



CHINA STEEL CHEMICAL CORPORATION

Investor Conference
November 2025



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Company Profile

01



中鋼碳素
CHINA STEEL CHEMICAL

CHINA STEEL CHEMICAL CORPORATION

Stock
Symbol

1723

Year of
Establishment

1989

Capital

2.369 Billion

The only coal
chemical plant in
Taiwan.

The first professional
graphitization plant
in Taiwan.

Number of Employees : 336

PhD-10 、 Master-97 ; Male-87% 、 Female-13%

Manufacture Base

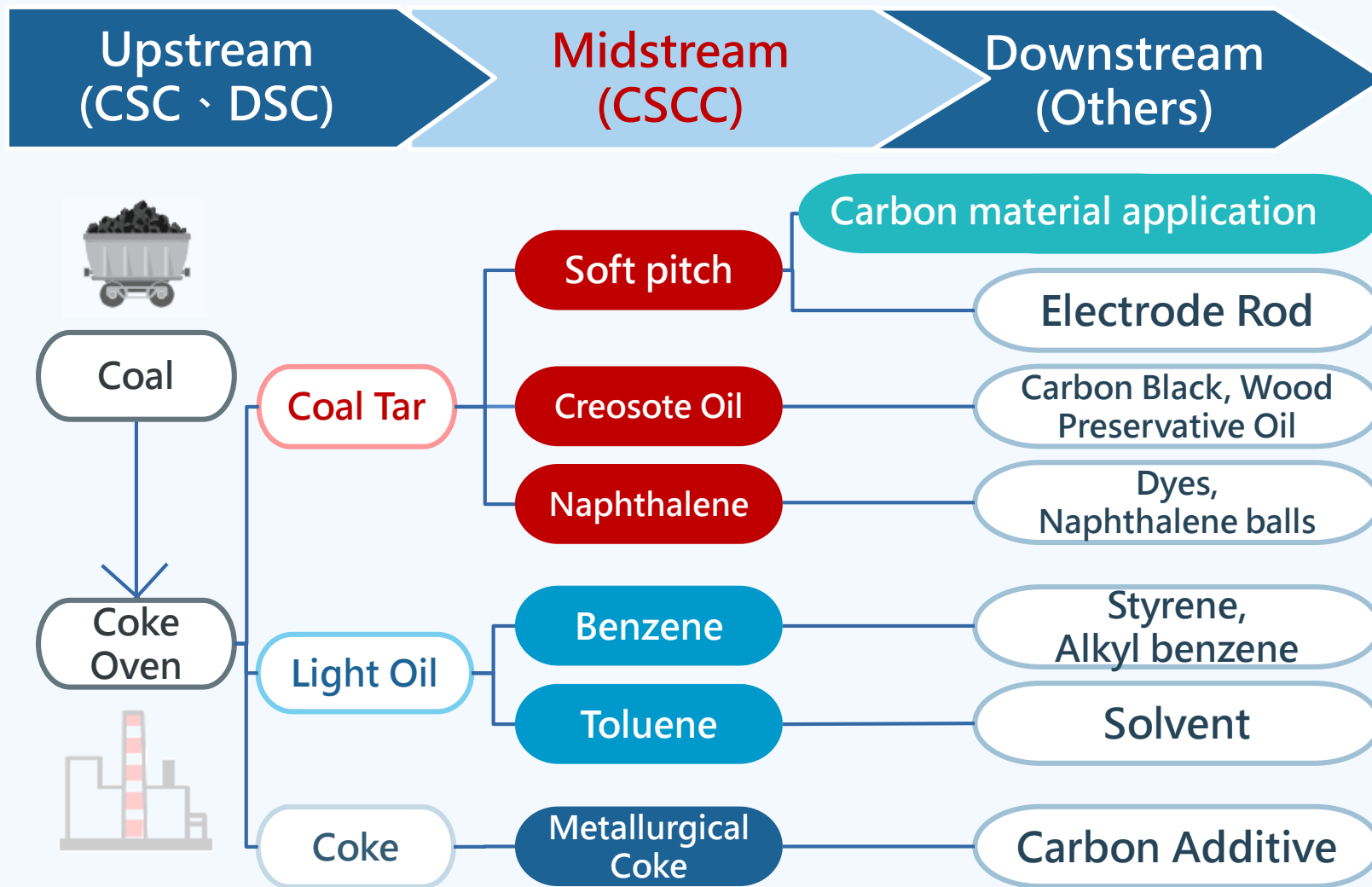
Coal Chemical Plant : Kaohsiung Linhai Industrial Park

Carbon Material Plant : Pingnan Industrial Park



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The Relating Product Map of Coal Chemical Industries



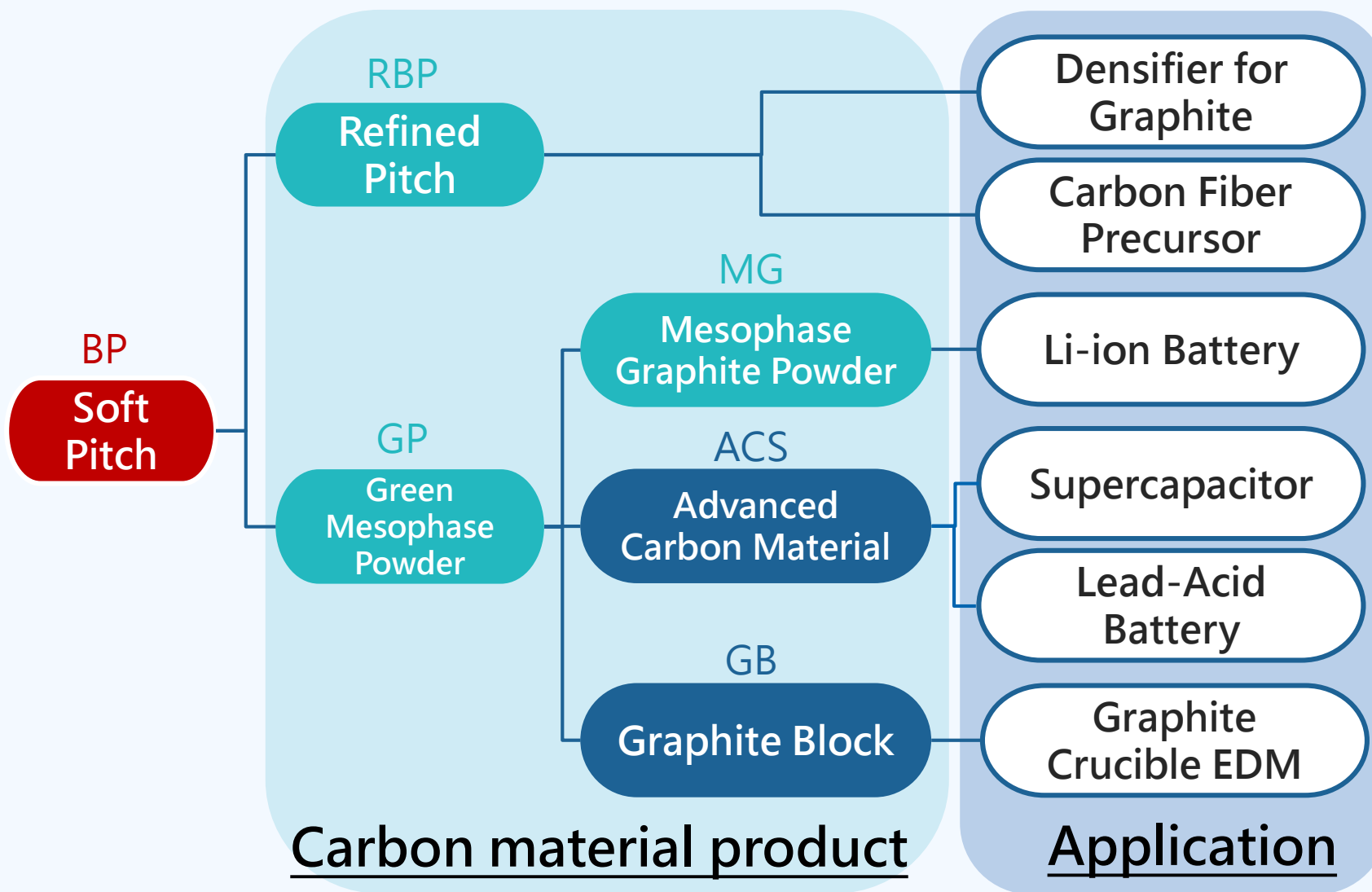
Coal Chemical Products Sales

Product	Domestic	Export	Product Overview
Soft Pitch	1%	99%	Used for baking aluminum anode materials, mainly exported to long-term customers in Australia.
Creosote Oil	46%	54%	Used for making carbon black, a raw material for tires. Export market mainly in Japan.
Naphthalene	13%	87%	Used for making naphthalene balls and dyeing pigments. Naphthalene balls exported to Southeast Asia, and dyeing pigments exported to India.
Benzene	100%		A basic raw material for the petrochemical industry with wide applications. Insufficient domestic supply must rely on imports, and now for all are domestic sales .
Toluene	1%	99%	Used as a solvent, mainly exported to Singapore.
Metallurgical Coke	100%		After partial processing, supplied to domestic customers for making carbon- additive.

