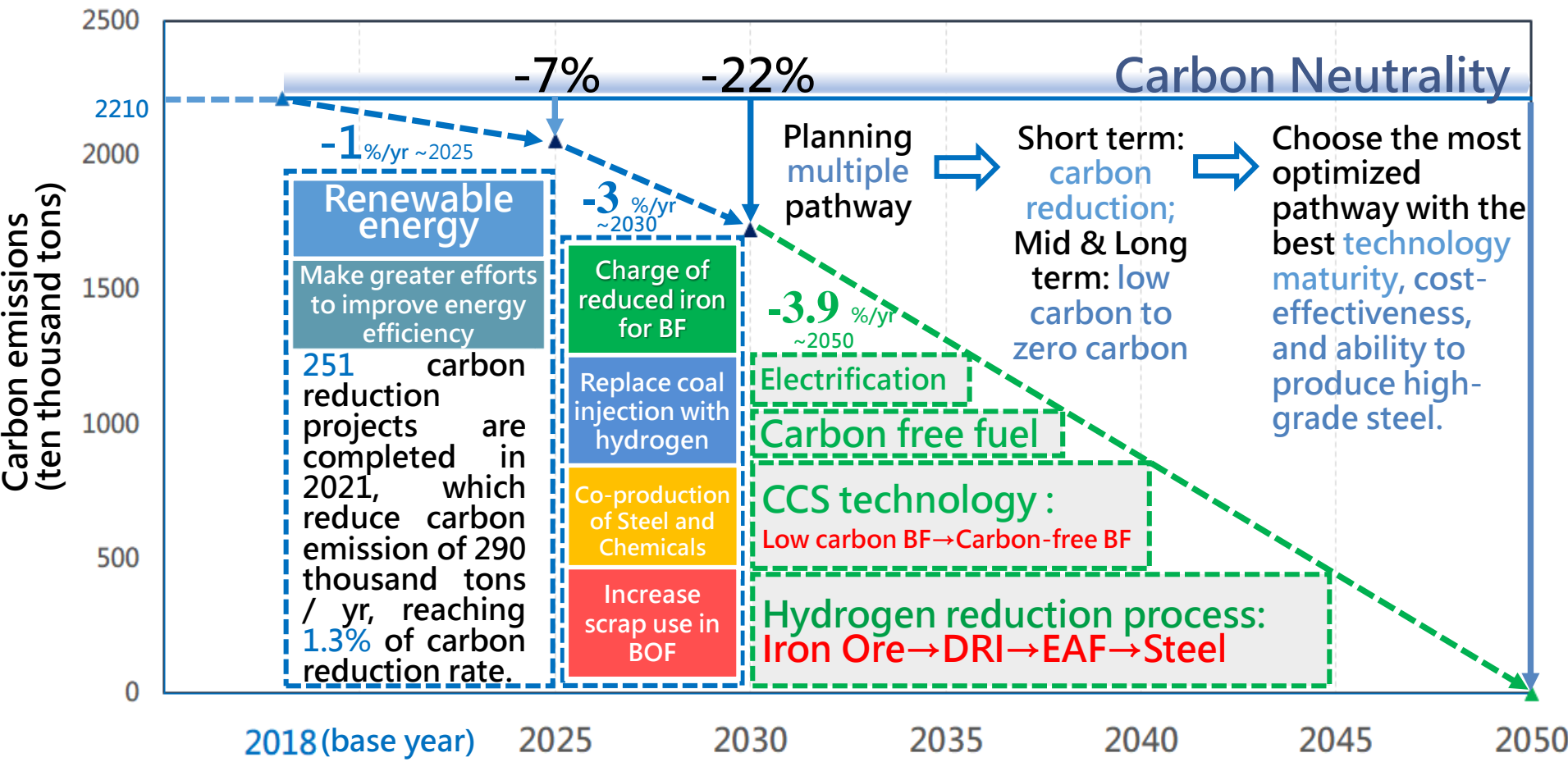
Hydrogen Metallurgy Unit

Carbon Sequestration Technology Unit

Low-carbon Energy Technology Unit

Information Collection and Communication Unit

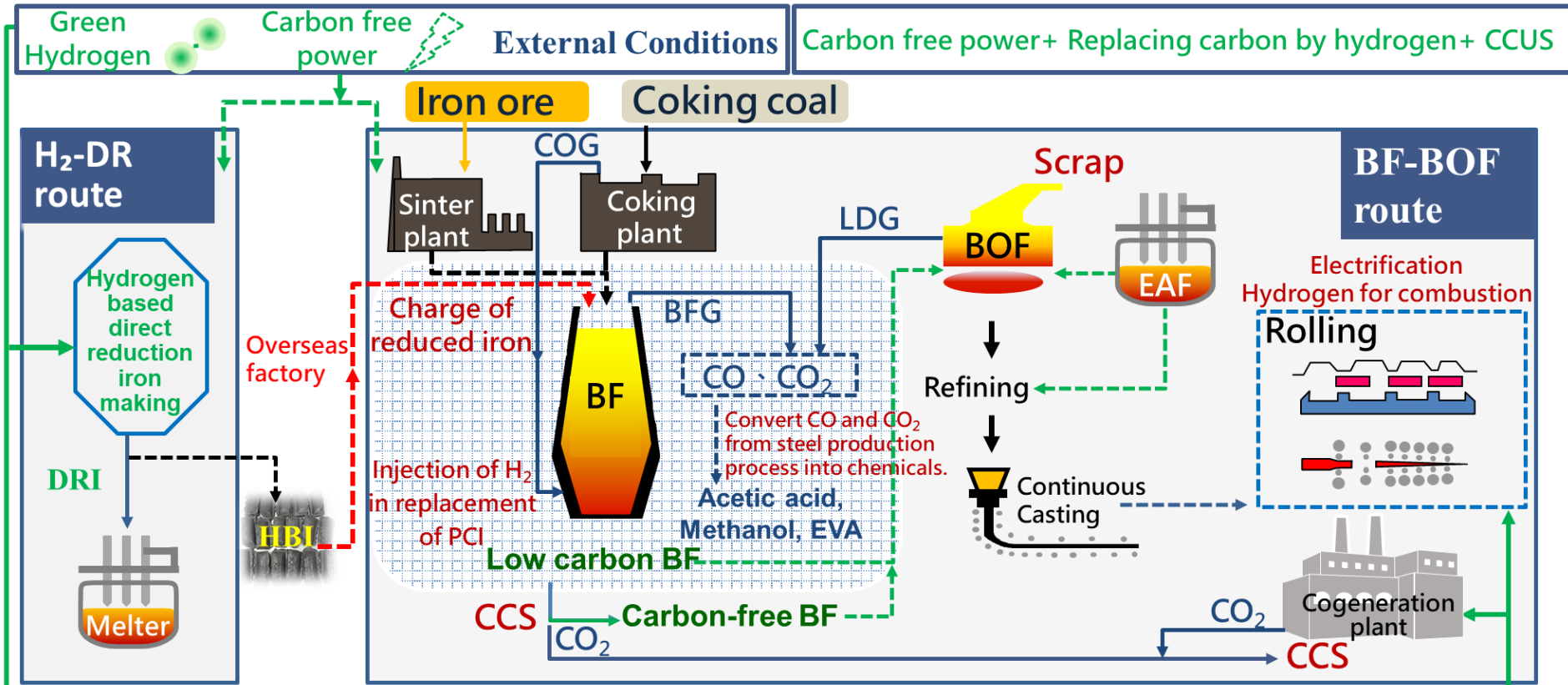
Short Term Carbon Reduction & Medium and Long Term Carbon Neutrality Pathway



➤ **Hard work to reach carbon neutrality → information research, forming good relationships, brainstorming, deliberation, out-of-the-box thinking, and forward-looking layout.**

2

Medium and Long Term Carbon Neutrality Pathway



- Facing the challenges of **technology**, **resource**, and **capital**, resulted from the lack of mature technology and green hydrogen resources, as well as the required equipment modification.
- Currently evaluating the investment of **Direct Reduced Iron (DRI) plant** with strategic partners in areas rich in **green hydrogen** and **blue hydrogen** to obtain the required hot briquetted iron (HBI).

