

Medium-Term Business Plan (BSP 2025)

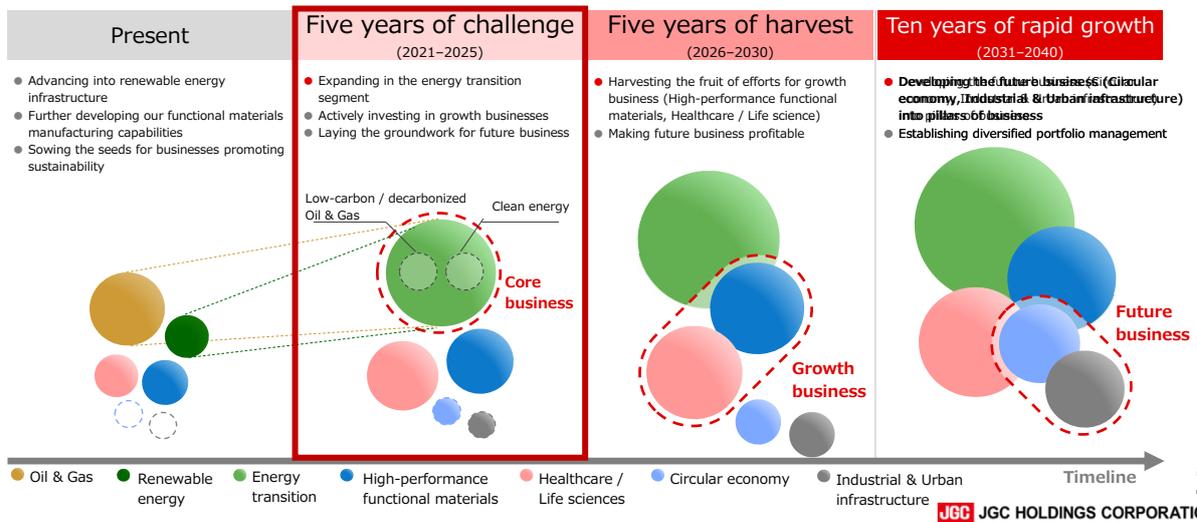
Building a Sustainable Planetary Infrastructure 2025

May 12, 2021

JGC Holdings Corporation

Meaning of new medium-term business plan in the 2040 Vision

First phase toward 2040 vision: Five years of challenge



Purpose
Enhancing planetary health

2040 Vision

A corporate group that contributes to enhancing planetary health in five business areas

Toward net-zero CO₂ emissions from business activities in Japan and overseas by 2050

First phase

Medium-term business plan (BSP 2025): Five years of challenge

Key strategies

1. Transformation of EPC operations
2. Expansion of manufacturing business for high-performance functional materials
3. Establishment of future engines of growth



¥200 billion
in strategic investment

FY2025 targets

- Net sales of ¥800 billion
- Operating income of ¥60 billion
- Net profit of ¥45 billion
- ROE of 10%

Shareholder return

- Dividend payout ratio of 30% or more
- Minimum dividend of ¥15 per share

3



Review of previous medium-term business plan (FY2016–FY2020)	P.5
Awareness of business environment	P.8
Key strategies	P.12
• Transformation of EPC operations	P.14
• Expansion of manufacturing business for high-performance functional materials	P.18
• Establishment of future engines of growth	P.25
Investment strategy	P.30
Talent and organization	P.32
Financial targets	P.35
Capital and shareholder return policies	P.37
ESG initiatives	P.41
JGC Group commitment to carbon neutrality by 2050	P.43

4

Review of previous medium-term business plan (FY2016–FY2020)

5

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Review of previous medium-term business plan (FY2016–FY2020)

Summary

Financial targets missed, but EPC operations stabilized and groundwork for growth laid

Higher
operating
income

Lessons learned from FY2016 loss applied to strengthening EPC risk management

Achieved higher operating income ratio (3.0% in FY2017 → 5.3% in FY2020)

Groundwork for
growth

Positioned functional materials manufacturing as one of core businesses

Achieved a fuller EPC track record in infrastructure

Established a framework for commercializing clean energy and recycling technologies

Holding
company
structure

Strengthened portfolio management

Accelerated decision-making through delegation of authority to operating companies

6

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Business results

Firmer business footing, pursuit of strategies and measures for growth

Total Engineering

Strengthening of project execution capabilities

- Strengthened project risk management
- Established construction methods for large-scale modules (as used in Australia, Russia, and Canada)