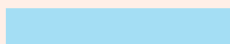
Note: The ratio of domestic and export is the ratio of revenue in 2024.



Applications of Carbon Material Product



Carbon material product

Product	■ Domestic ■ Export	Product Overview
Mesophase Graphite Powder	38%  62%	Sold to battery cell factories for making Li-ion Battery, with exports primarily to China, Japan, and Southeast Asia.
Green Mesophase Powder	45%  55%	Mainly sold to anode material factories for producing anode materials, with exports primarily to China. And also used for other applications in non-anode materials.
Refined Pitch	 100%	Sold for use in steelmaking electrode rods for dipping processing, with exports primarily to Southeast Asia, Japan and India.
Advanced Carbon Material		Mainly sales materials for supercapacitors, advanced lead-acid batteries, and lithium-ion capacitors, with markets including China, Japan, South Korea, and Taiwan.
Graphite Block		Mainly used for graphite components in silicon carbide semiconductors, metal casting, and hot-press glass molds, with a primary focus on domestic sales.

Note: The ratio of domestic and export is the ratio of revenue in 2024.



Product Coverage of a Variety of Industries

Creosote Oil



Car industry tire
- Carbon Black

Benzene



Petrochemical industry
- Basic raw material

Soft pitch



Aluminum smelting industry
- Electrode Rod



Carbon-Material



Green energy industry-
Energy storage /electric batteries

Operating Performance

02



Recent Market Dynamics

■ Uncertainty in Global Trade Policy

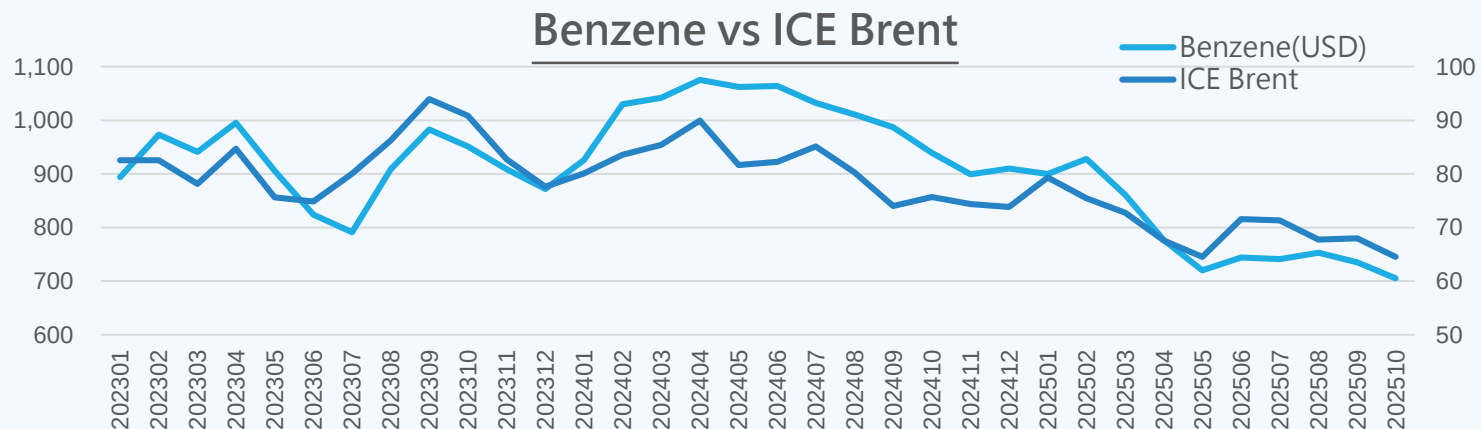
China imposed export controls on Rare Earth Elements and Graphite, which were subsequently delayed by one year following the Trump-Xi summit.

The U.S. Department of Commerce made a preliminary determination to impose a 93.5% anti-dumping duty on graphite products from China.

Tariff policies are slowing down global economic growth.

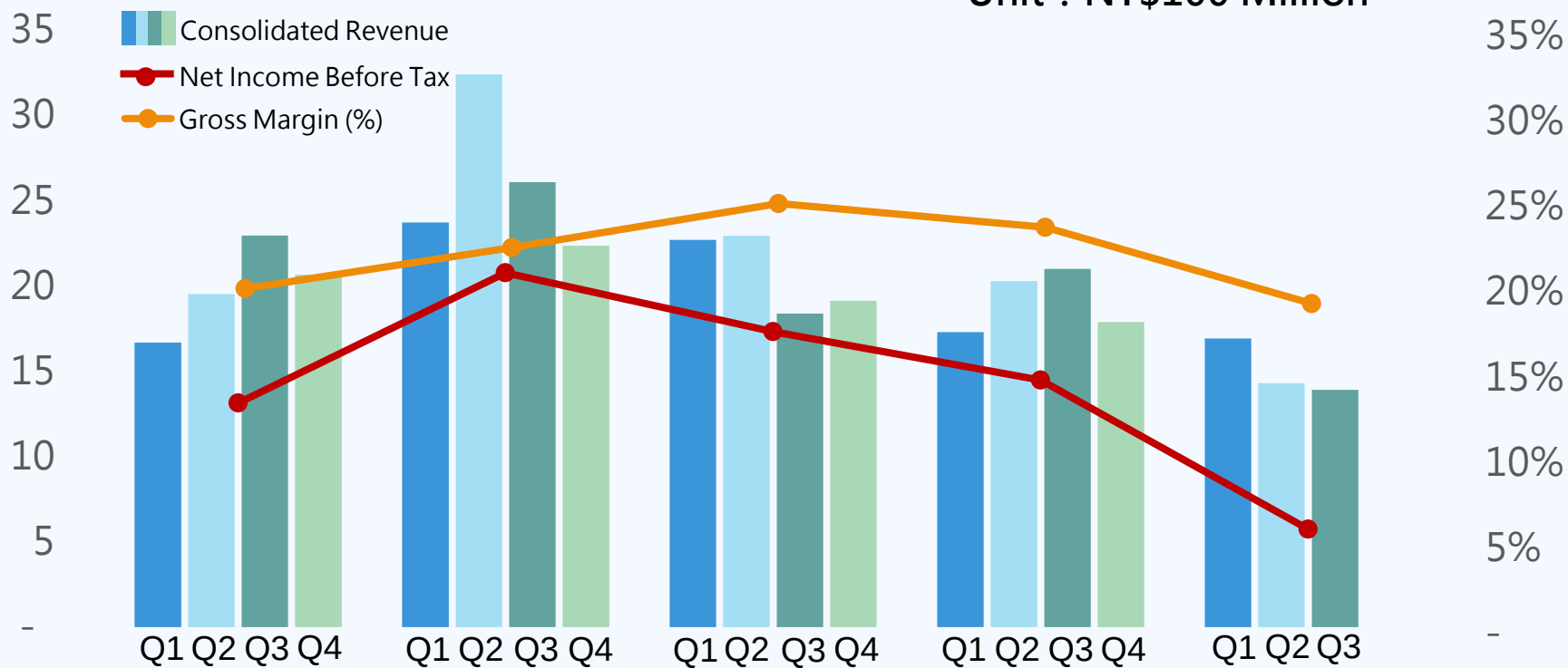
■ Benzene and Oil Prices

Benzene prices are gradually declining due to decreased demand from the downstream Styrene Monomer market, while oil prices are also easing due to increased production from OPEC.