Develop and Enhance Carbon Reduction Technologies – Develop Low-Carbon BF Iron Making Technology

Core Technology

Low-carbon raw materials

Injecting H₂-rich gas in BF

Co-production of Steel & Chemicals

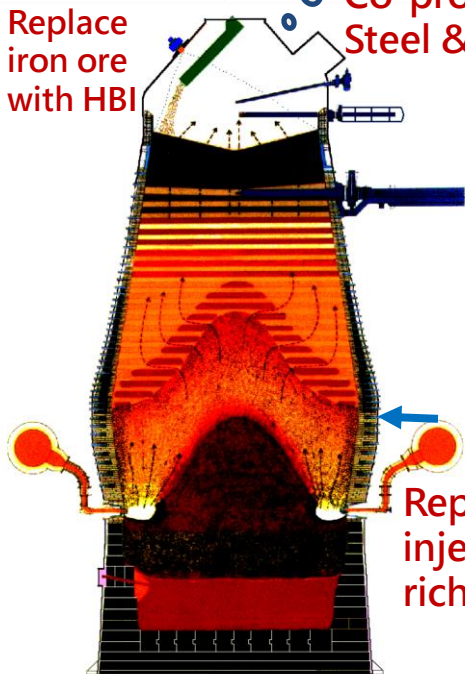
Capture and purify CO & CO₂ from top gas and provide it to petrochemical plants to produce chemicals

- Formed a research team with **25** professors and researchers from **12** domestic academic and research institutions, and passed the review of the **University-Industry Collaboration Project** of National Science and Technology Council in November 2022 with the topic of **low-carbon BF iron making technology**.
- Constructed the **pilot line for co-production of steel and chemicals project** with **Industrial Technology Research Institute**.

HBI

Replace iron ore with HBI

Co-production of Steel & Chemicals



Replace coal by injecting H₂-rich gas

Carbon Reduction Potential

Adding HBI
2.25 million tons CO_{2e}

Injecting H₂-rich gas
0.66 million tons CO_{2e}

Co-production of Steel & Chemicals
2.90 million tons CO_{2e}

2 Development of Co-production of Steel and Chemicals

2023

2025

2040

Phase 1 : Pilot Line
Reduce 4,900 tons CO₂e/yr

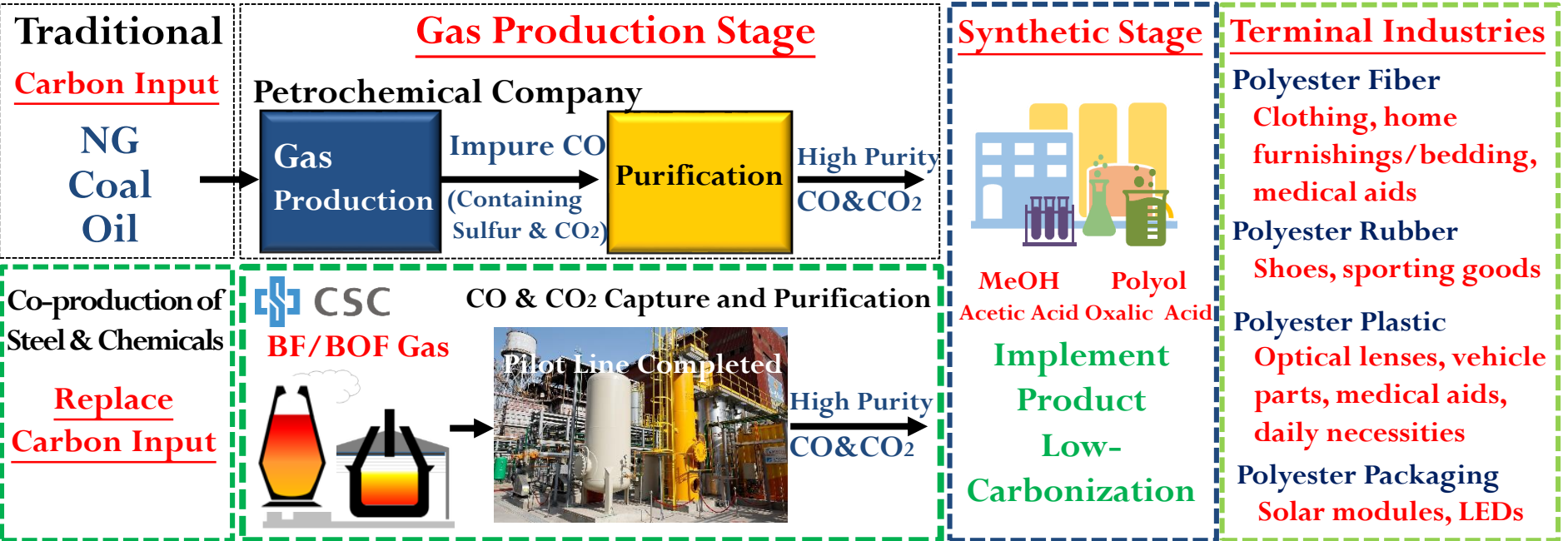
Phase 2 : Demo Line
Reduce 240k tons CO₂e/yr

Phase 3 : Commercialization
Reduce 2.9M tons CO₂e/yr

Build and run the pilot line for feasibility study during 2021~2023.

Construct the Demo line with petrochemical companies in 2025.

The Industrial Park for Carbon Cycling is expected to be constructed by 2040.

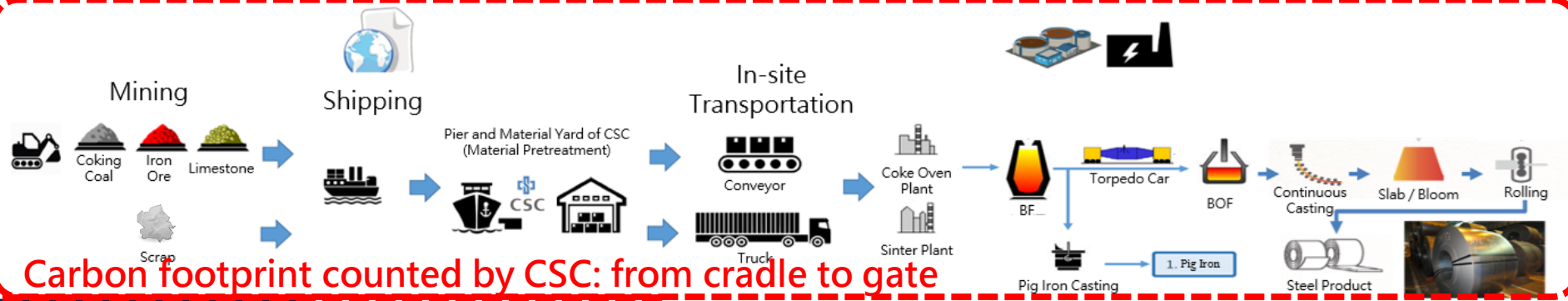


➤ The first pilot plant of Co-production of Steel and Chemicals in Taiwan was completed in September 2022. The inauguration ceremony was held on December 2nd.