Expansion of business regions and Oil & Gas EPC

- Executed multiple offshore LNG projects
- Expanded into new market such as Canada, Russia, East Africa, and Iraq

Diversification of business areas

- Actively pursued renewable energy projects in Japan
- Conducted EPC for solar power in Vietnam and Mongolia
- Ventured into SMRs^{*1} through investment in NuScale Power, LLC

Digitalization (Digital transformation)

- Established and promoted IT Grand Plan 2030
- Focused on digital transformation of EPC (EPC DX) utilizing AWP^{*2} and data-centric approach
- Invested in and worked with UK-based software company, MODS

High-performance functional materials manufacturing

Growth investment, sales expansion

- Expanded fine chemicals business
- Enlarged chemical catalyst sales channels
- Started production at new high thermal conductivity silicon nitride substrate factories

Strengthening of frameworks to develop new products

- Integrated catalyst and fine chemical R&D centers
- Joint development with overseas customers
- Expanded human resources for sales and development
- Improved development efficiency by intra-group collaboration

*1 SMRs: Small Modular Reactors for nuclear power generation
*2 AWP: Advanced Work Packaging

Awareness of business environment



Awareness of business environment

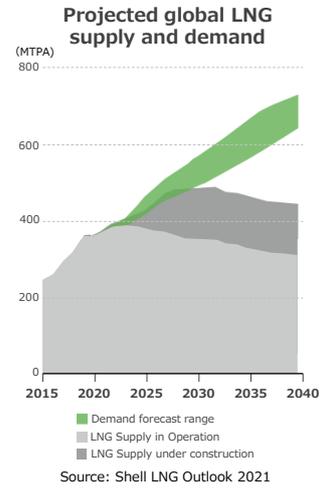
Energy transition

Higher LNG demand is expected, with the market set to remain robust
Growing business opportunities in energy transition segments

Market growth rate	Segment	Market awareness
Existing	LNG	Tight supply and demand is expected to be balanced in the late 2020s ➔ New projects on the scale of tens of millions of tons are expected in 2022 and later
	Renewable energy	Renewable energy market such as solar power, energy storage, and biomass power generation will remain robust
New	Carbon management	Need for CCS* and other programs are expected to grow rapidly
	Offshore wind power	Domestic market is expected to take off in the first half of 2020s
	Hydrogen / fuel ammonia	Formation of value chains will be progressed in anticipation of significant market growth in 2030 and later

* CCS: Carbon Capture & Storage

▲ Very high ▲ High ➔ Fairly high ➔ Flat



Awareness of business environment

High-performance functional materials manufacturing

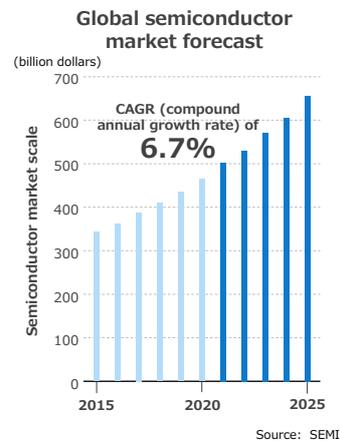
Existing segments: Market expansion in segments involving semiconductors, telecommunications, and chemical / environmental applications

New segments: Market expansion for materials used in electric vehicles and semiconductor applications

Market growth rate	Segment	Market awareness
Existing	Catalysts	Oil refining catalyst market will contract Demand for chemical / environmental catalysts is expected to grow
	Fine chemicals	Demand for materials for cosmetics, displays, and semiconductor applications is expected to expand
	Fine ceramics	Demand for materials for semiconductor manufacturing equipment and telecommunications/sensor products is expected to expand
New	High thermal conductivity silicon nitride substrate	Worldwide market growth is expected as EVs are adopted
	Nanoparticles for CMP*	Worldwide market growth is expected as the semiconductor industry grows

*CMP: Chemical mechanical polishing

▲ Very high ▲ High ➔ Fairly high ➔ Flat





Healthcare / Life sciences, Circular economy, Industrial & Urban infrastructure

Healthcare / Life sciences: Market expansion from higher standards of living, aging population
Circular economy: Progress in formation of recycling value chains
Industrial & Urban infrastructure: Market expansion in Asia driven by economic growth