Consolidated Revenue and Net Income Before Tax in the Past Four Years

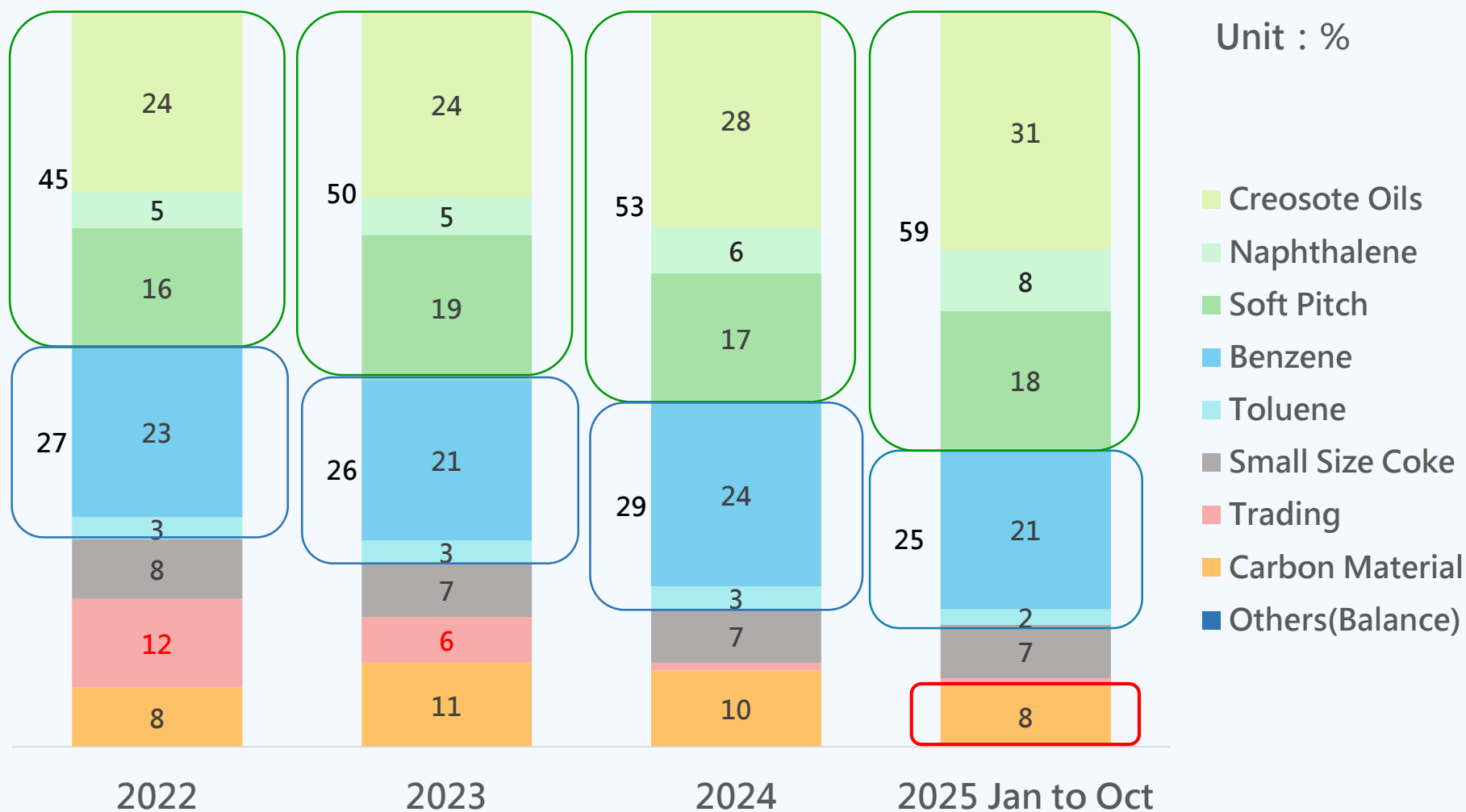
Unit : NT\$100 Million



	2021	2022	2023	2024	2025Q3
Consolidated Revenue	79.82	104.60	83.18	76.47	45.14
Net Income Before Tax	13.13	20.78	17.33	14.48	5.73
Gross Margin(%)	20.22	22.62	25.20	23.81	19.33



Revenue breakdown by Products in the past three years



Recent Operating Performance

Carbon Materials

Due to **severe overcapacity in China and external economic uncertainties**, customer willingness to take delivery has been affected, leading clients to reduce or postpone mass production. Furthermore, a major domestic customer's fire incident in July has impacted product delivery schedule.

Tariff

Coal Chemical Products:

Sales are primarily centered in Asia, resulting in a minor impact. Asian benzene exports to the U.S. have decreased due to tariffs, leading to an easing/relaxed supply environment.

Carbon Materials Products:

Direct exports to the U.S. account for a small proportion. We have signed Letters of Intent with North American partners, aiming to penetrate the non-China supply chain, and have begun small-volume shipments.

International Market Conditions

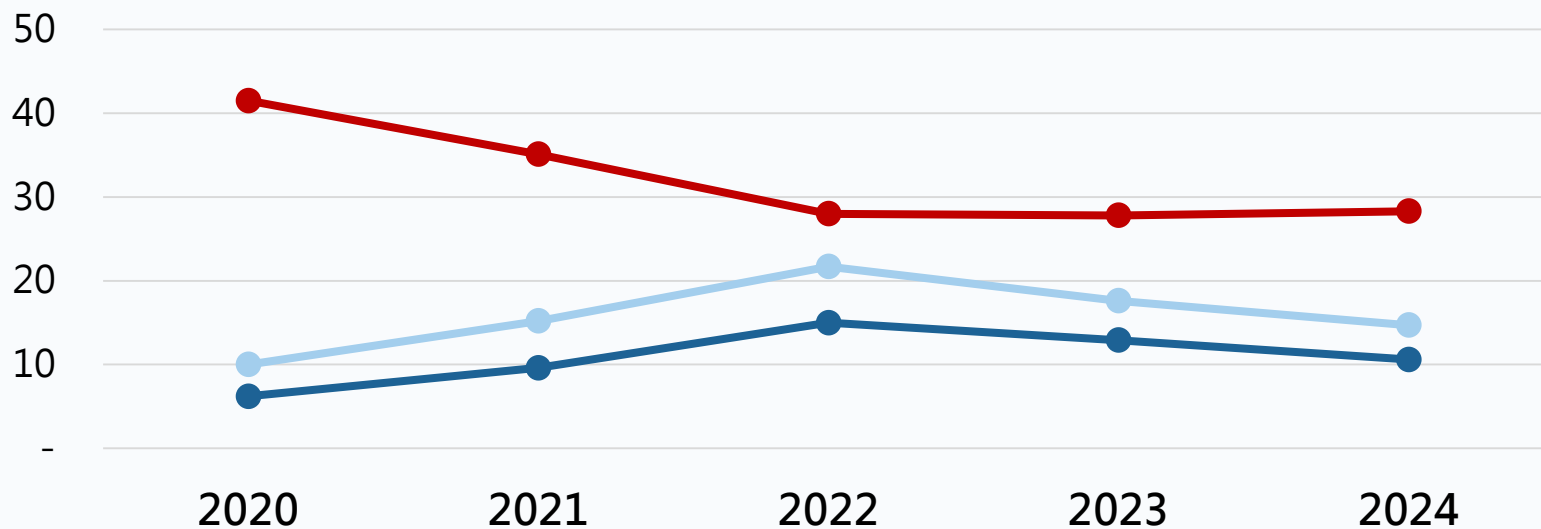
The prices of some of the company's main products are directly linked to crude oil prices. Crude oil prices have fallen by approximately **15%** this year compared to last year, and international benzene prices have dropped by **24%**. Separately, soft pitch (which is not correlated with oil prices) has declined by **19%**, impacting revenue and profitability.