➤ Utilization of CO/CO₂ from BF/BOF Gas to produce low carbon chemicals will be studied.

Product Carbon Footprint

Product Carbon Footprint: Carbon emission of the product during its life cycle



➤ 2022.11 Passed the verification by **BSI** and obtained the **ISO 14067** product carbon footprint verification statement.

➤ Carbon footprint of products(CFP):

Carbon footprint unit: kgCO₂e/kg product

Product	CFP	Product	CFP	Product	CFP	Product	CFP
Pig Iron	1.968	Bar	2.357	HR P/O Coil	2.211	ES Coil	2.912
Slab	1.912	Wire	2.419	HR Plate & Sheet	2.285	Advanced ES Coil	3.225
Bloom	1.969	Spheroidizing Annealed Bar	2.716	HDG Coil	2.849	Process-saving Steel	2.426
HR Billet	2.132	Spheroidizing Annealed Wire	2.780	EG Coil	2.979	High Strength Steels for Ship	2.269
Plate	2.265	HR Band	2.129	Prepainted Coil	2.731	High Strength steels for Auto	2.629
Straight Bar	2.426	HR Coil	2.151	CR Coil	2.717		

2

Establish Product Carbon Intensity System



Response to carbon regulation

- Many countries have successively set up mechanisms to avoid **carbon leakage** (Ex: EU **CBAM** and US **CCA**), according to which the **carbon emission intensity of export products shall be declared**.
- In the future, CSC will also be required to **provide product carbon emission intensity** in response to **customers' increasing demand for low-carbon materials**.

Calculation & Application

- Based on the existing **cost system**, the **Product Carbon Intensity System** is established according to the input of **raw materials** and their **carbon emission coefficients**.
- The System provides the function of checking the carbon emissions of **each process, production line and product**, which facilitates choosing **production path with lowest carbon emission**, and identifies the **carbon emission hotspots for continuous improvement**.

Expert' s recognition

- CSC **takes advantages** of its existing **ERP system** to reduce the development cost and shorten the building period of the product carbon intensity system, which receives **high evaluation from experts**.

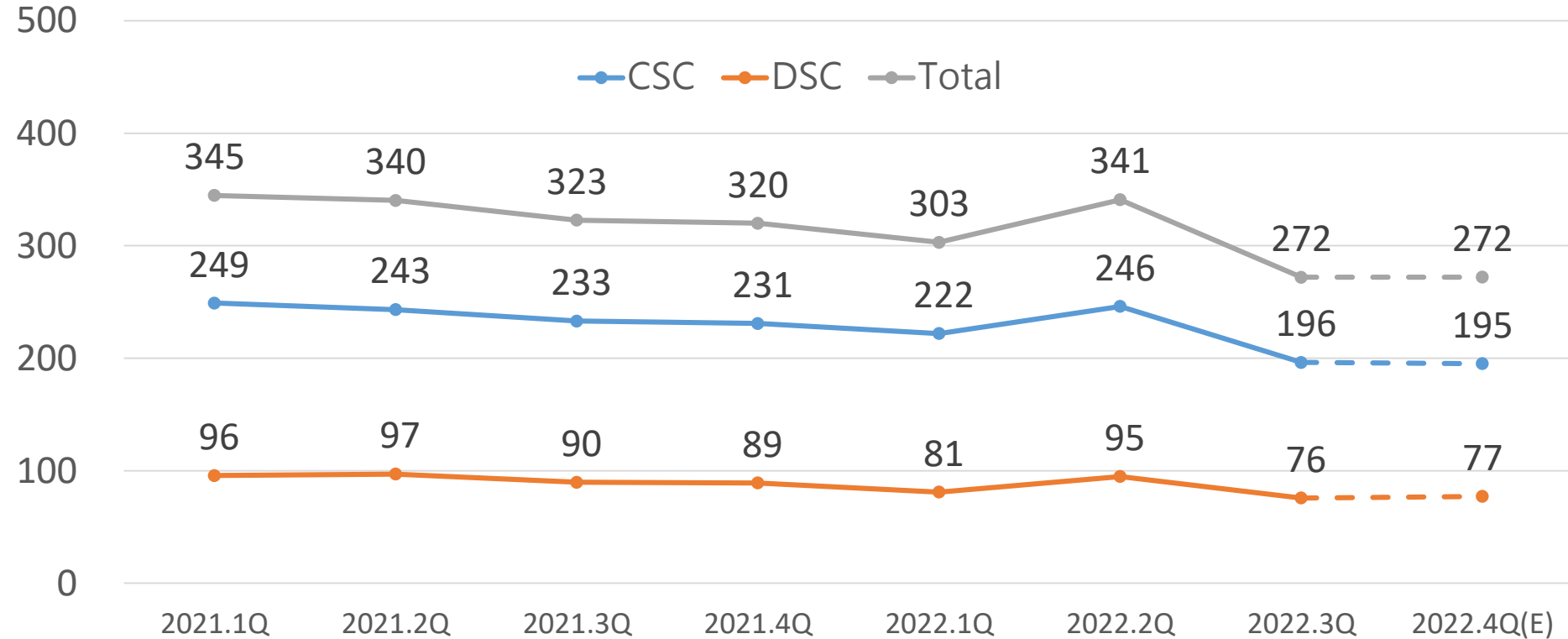
Segmentation of carbon emission → Optimization of cost control & carbon reduction

3

Steel & Raw Material Dynamics

Sales Analysis (CSC & BF Products of DSC)

Sales volume
(10 thousand tons)