	Market growth rate	Segment	Market awareness
Healthcare / Life sciences	Existing	Pharmaceuticals, hospitals (domestic)	Domestic capital investment will be recovered in pharmaceuticals, greater medical needs arising from aging populations
	New	Pharmaceuticals, hospitals (outside of Japan)	Demand is expected to grow due to higher standards of living and aging populations
Circular economy	New	Waste plastic recycling	Technology development and commercial demonstration will be in progress. Market formation will be in 2025 and beyond
Industrial & Urban infrastructure	New	Water treatment, railways	Market expansion is expected in Asia driven by economic growth

▲ Very high
 ▲ High
 ➤ Fairly high
 ➤ Flat

Key strategies





Three key strategies pursued over five years of challenge

Transformation of EPC operations

- Increase competitiveness and profitability in mega-sized EPC projects
- Take on EPC growth markets and segments

Expansion of manufacturing business for high-performance functional materials

- Offer more product line-ups in existing business for increased revenue
- Expand sales of strategic products
- Explore and develop next-generation business

Establishment of future engines of growth

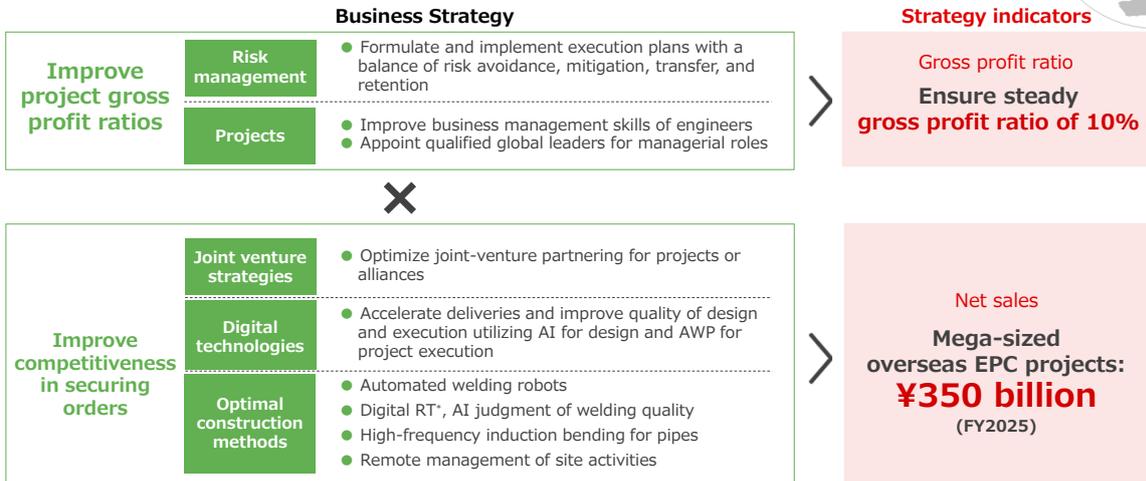
- Offshore wind power
- "Blue" hydrogen / fuel ammonia
- Chemical recycling, etc.



Key strategies

Transformation of EPC operations

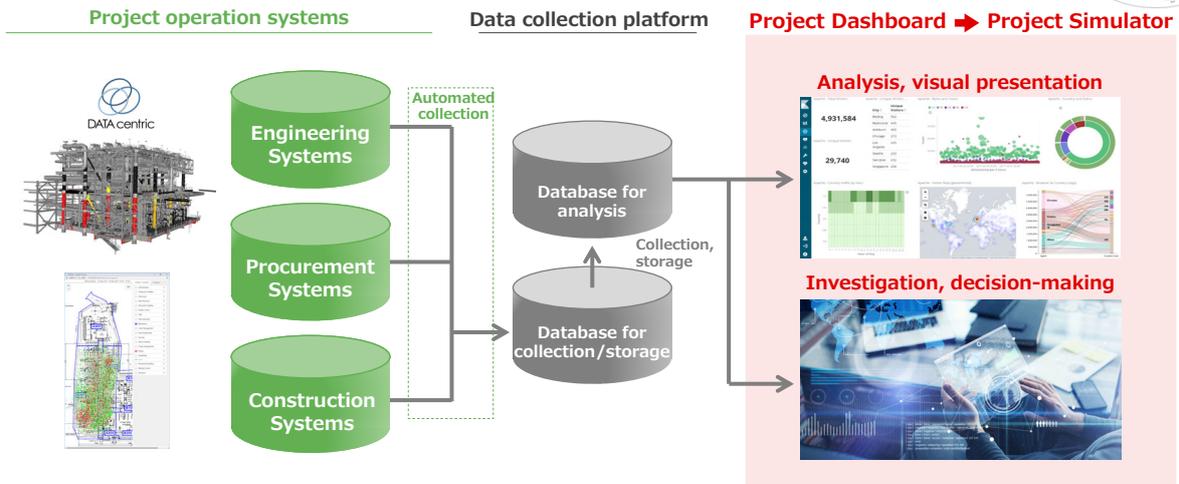
Increasing competitiveness and profitability in mega-sized EPC projects