Major Financial Indicator

Unit : %

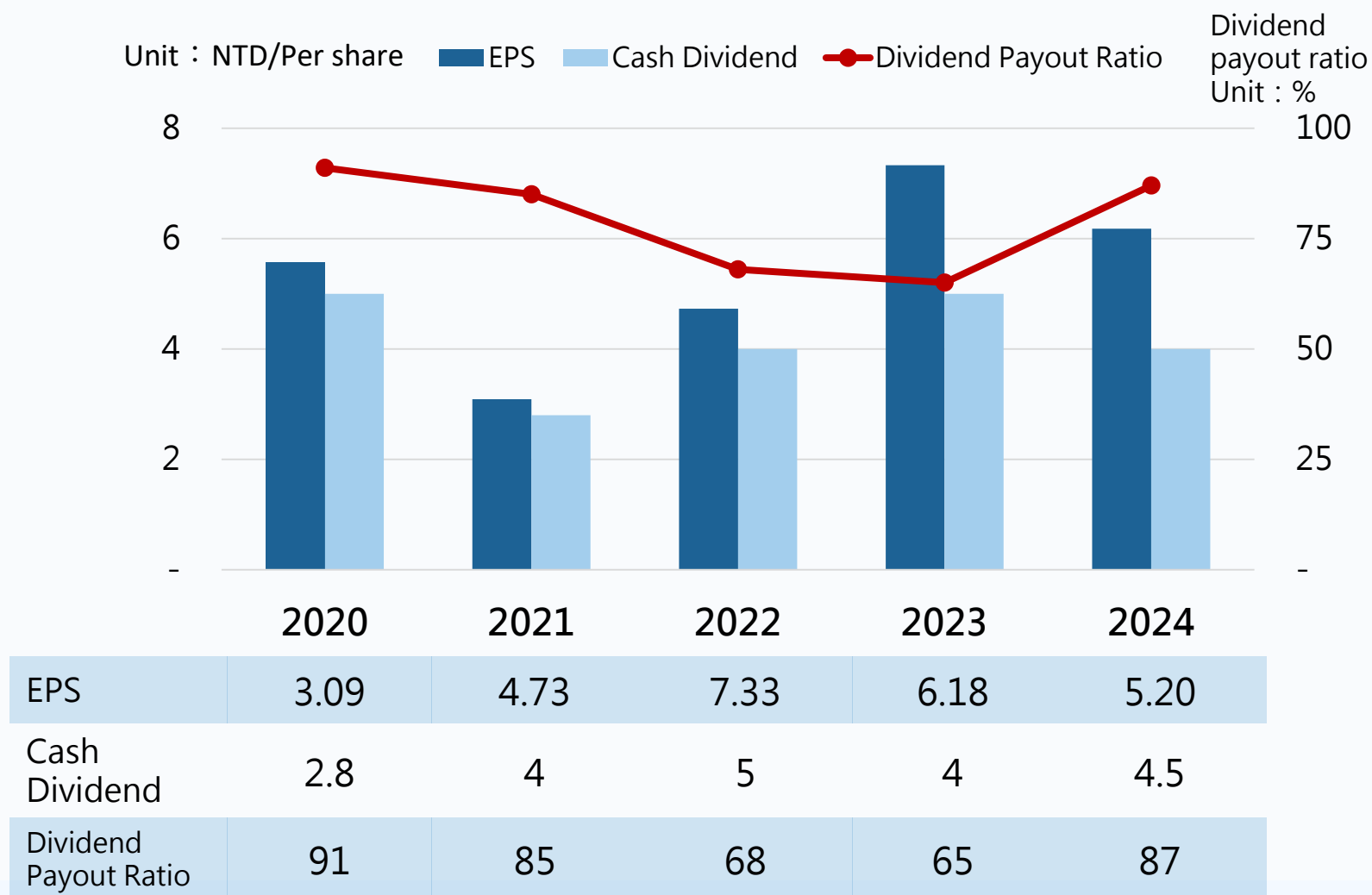
● Debt ratio ● ROA ● ROE



	2020	2021	2022	2023	2024
Debt ratio	41.5	35.1	28.0	27.8	28.30
ROA	6.2	9.6	15.0	12.9	10.60
ROE	10.0	15.2	21.7	17.6	14.70



Dividend Policy

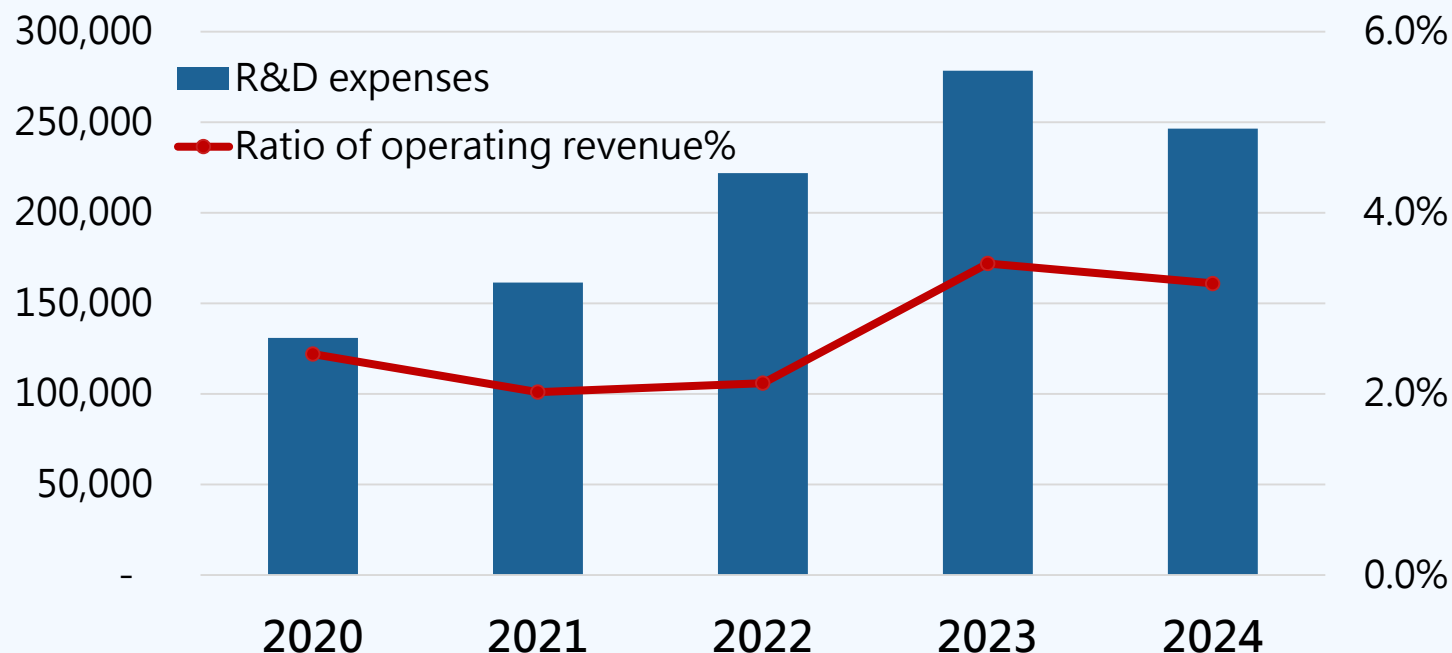


- ✓ CSCC has been profitable for 30 consecutive years. The total amount of distributed dividends (including stock dividends) is above NT\$130.



R&D expenses and Industrial innovation

Unit : NTD Thousand



Industrial innovation subsidy projects in recent years		Execution situation
I-The development of high-purity carbon powder and isotropic graphite for use in compound semiconductors.		Completed
II-The development of anode materials for electric bus batteries.		Completed
III-The development of high-purity graphite crucible for SiC crystal growth used in compound semiconductors.		Executing
IV-Anode Material Development and Verification Program for Ultra-High Power Batteries.		Executing