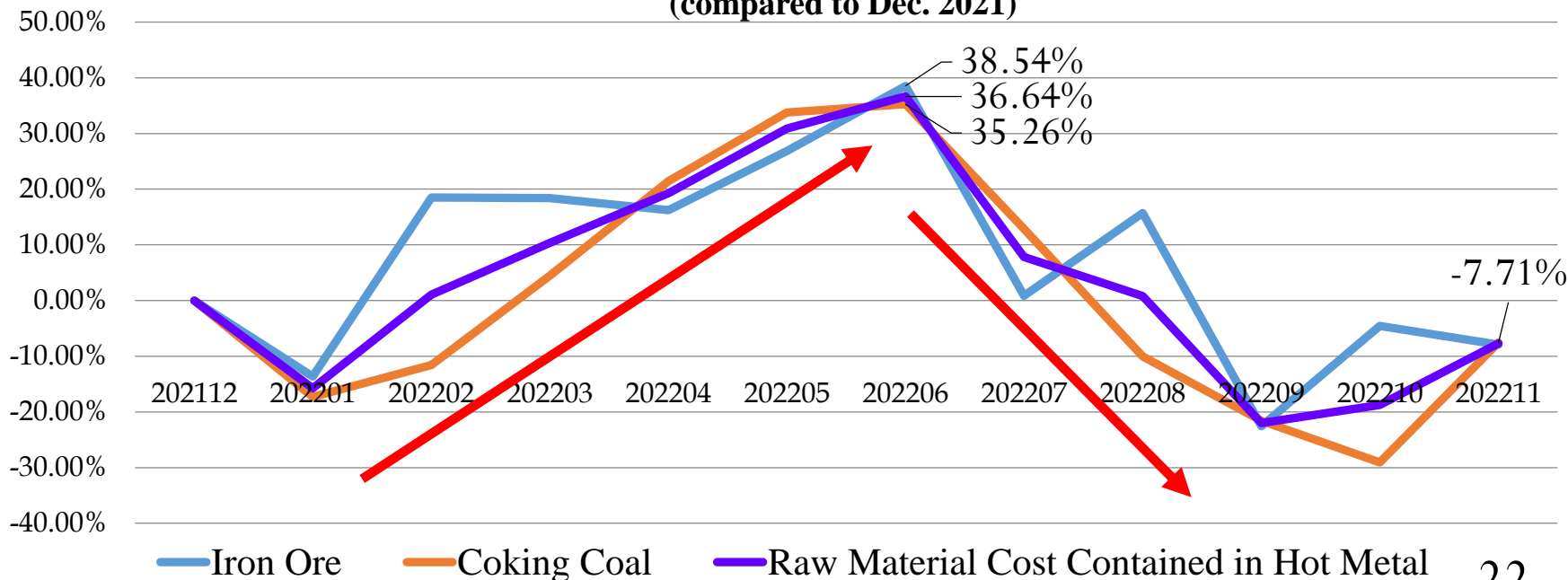


➤ The Sales volume in 2022H2 decreases as a result of Russo-Ukrainian War, high inflation, zero-COVID policy in China and Fed 's aggressive interest rate hike.

Raw Material Trend – Iron Ore & Coking Coal

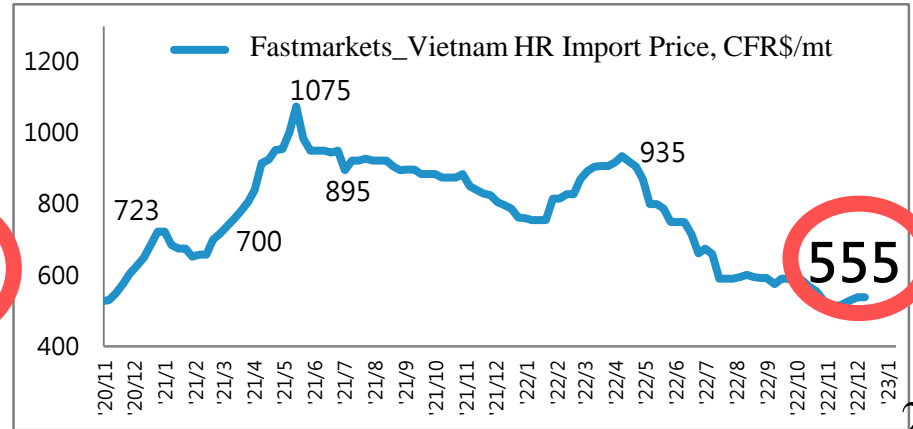
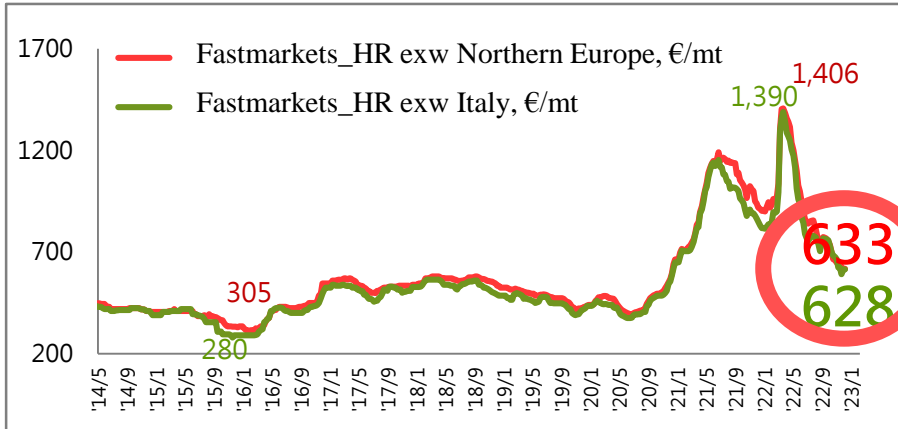
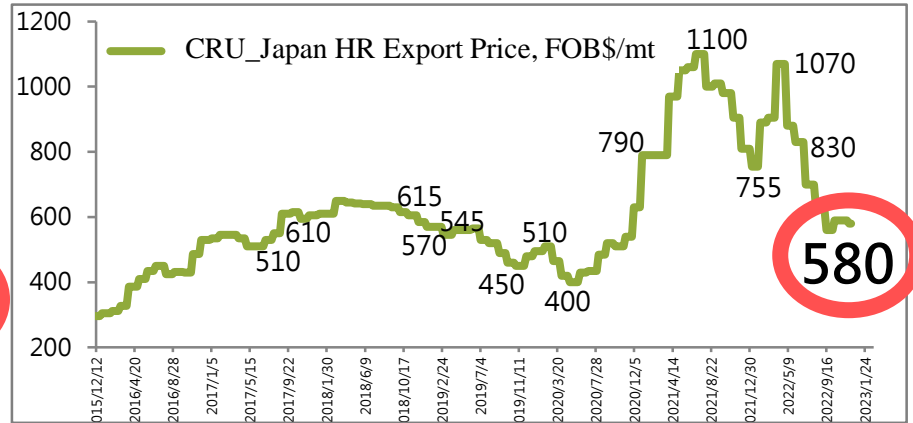
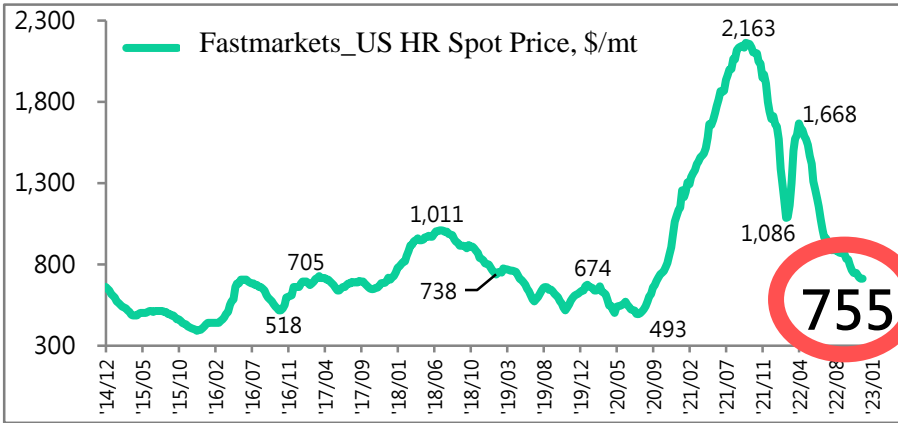
- The coking coal price once soared following the Russo-Ukrainian War, but fell sharply as the panic subsided. Later, the price was driven up again as EU ban on Russian coal imports came into force on August 1 and the heavy rain in traditional dry season brought down Australia's production. Recently, the price fell again due to the production cut from steel companies.
- As a result of the pandemic restrictions in China, the iron ore price fell since May. Recently, the spot price gradually increased as China eased some of its COVID restrictions and issued stimulus policy on property sector.
- Overall, the COGS in Q3 reflected the peak of raw material cost, and is expected to fall in Q4.