* RT: Radiographic testing

Example Promoting EPC DX utilizing AI for design and AWP for project execution

Enable 1) visual representation of plan and progress for project execution and 2) remote management of site activity
 Also, apply EPC DX technology for project simulation in forecasting





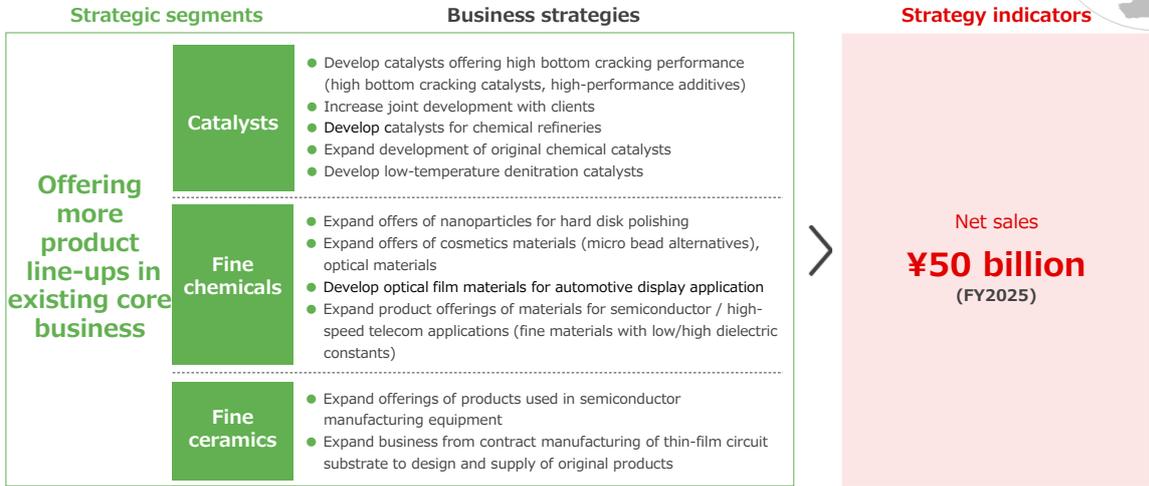
Taking on EPC growth markets and segments