Sustainable Development

03



Corporate Governance



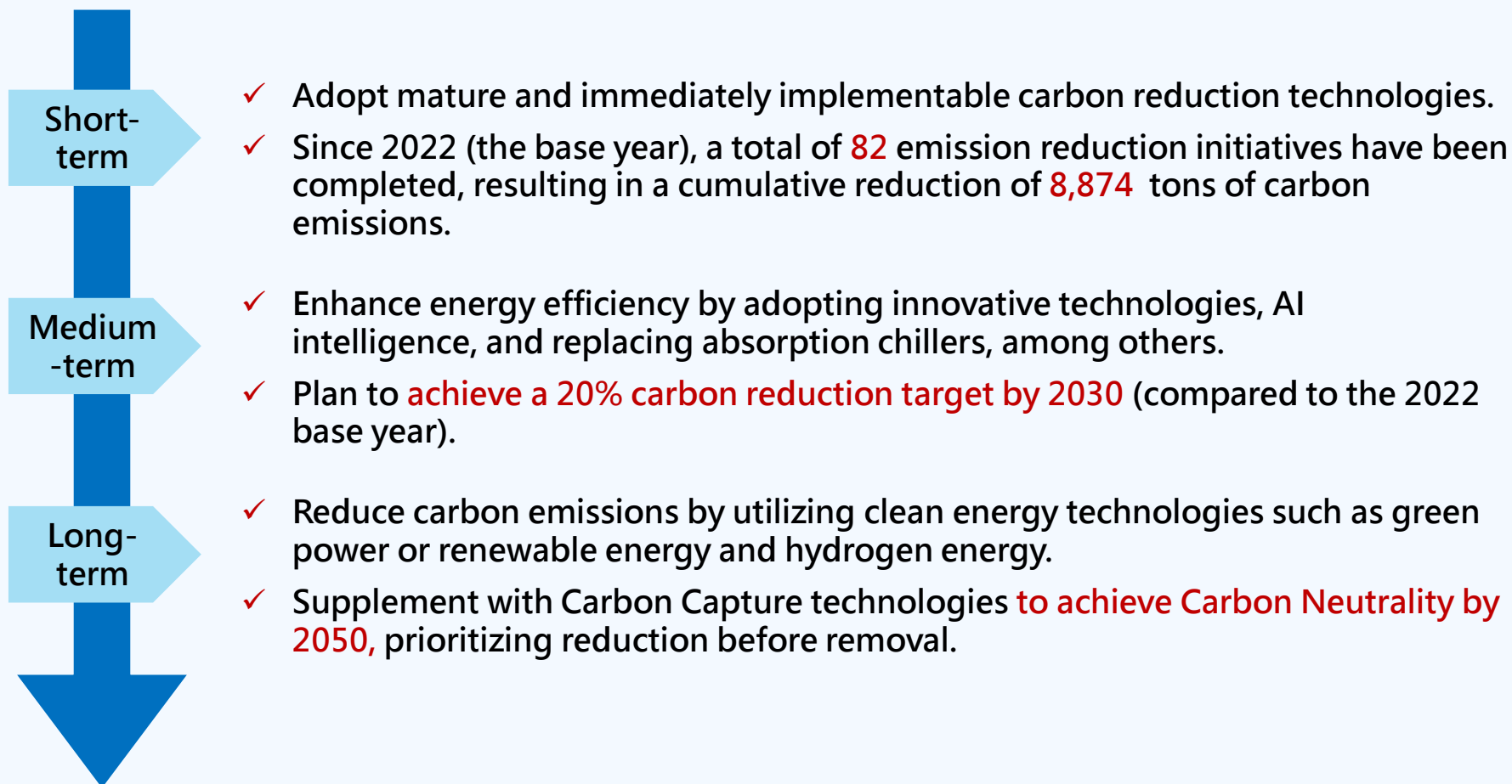
Establish a **Corporate Governance and Sustainability Committee** to promote corporate social responsibility policies and sustainable operation matters.



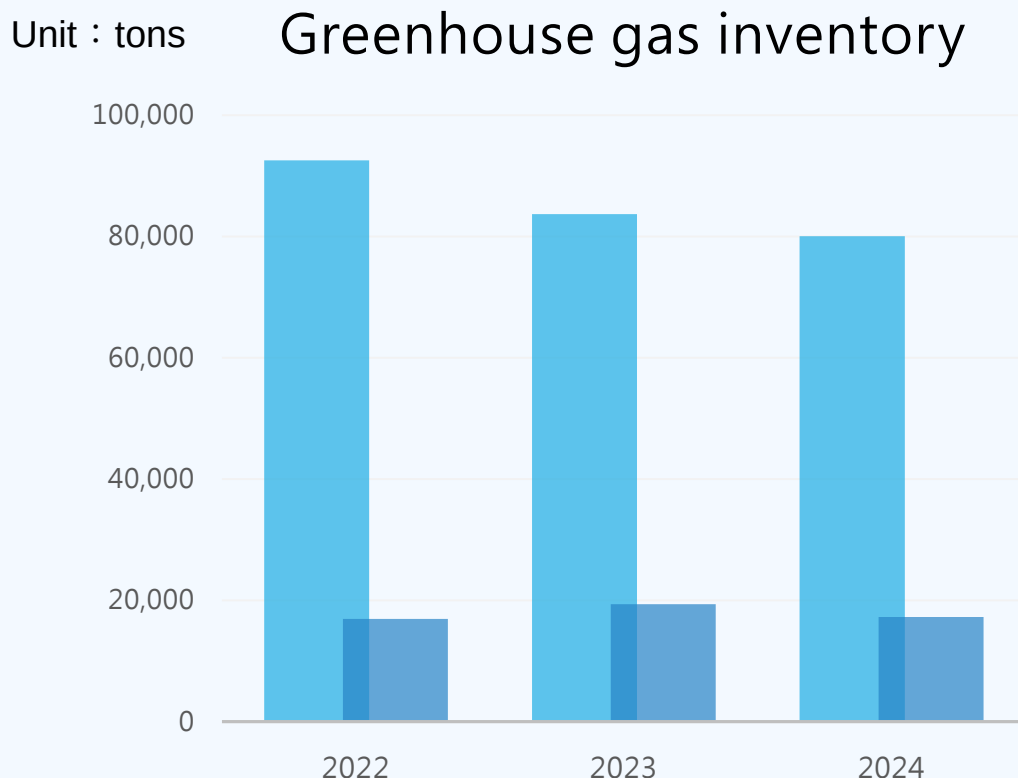
CSCC was in the second grade(6%~20%) according to the lasted corporate governance evaluation results(2024), and for five consecutive years.

Carbon neutrality by 2050

Following the group's policy, the company has pledged to achieve carbon neutrality by 2050. We have established short, medium, and long term strategies and targets, outlining various carbon reduction strategies and a pathway to carbon neutrality.



Greenhouse gas inventories conducted over the past three years.



Plant of Xiaogang

- The inventoried emissions at Xiaogang Plant have steadily decreased through measures such as **process optimization, waste heat recovery, and enhanced energy utilization efficiency**.
- Applied for a voluntary reduction plan, and the **estimated carbon fee for 2025 is approximately NT\$1.36 million**.

Plant of Pingnan

- Pingnan Plant is still undergoing expansion, leading to continued capacity increase and consequently, higher carbon emissions.
- We are continuing to plan for the **electrification of energy and the greening of electricity, alongside constructing renewable energy facilities and increasing green power usage**, thereby reducing carbon emissions year by year.

ESG Implementation and Award Achievements

2019-2023

- Gold Award from TCSA

2021-2024



Awarded TIPS level
a patent and
certification

2023



Awarded Certification
of information
security ISO 27001

2022

- National Enterprise Environmental Protection Award-Bronze medal
- Top 100 Carbon materials competitiveness on Business Weekly

2023

- Awarded for Environmental Protection Sustainability Contribution Award
- Awarded for Excellent Trading Business
- Ministry of Health and Welfare "Healthy Workplace Certification - Promotion Label"

2024

- Award for The 9th National Environmental Education Award of the Excellence Award
- Award for Affairs 113 Industrial Park Greening and Beautification-Second Place
- Pingtung Excellence Enterprise Award - Investment Model Award
- Sports Administration, Ministry of Education - Sports Enterprise Certification
- Taiwan Electrical and Electronic Manufacturers' Association - Digital Transformation Model Award
- Top 100 Carbon materials competitiveness on Business Weekly



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Development Strategy

04



Mesophase Graphite Powder Planning

Feature	Development	Opportunities
✓ High first columbic efficiency ✓ High energy –density ✓ High discharge capability ✓ Long cycle life	✓ Ultra high drainage rate ✓ High capacity silicon carbon material ✓ High capacity fast charging ✓ Artificial graphite compound	✓ Semi-solid state battery ✓ High-end 3C quick charging demand ✓ Advanced applications such as electric Racing Cars / heavy machinery , vertical take-off and Landing Aircraft, and BBU

Energy Density(Wh/Kg): Low

High

Power Density(W/Kg): Strong

Low

UF1
UF2

Racing car/HEV



MG11
MG10

PT/Drone



MG12
TAG11

EV/ESS



MG13
BS481

Tablets/3C

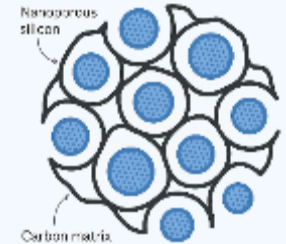


Application of Silicon-Carbon Anodes in High-End Smartphones

- Adding silicon-based materials to graphite anodes can significantly increase the capacity of lithium-ion batteries.
- However, the high expansion of silicon severely affects battery life, thus the current silicon addition ratio is only about 5% to 10%.
- The current mainstream silicon-based anode material is **porous silicon-carbon**.

The Silicon Anode Market has a CAGR of approximately 7.1% until 2034.

Porous Carbon
+ Nano-Silicon



Low Expansion
Long Cycle Life
High Rate Capability

- **CSCC' s UF series anode materials**

The manufactured battery electrodes has been incorporated into the High-End smartphone supply chain.



Ultra Thin

High Capacity

Fast Charging

→ Achieving an ultra-thin **0.18 mm**.