Percentage change of incoming raw material price
(compared to Dec. 2021)



Major Steel Market Dynamics & Outlook

- ✓ **US:** Recently, steel mills in North America are raising prices successively, and the spot price is bottoming out at around \$750/ton. Supported by the infrastructure act, resumption of auto production and investment in energy industry, steel demand is expected to emerge after the end of this year.
- ✓ **EU:** The lower energy prices may help lower costs entering into spring. While re-stocking demand is gradually emerging, the market participants have accepted higher price for Q1 orders.
- ✓ **Japan:** Major steel mills are actively reducing their production to stabilize prices. Steel price remained relatively stable overall.
- ✓ **ASEAN:** Domestic demand has stabilized. The rebound of import quotations from China has gradually pushed up the market in Southeast Asia.



Major Steel Market Dynamics & Outlook



Taiwan

- ✓ **Inventory adjustment coming to an end:** Steel-using industry has been through a more than 6 months of supply-demand adjustments since May. Downstream inventory has decreased stably. Along with steel mills' production cut and the support from high raw material costs, it's expected that the deferred re-stocking demand will emerge.



worldsteel forecast

- ✓ worldsteel forecasts that the steel demand will grow slightly in 2023, but risks like monetary tightening policies in various countries, epidemic containment policies in China, geopolitical uncertainty and energy crisis in Europe should be paid attention to.
- ✓ Global steel demand is expected to be **1.8 billion tons (YoY - 2.3%)** in 2022 and **1.81 billion tons (YoY + 1.0%)** in 2023.

Forecast (2022/10 SRO)	million tons			YoY growth rate %		
	2021	2022(e)	2023(f)	2021	2022(e)	2023(f)
European Union (27) & United Kingdom	165	159	157	18.1	-3.5	-1.3
USMCA	137	138	141	18.6	0.9	1.8
Central & South America	50	46	48	30.0	-7.8	3.8
Africa	39	40	42	6.1	3.2	4.4
Middle East	50	51	53	4.9	2.4	3.4
Asia & Oceania	1,299	1,270	1,285	-1.3	-2.2	1.2
Others	99	92	89	0.1	-0.1	-0.03
World	1,839	1,797	1,815	2.8	-2.3	1.0

Source: worldsteel SRO, 2022.10.19

Major Steel Market Dynamics & Outlook



Global steel market outlook:

3 headwinds reverse, global price bottoming out



Inflation eased



China lifted
COVID restrictions



End of Russo-
Ukrainian War

- ✓ China: Crude steel output reduction policy remains unchanged. Global steel supply is still restricted due to the dramatic production cuts from global steel mills. Because the supply is less flexible than the demand, there may be a shortage once the demand recovers.
- ✓ US: Demand is estimated to be flat heading into the year-end holidays, but the market has seen signs of bottoming out.
- ✓ Europe: Steel market remains weak. While steel price approaches breakeven point, steel mills have started to hold price steady.
- ✓ Overall, due to tightened monetary policies and geopolitical instability, the global steel market is at a downturn in 2022H2. However, with the 3 headwinds showing signs of reversing, it's **highly likely that there will be an U-shaped recovery in the steel market**. Currently, the market should be in the middle of the bottom, and may **show an upward trend in 2023Q1**.
- ✓ **Staged recovery** of steel demand in countries: China → Asia → US → EU



CSC

Thank you

Q & A

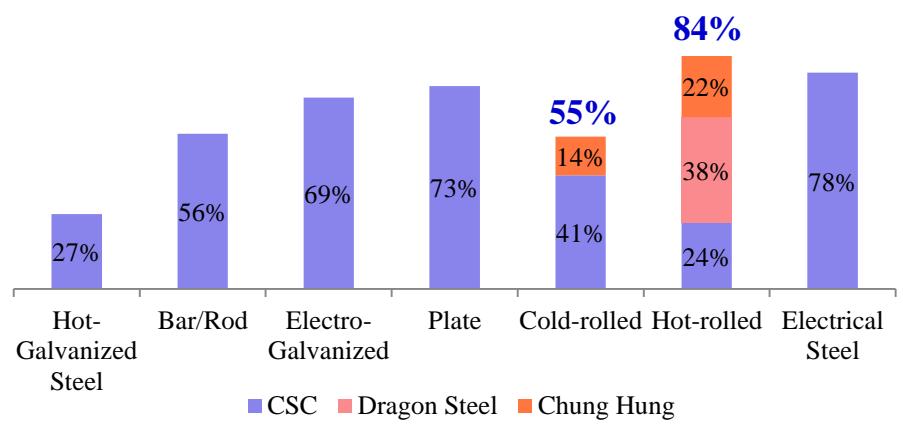
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Appendixes

Company Overview - Business Snapshot

- CSC is the leading Taiwanese steel manufacturer with integrated production capabilities. Crude steel capacity of CSC Group reached about 16 mmt.
 - ✓ CSC: 9.9 mmt
 - ✓ DSC: EAF & No.1&2 BF around 6 mmt
- Dominant position in the domestic market
- Focus on Leading-edge Steel Mill & green energy business. Improve the percentage of high-end and high-margin products.

CSC Group domestic market share (2022.1~3Q)