Key strategies

Expansion of manufacturing business for high-performance functional materials

Offering more product line-ups in existing business to increase our revenue base

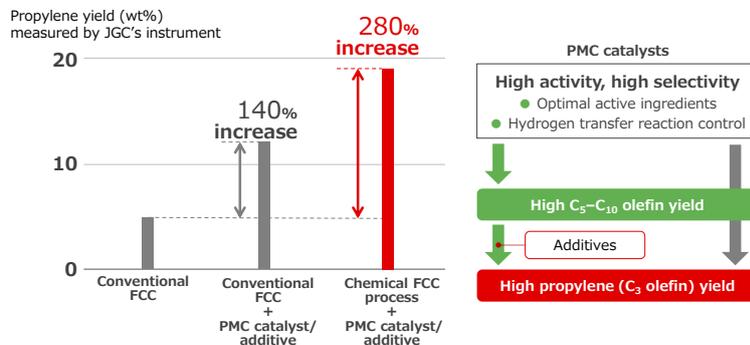


Example JGC Catalysts and Chemicals: Expansion of core business

FCC catalysts for chemical refineries

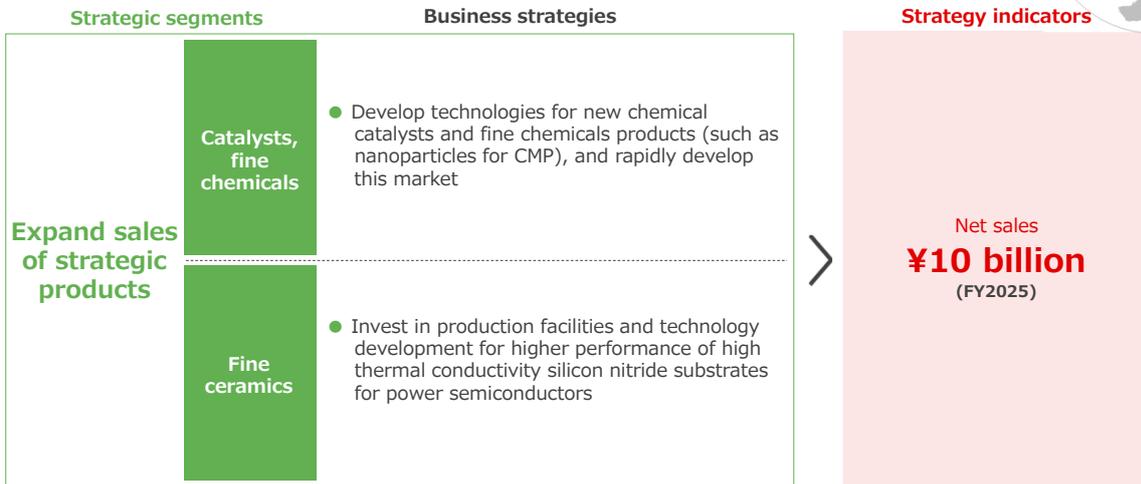
(FCC catalysts to improve propylene yield: **PMC catalysts**)

- Development of PMC catalysts supporting both conventional FCC and chemical FCC processes
- Offering high propylene yield in conjunction with additive for propylene conversion
- Meeting refinery needs for production of petrochemical raw materials





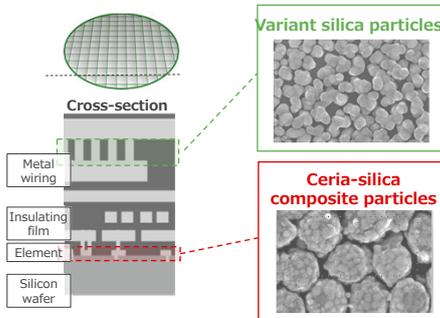
Expanding sales of strategic products



Example JGC Catalysts and Chemicals, Japan Fine Ceramics: Expanding sales of strategic products

Semiconductor CMP (chemical mechanical polishing)

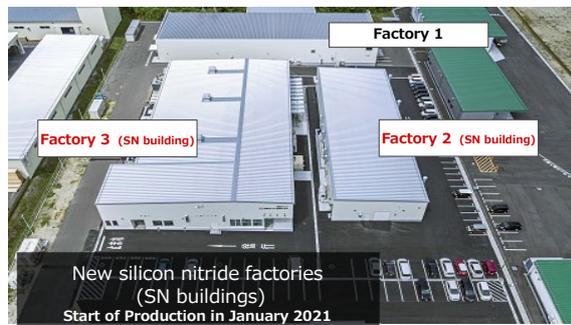
Offer ceria-silica composite particles and variant silica particles as low-defect, high-speed polishing slurry for STI*1 and ILD*2 applications developed using control techniques of morphology, composite and impurities of nanoparticles.