→ The silicon-carbon material addition ratio can reach a new high of **25%**.

→ The energy density is **over 28%** higher than that of general competing products.

- **CSCC' s Advanced Carbon Material**

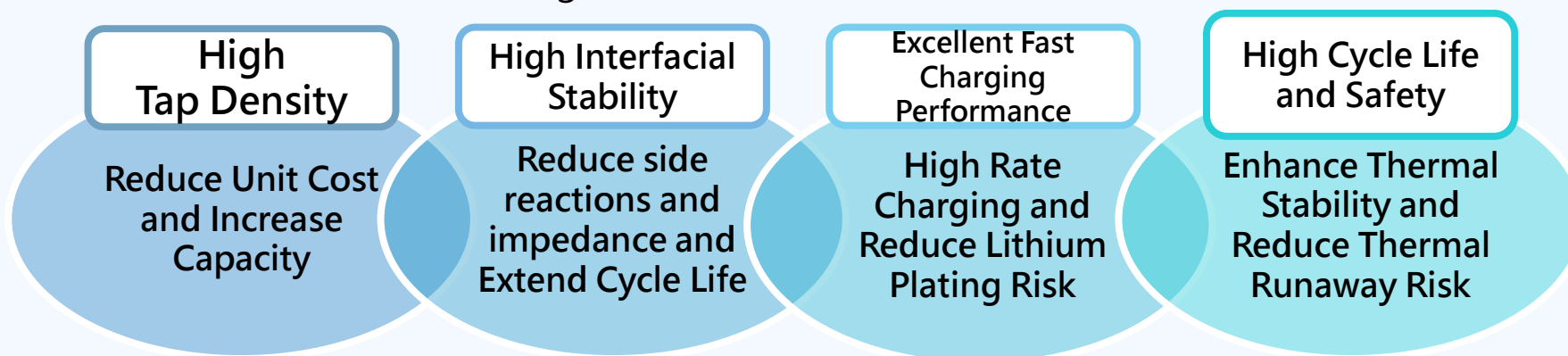
It has excellent material properties for preparing silicon-carbon.

✓ In active development.

Multi-pore/layered structure
High specific surface area
High electrical conductivity

24M Semi-Solid-State Battery Applications

- All-solid-state batteries currently still face challenges regarding mass production and cost.
- Semi-solid-state batteries are currently undergoing pilot-line mass production in Japan. Furthermore, the mass production line for another major client has been completed and is slated to begin mass production next year, with the primary applications being energy storage and automotive use.
- **Mesophase Graphite Powder** · When applied to 24M semi-solid-state batteries, the material exhibits the following characteristics:



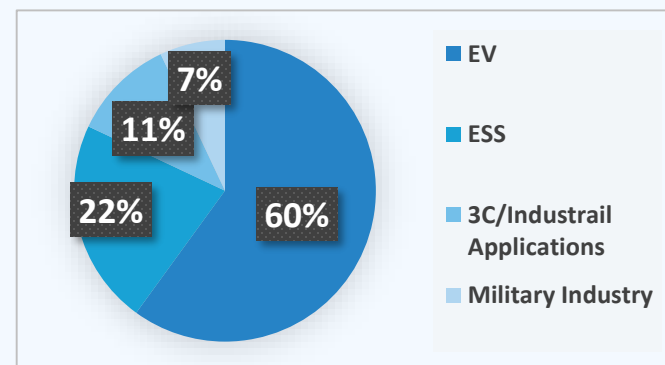
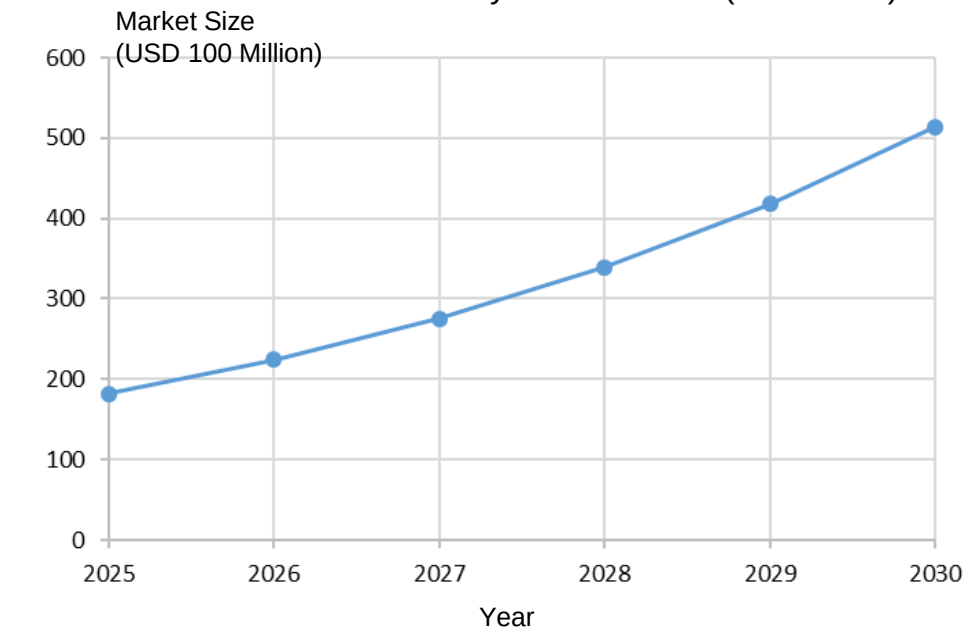
- CSCC Mesophase Graphite Powder **are the only anode material that has passed the verification** for 24M semi-solid-state battery. With the ramp-up of the customer' s production line, demand is expected to surge.



Anode Material Opportunity: U.S. Plans to Impose a 93.5% Anti-Dumping Duty on Chinese Graphite Products.

- The U.S. Department of Commerce made a preliminary determination that Chinese graphite products are being dumped, leading to the imposition of a 93.5% anti-dumping duty. When combined with other existing tariffs, the effective duty rate will reach 160%.
- In 2024, the United States imported nearly 180,000 metric tons of graphite products, with approximately two-thirds of that volume originating from China.

North American Lithium-ion Battery Market Growth(2025-2030)



**CSCC
North American
Project**

- Establish a factory in North America
- Co-develop synthetic graphite products
- De-Sinicization of the Military Industry Supply Chain



Anode Material Opportunity and Risk: China Announces Export Controls on Graphite Products

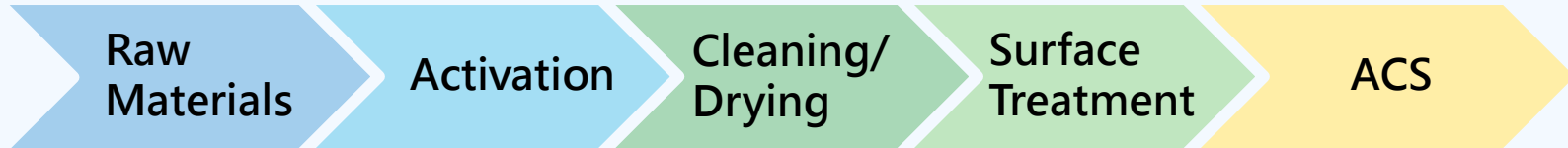
- China's Ministry of Commerce originally announced the implementation of export controls on items related to lithium batteries and artificial graphite anode materials, effective November 8, 2025.
 - Lithium batteries with an energy density greater than 300Wh/kg, and related processing equipment.
 - Cathode materials (including Lithium Iron Phosphate and Ternary/NMC), and related processing equipment.
 - Artificial graphite anode materials, and related processing equipment.
 - Following the Trump-Xi summit on October 30, 2025, it was announced that the aforementioned control measures **would be suspended for one year**.

Response Measures

- ✓ Inventorying our company's procurement from China for related items potentially subject to export controls.
- ✓ Understand the extent of the impact on our clients.
- ✓ Non-China supply chain has become a trend, and new clients are proactively initiating inquiries.



Advanced Carbon Materials (ACS) Product Development



Features of ACS

- ✓ High Surface Area
- ✓ High Capacitance
- ✓ Good chemical properties and thermal stability
- ✓ Low functional group

- ACS annual production capacity is 90MT/year.