Steel

- CSC
- CHS
- DSC
- CSC Steel Sdn. Bhd.
- CSVC
- CSCI

Engineering

- CSSC
- China Ecotek
- CSMC
- Info-Champ Systems

Industrial Materials

- CSCC
- CHC Resources
- CSAC
- Himag Magnetic
- CSPM

Logistics & Investment

- CSE
- CSGT
- Gains Investment
- China Steel Security
- CPDC

Green Energy

- SDMS
- CSC Solar
- China Steel Power
- KRTC

Consolidated Financial Performance

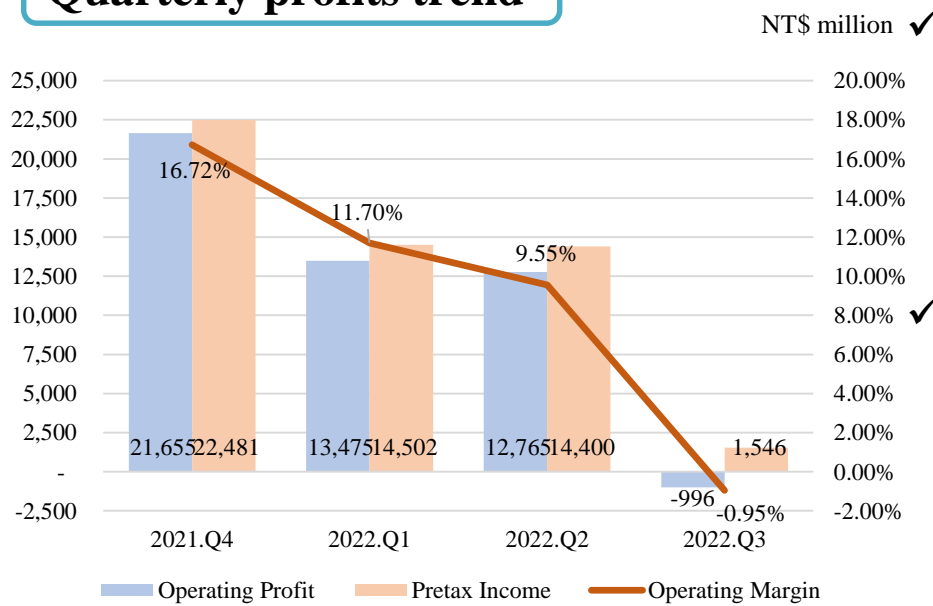
Latest operating results

Amount: NT\$ million

Item	*2022.10	2022.9	MoM	2022.1~10	2021.1~10	YoY
Operating Revenue	32,388	29,913	8%	386,578	382,047	1%
Operating Income	(1,861)	(3,670)	49%	23,382	65,964	-65%
Operating Income Margin	-5.75%	-12.27%		6.05%	17.27%	
Income Before Income Tax	(1,448)	(1,411)	-3%	29,000	70,583	-59%

*preliminary result

Quarterly profits trend

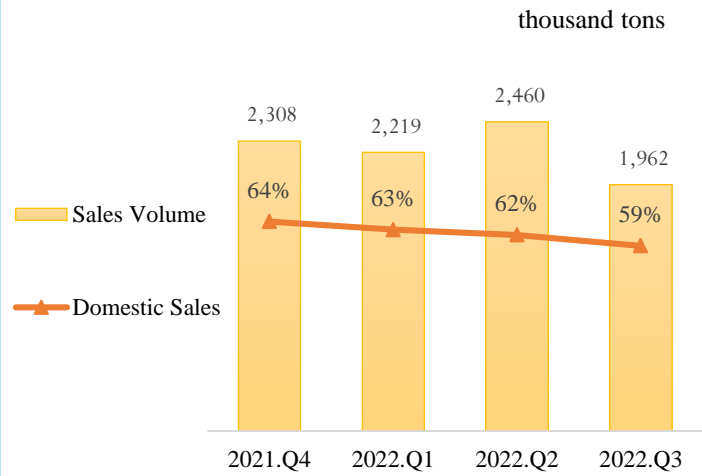


✓ In 2022, the manufacturing industry declined and dragged down the global steel price because of the zero-COVID policy in China, interest rate hike in the US, and rising energy costs in Europe.

✓ Steel demand and price decreased sharply in Q3, while the cost was still reflecting the coking coal and iron ore prices that peaked in Q2, which significantly squeezed the profit.

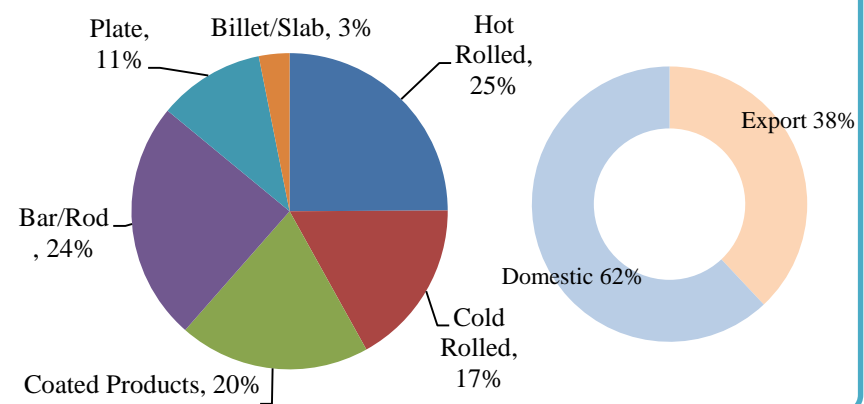
Standalone Production / Sales Performance

Sales analysis

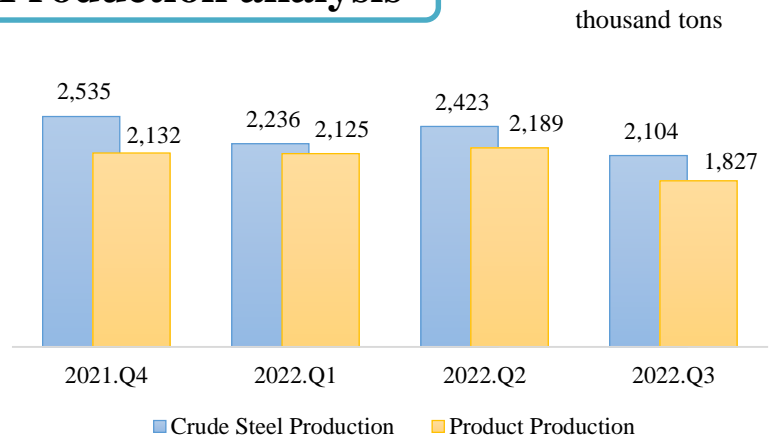


- ✓ The sales volume decreased during 2021H2~2022Q1 due to the rainy season, port congestion and the continuous supply chain bottleneck.
- ✓ The sales volume once increased with the improved market sentiment in 2022Q2. However, it reversed down again in 2022Q3 because of the rising interest rate in the US and the zero-COVID policy in China.