*1 STI: Shallow trench isolation
 *2 ILD: Inter-layer dielectrics

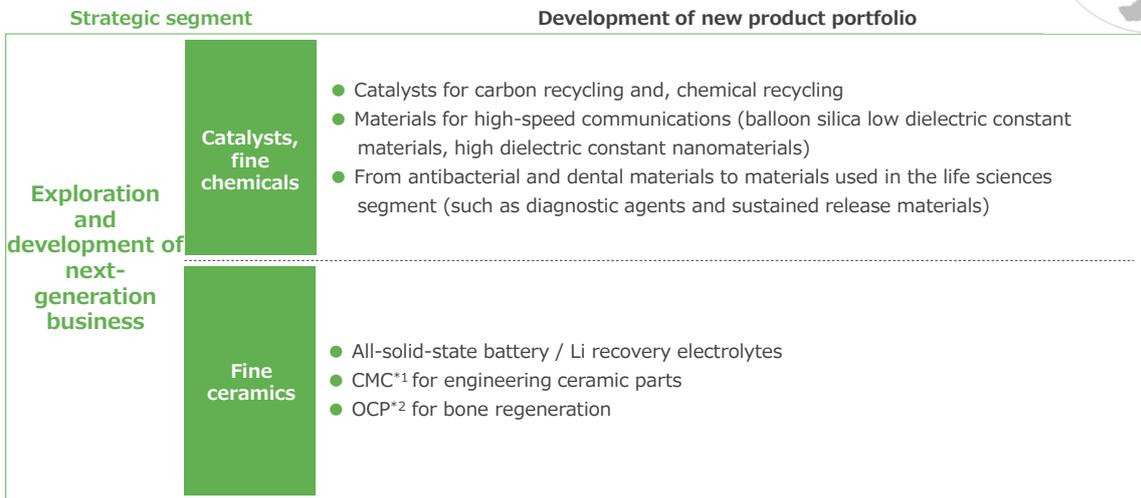
High thermal conductivity silicon nitride substrates for power semiconductors

Expand production capacity of high thermal conductivity silicon nitride substrates that improve heat dissipation (indispensable for higher performance in power semiconductors) to meet increasing demand as electric vehicles become more widespread.





Exploration and development of next-generation business



*1 CMC: Ceramic Matrix Composites
*2 OCP: Octacalcium phosphate



Example Japan Fine Ceramics: Exploration and development of next-generation business

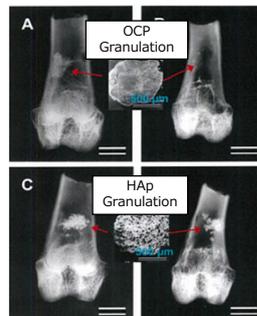
Bone regeneration materials / OCP

Greater demand is expected for highly biocompatible bone regeneration material such as this very effective OCP developed by Tohoku University. Venture into orthopedics by applying technical expertise for commercial viability.

OCP powder produced by Japan Fine Ceramics



Comparison of biocompatibility (OCP, HAp*)



Source: Data of Professor Suzuki of Tohoku University
*HAp: Hydroxyapatite

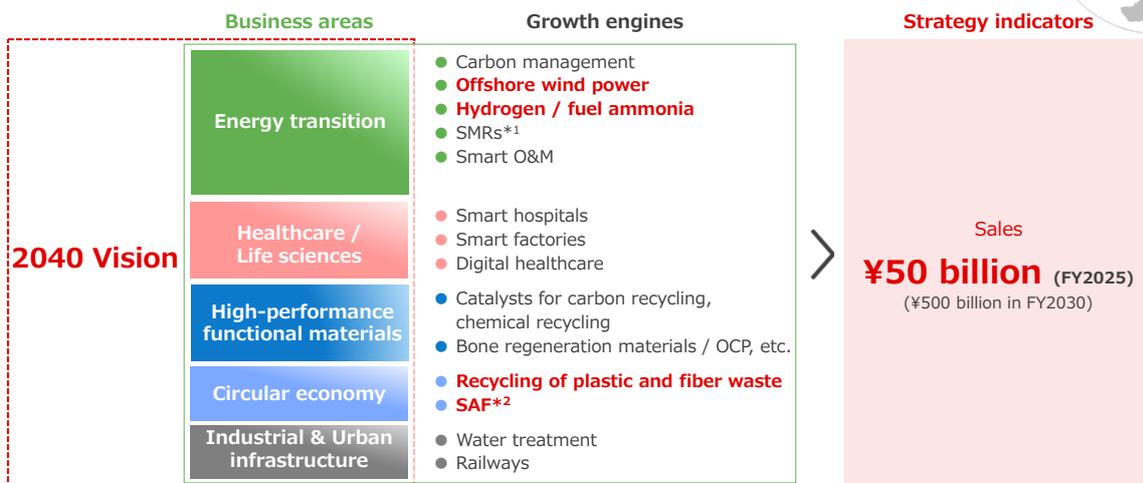


Key strategies

Establishment of future engines of growth

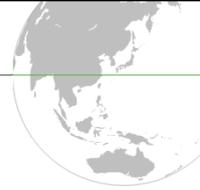
Establishment of future engines of growth