Applications of ACS

Supercapacitor Applications

High-Power Discharge Applications

3.0V High-Voltage Supercapacitor



⇒ Rail Vehicles, Wind Power, Smart Grid

Steady Supply

Advanced Lead-Acid Battery

Enhanced Conductivity and Extended Lifespan

High-Rate Discharge



⇒ Automotive Start-Stop Battery, UPS Uninterruptible Power Supply System

Lithium-Ion Capacitor

High-Power Discharge Applications

Long Cycle Life Characteristics



⇒ Data Center Power Backup System

Client Validation

Capacitive Deionization

High Surface Area Adsorption

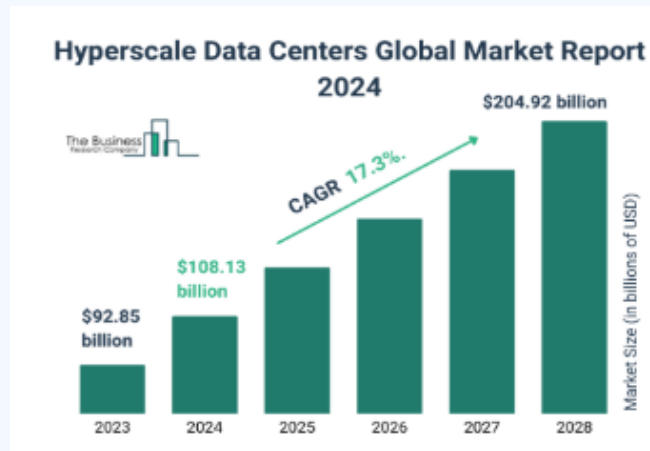
High Conductivity



⇒ Industrial Ultrapure Water · Water Purifier

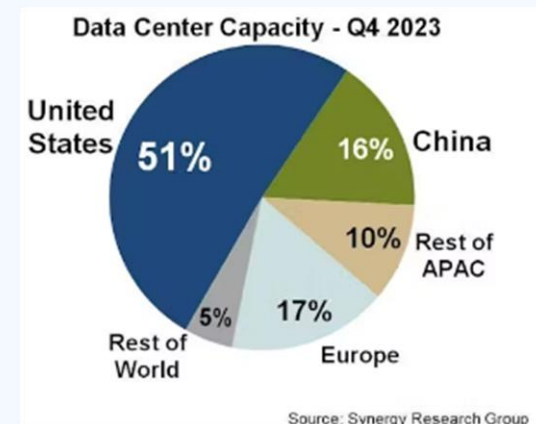
AI Servers Market

- The development of Generative AI applications has fueled the demand for AI servers and large-scale data centers.
- The global market size for AI servers and large-scale data centers is projected to grow from **\$108.13 billion in 2024 to \$204.92 billion by 2028, achieving a CAGR of 17.3%.**
- AI servers are exposed to intermittent power surges, requiring **advanced power backup systems (BBU)** to ensure stable operation. Demand for such high-end solutions is expected to grow significantly in the future.



Global AI Server and Data Center Market Size (2023-2028)

Source : businessresearch



Opportunities for Advanced Carbon Materials Development - Battery Backup Unit for AI Servers (BBU)

Progress of CSCC Products Applied in AI Server Backup Power Systems (BBU)

1. **LIB (Li-ion battery)** : Taiwanese clients have implemented our product for application.
2. **EDLC (Supercapacitor)** :
 - ◆ Korean customer is steadily taking deliveries. The new product is expected to complete validation before the end of the year, and shipments are projected to increase next year.
 - ◆ Japanese customer is currently validating the product, and the feedback has been positive. We expect the new product to be adopted in 2027.
3. **LIC (Lithium-Ion Capacitor)** :
 - ◆ Japanese customer is currently undergoing validation (including both cathode and anode). Their new production line is expected to start operation in mid-2026.

Advantages of CSCC Advanced Carbon Materials :

1. **High Capacity**
2. **De-Sinicization** creates opportunities to expand market share.
3. Actively developing **porous carbon anode materials**.

→ CSCC Board of Directors approved the **500-ton advanced carbon materials factory expansion project** in February 2025.

- ✓ Phase 1 is scheduled for completion in early 2027.
- ✓ Phase 2 is scheduled for completion by the end of 2030.





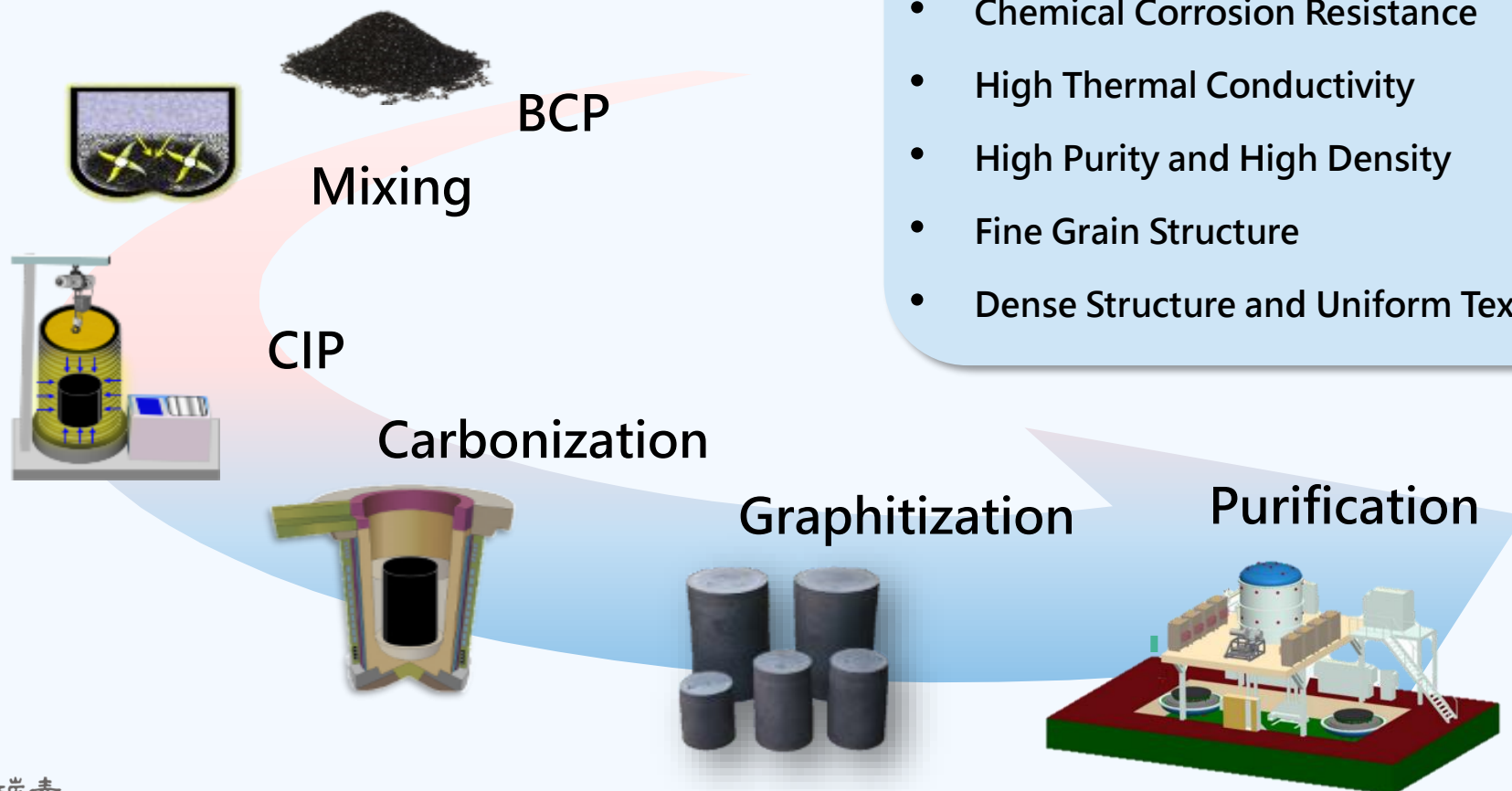
Graphite Block Development

High
Purity

High
Density

High
Strength

- High Temperature Resistance
- Chemical Corrosion Resistance
- High Thermal Conductivity
- High Purity and High Density
- Fine Grain Structure
- Dense Structure and Uniform Texture