2022.1~3Q Sales value breakdown

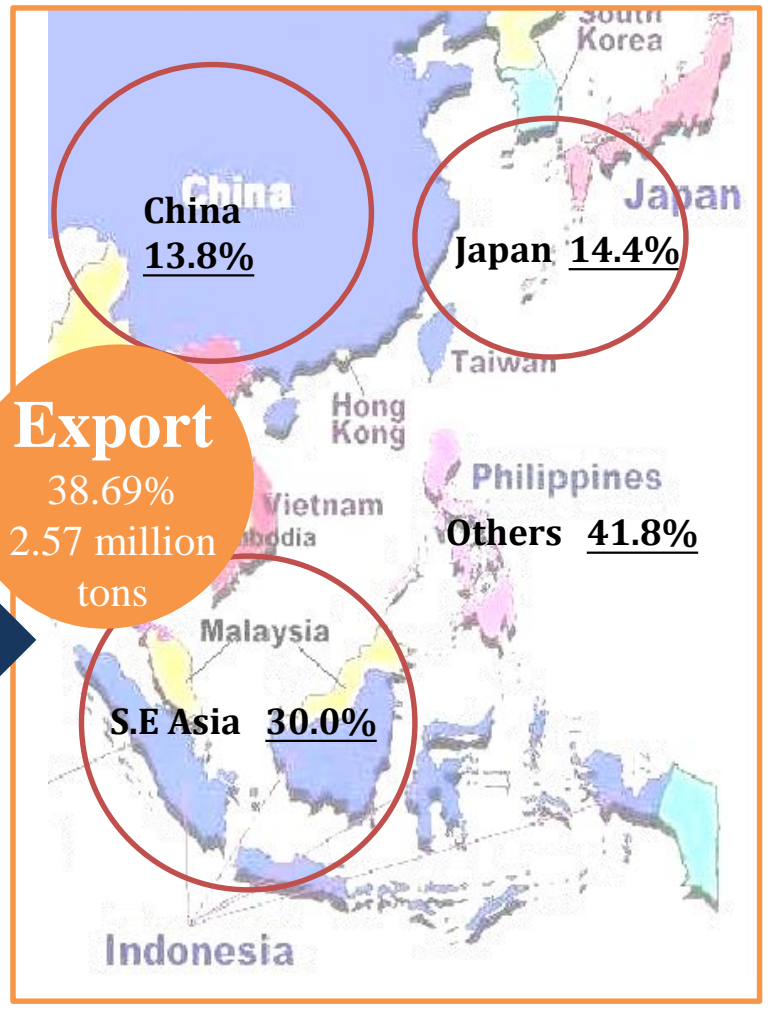
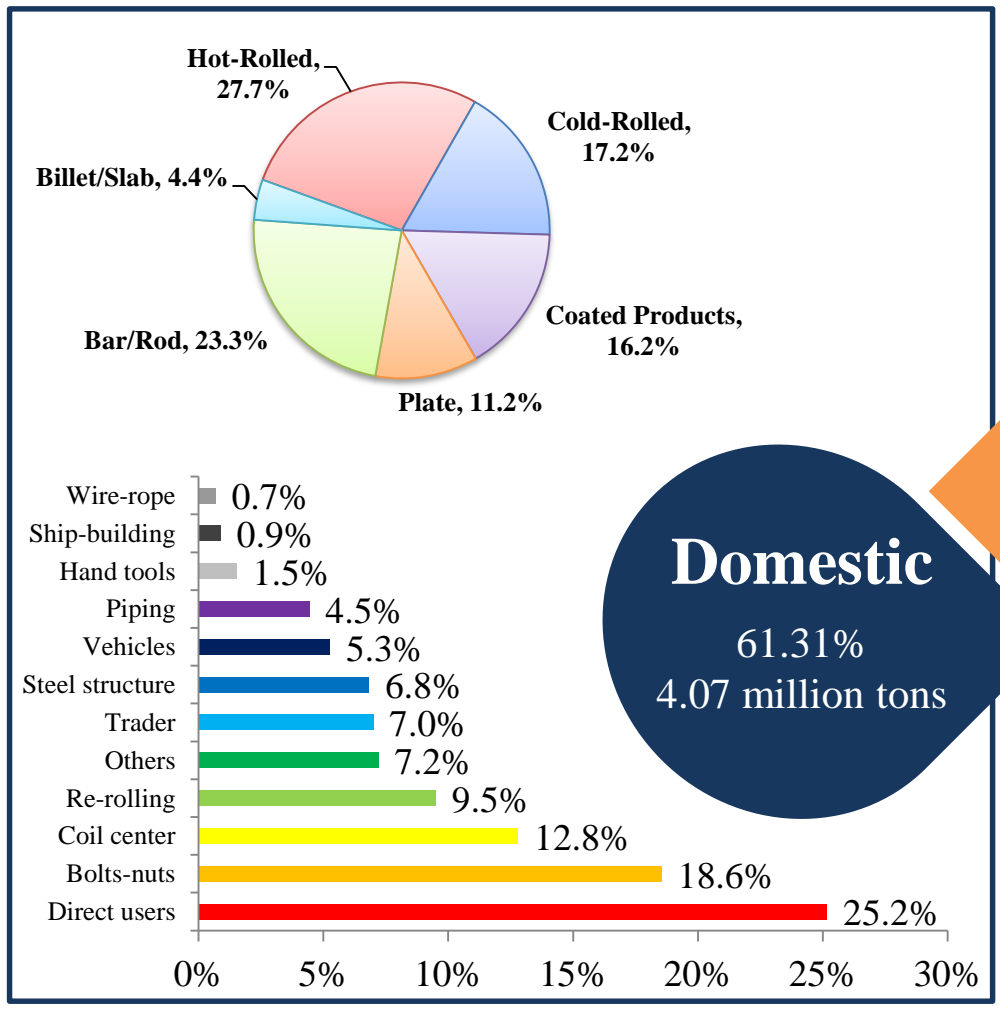