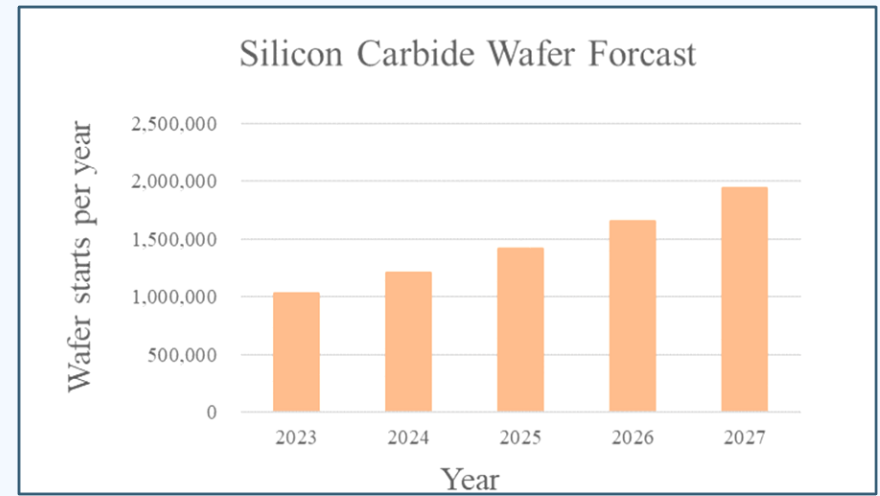
SiC Semiconductor Market

- The application market for SiC compound semiconductors is experiencing rapid growth, driven by **global green energy initiatives, Electric Vehicles (EVs), and the future adoption of High-Voltage Direct Current (HVDC) for AI servers**, leading to swift expansion in the SiC component market.
- The global SiC power device market size reached \$2.287 billion in 2023. This market size is projected to grow to **\$5.34 billion** by 2026, achieving a **CAGR of 35%**.
- The SiC wafer market is estimated to reach a **production capacity of 1.938 million wafers** by 2027.



Global SiC Power Device Market Value Forecast(2023-2026)

Source : TrendForce,2023/03

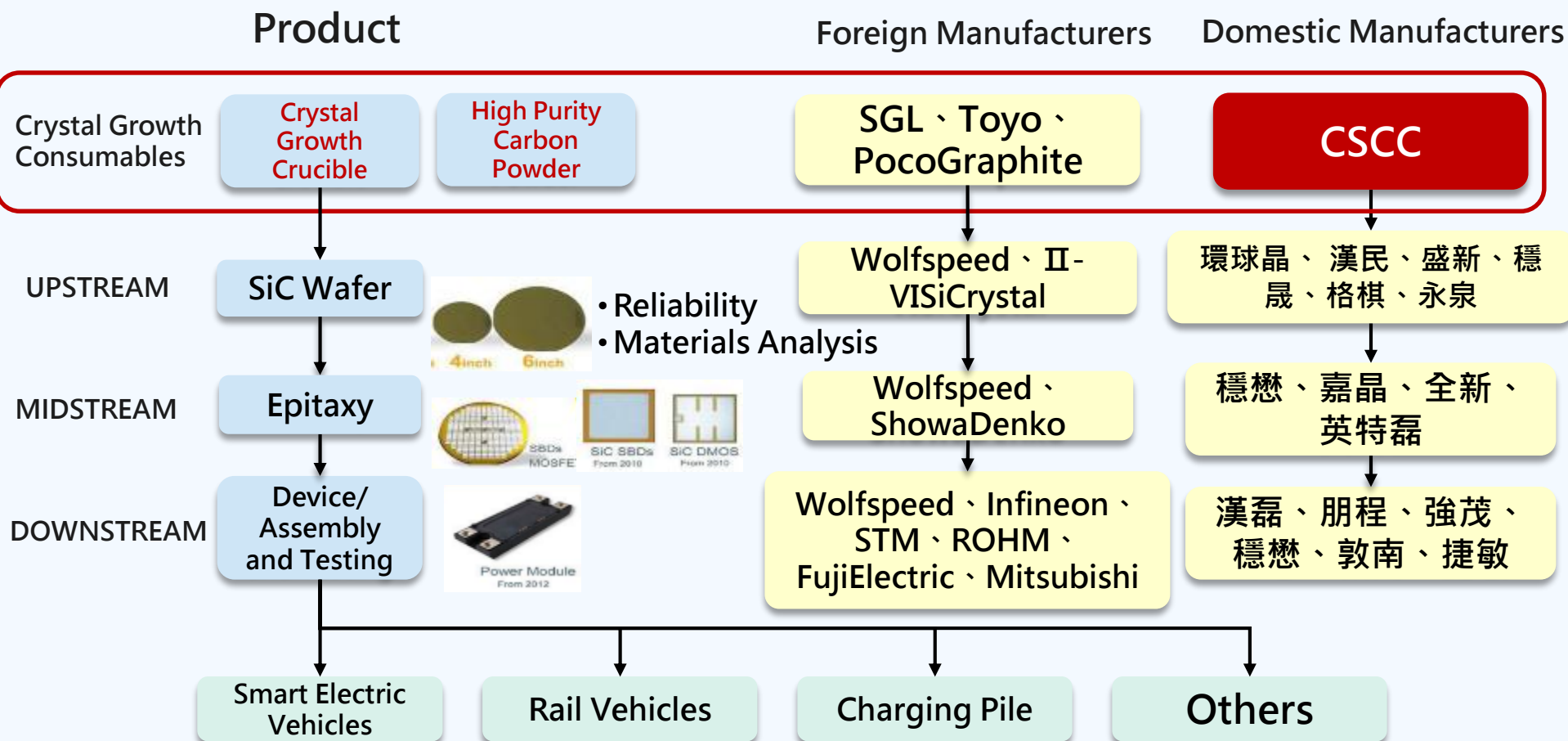


Global SiC Wafer Production Volume and Forecast: 2022~2027

Source : SemiconductorDigest,NewsandIndustryTrends,ShannonDavis,May8,2023



Opportunities in the SiC Semiconductor Supply Chain



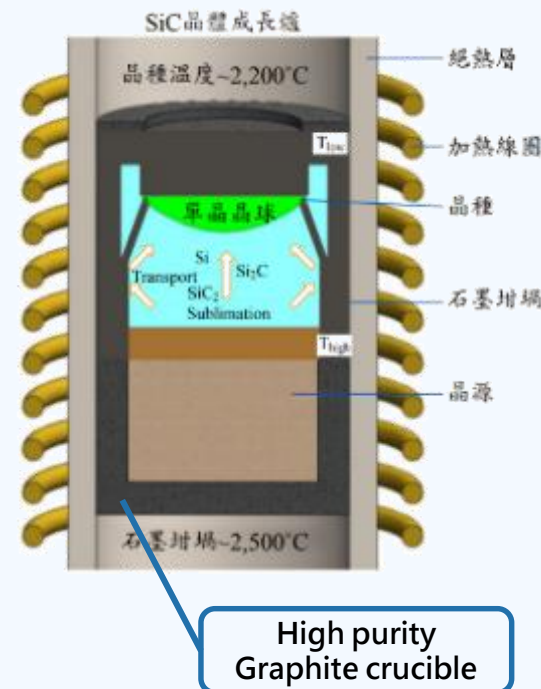
- Although Taiwan possesses a compound semiconductor industry chain, **key materials like high-purity graphite for SiC crystal growth are still heavily reliant on foreign imports**, which can easily create a supply chain **vulnerability or gap**.

Graphite Block Applications and Development

- Graphite Block are primarily used for Silicon Carbide (SiC) crystal growth crucibles and industrial hot zone components.
- Progress of CSCC Product Promotion
 - ✓ **Silicon Carbide (SiC) Semiconductor :**
Clients using the 6-inch crucible have successfully completed crystal growth and are currently conducting multiple runs of crystal growth for validation. The 8-inch crucible is currently undergoing validation with multiple clients.
 - ✓ **Silicon-Based Semiconductor :**
Validation is continuously underway with multiple clients, and there is an opportunity to transition to an Approved Vendor List (AVL) supplier by the middle of 2026.
 - ✓ **Industrial Hot Zone :**
Due to the impact of China's export controls, clients are strengthening cooperation with CSCC, with the goal of transitioning CSCC into a long-term supplier next year.

Advantages of CSCC Isotropic Graphite Blocks: **High Strength, High Density, and High Purity** Characteristics

- The product is performing well in validation at several customers and meets the manufacturer's supply standards.
- As China has designated graphite products as items subject to export controls, clients are proactively integrating local supply chains.



→ CSCC Board of Directors approved the **240-ton isotropic graphite block factory expansion project** in February 2025.

✓ Expected to be completed in early 2027

Application of Graphite Block



Industrial
hot zone
components

Silicon carbide compound semiconductor





Creating a sustainable and friendly environment, and precision manufacturing in green energy.

To become a key carbon material supplier for the green energy industry.



Customer Satisfaction 、 Sincerity 、 Credibility 、 Cooperation



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Q&A

T h a n k y o u