Production analysis



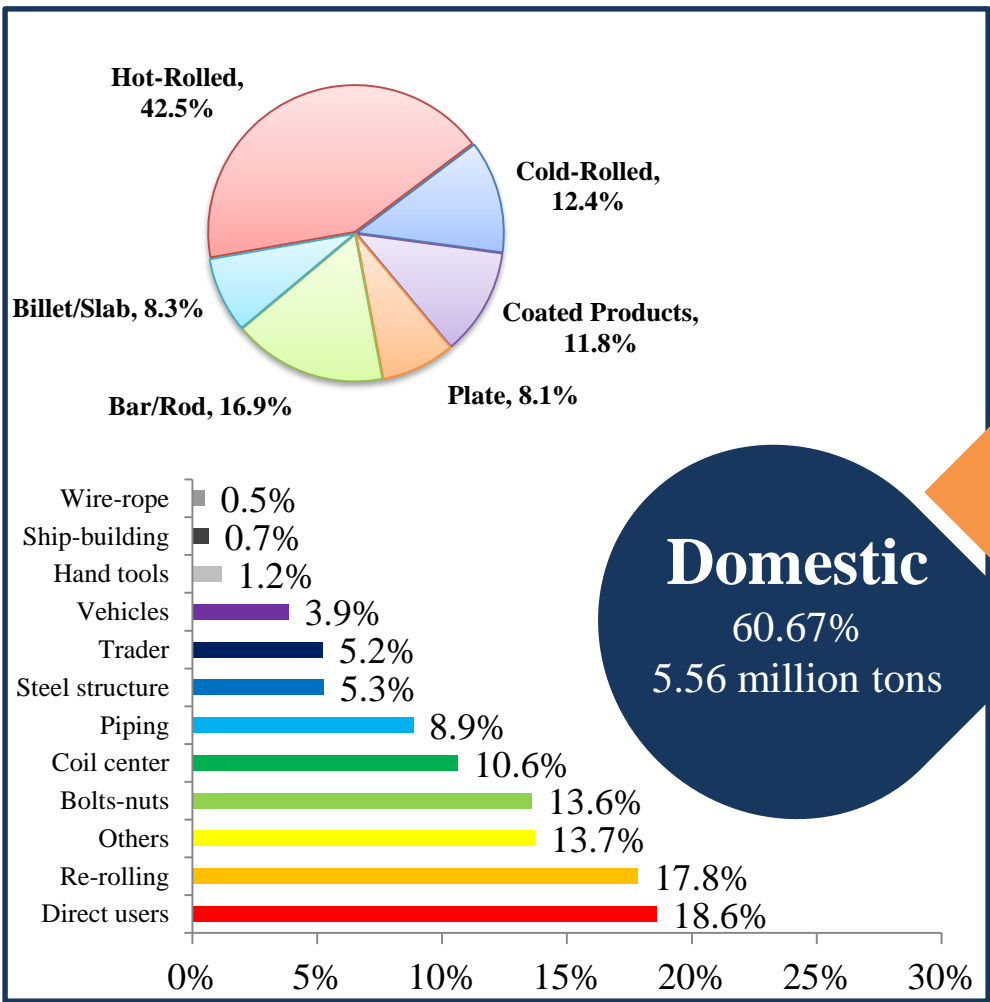
Sales Analysis - CSC Standalone

2022.1~3Q sales volume totaled 6.64 million tons - Sales Breakdown



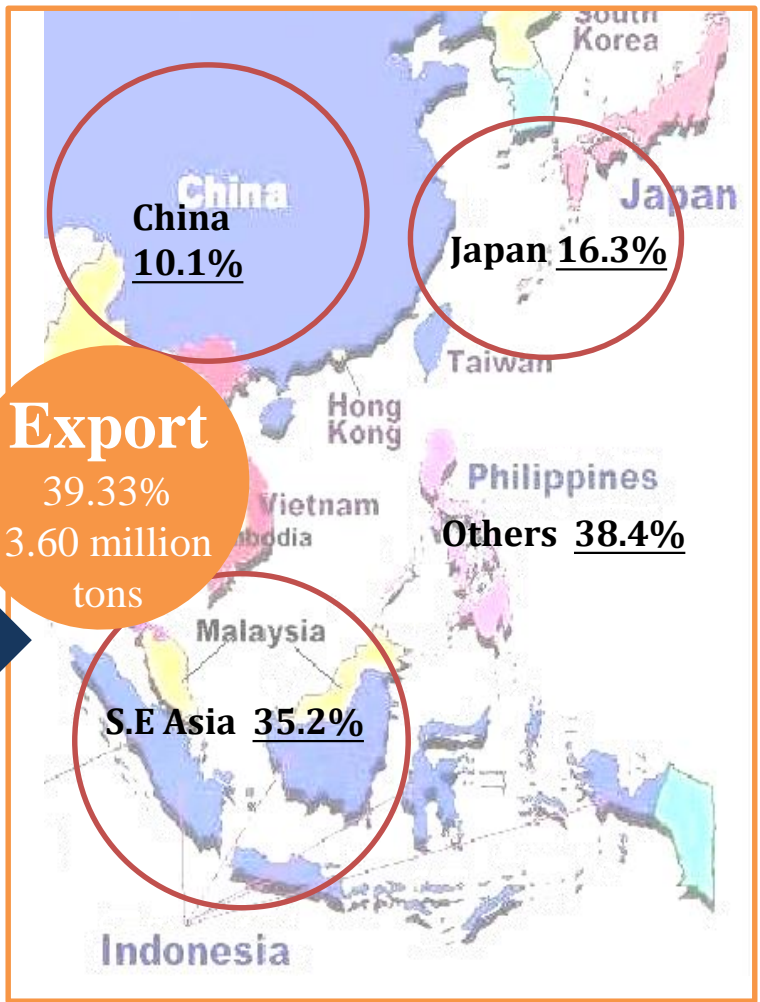
Sales Analysis - CSC & BF Products of DSC

2022.1~3Q sales volume totaled 9.16 million tons - Sales Breakdown



Domestic
60.67%
5.56 million tons

Export
39.33%
3.60 million tons



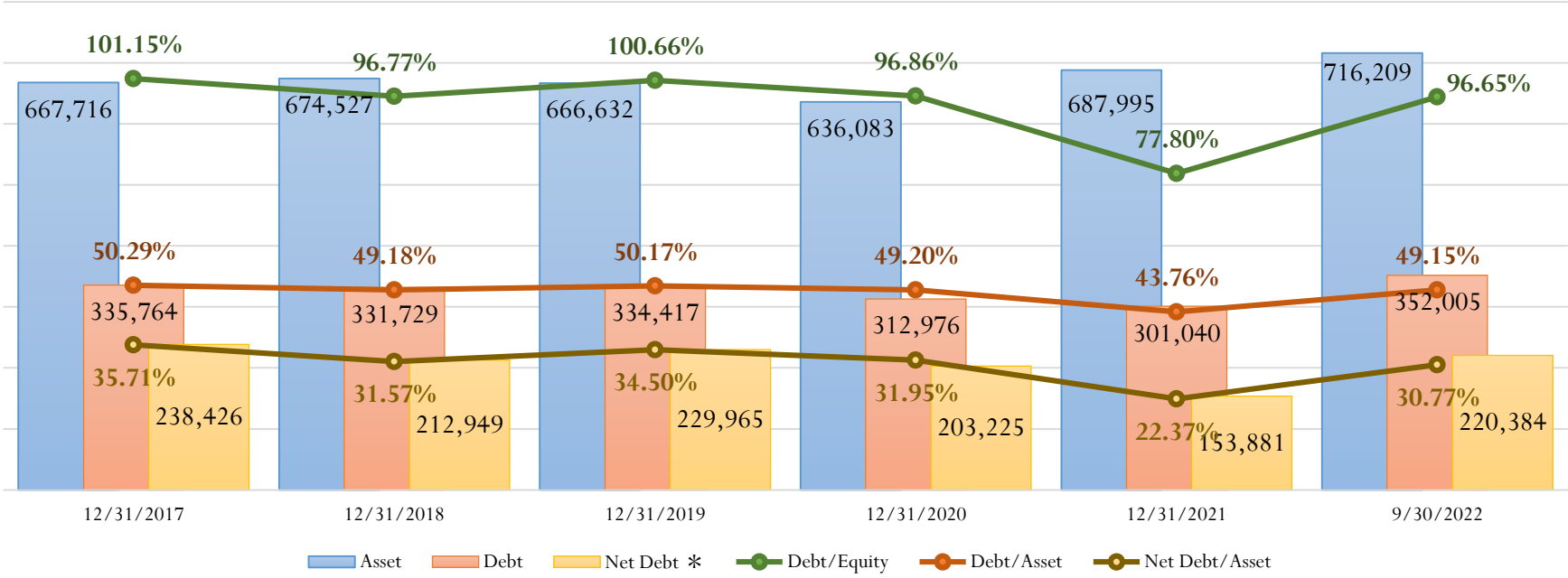
Consolidated Income Statement

Units: NT\$ millions

IFRSs	2022.1~3Q	2021.1~3Q	YoY
Revenues	354,190	338,848	+5%
Gross profit	35,269	69,246	-49%
Gross margins	9.96%	20.44%	
Profit (loss) before tax	30,448	61,933	-51%
<u>Net profit (loss)</u>	<u>23,989</u>	<u>50,125</u>	-52%
Attributable to			
Owners of the corporation	22,794	44,498	-49%
Non-controlling interests	1,195	5,627	-79%
Earnings Per Share (NTD)	\$ 1.48	\$ 2.88	-49%

Consolidated Financial Position

Units: NT\$ millions



- ✓ Keep reducing financial costs by issuing corporate bonds and paying back US dollar-denominated debt in recent years.
- ✓ Credit rating: Taiwan Ratings twAA- ; Outlook Positive (2022.04.28)
Fitch Ratings AA (tw); Outlook Stable (2022.12.07)

* 2014~2017 :
 Net debt = Interest Bearing Debt – cash & cash equivalents – (*financial assets at fair value through profit or loss-current+ available-for-sale financial assets-current +held-to-maturity financial assets-current+ derivative financial assets for hedging-current*)

* 2018~ :
 Net debt = Interest Bearing Debt – cash & cash equivalents – (*financial assets at fair value through profit or loss-current+ financial assets at fair value through other comprehensive income-current*)

Historical EPS and Dividends Paid

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Dividend payout(%)	132	86	70	102	82	81	63	88	600	77
Cash Dividend payout(%)	105	67	70	102	82	81	63	88	600	77