Establishing new business as primary sources of future revenue



*1 SMRs: Small modular reactors for nuclear power generation
*2 SAF: Sustainable aviation fuel

Offshore wind power



Five-year vision

Awarded and executed domestic offshore wind power EPC projects, becoming a leading contractor in the sector

Strengthen partnerships with other companies in the EPC sector

Serve as business partner

Make capital investment to realize EPC

Venture into more technically challenging floating facilities in medium to long term
Target sales **¥30 billion** in 2025 and **¥100 billion** in 2030

Business models

EPC

O&M

Business participation

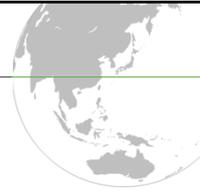
Unique qualifications

Expertise in design and installation of offshore structures for FLNG

Networks of partners and vendors in Japan and overseas

Management capabilities proven in large EPC projects

Blue hydrogen / fuel ammonia*1



Five-year vision

Acquired relevant technologies and participated in construction of blue hydrogen / fuel ammonia value chains

Develop / Acquire relevant technologies (including licenses), demonstrate the technologies in Japan and overseas

Engage in business partnerships for blue and green hydrogen / fuel ammonia projects

Conduct M&As, engage in strategic partnerships

Target sales **¥50 billion** in 2030
Participate in green hydrogen / fuel ammonia*2 toward 2040

Business models

EPC

Licensing

Consulting

Business participation

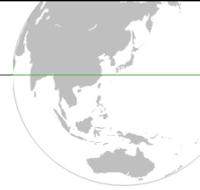
Unique qualifications

Process engineering capabilities from refining and petrochemicals

Record of CCS facility design and construction (for blue hydrogen)

Facility expansion expertise gained from LNG plants

*1: Blue hydrogen / fuel ammonia: Hydrogen /fuel ammonia derived from low-carbonized fossil fuels by CCS, etc.
*2: Green hydrogen / fuel ammonia: Hydrogen / fuel ammonia derived from renewable energy



Chemical recycling

Five-year vision

Attained standing as technology licensor and operator in this segment, formed new markets around the world



Partner with companies positioned upstream and downstream of recycling facilities

Identify / Acquire licensed technologies in Japan and overseas

Acquire operational knowledge through commercial demonstrations

Cultivate entrepreneurial human resources

Achieve widespread adoption and commercialization by 2025, target sales **¥50 billion** in 2030

Business models

- EPC
- Licensing
- Consulting
- Business participation

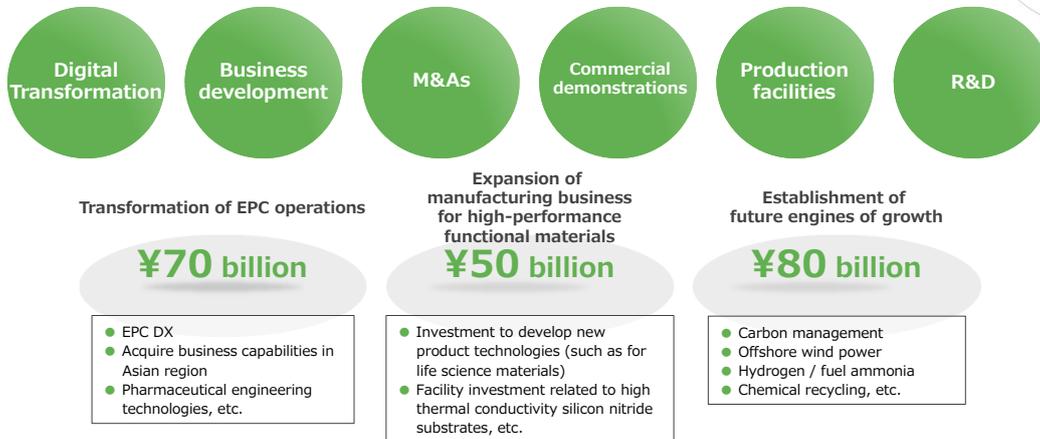
Unique qualifications

- Process engineering capabilities from refining and petrochemicals
- Networks of clients and partners in Japan and overseas
- Record of executing projects in Japan and overseas

Investment strategy



Investment for the three key strategies



Over five years, make strategic investments totaling ¥200 billion

Talent and organization

Accelerating personnel realignment and expansion

Attaining goals of medium-term business plan will call for realignment and expansion of human resources within the Group

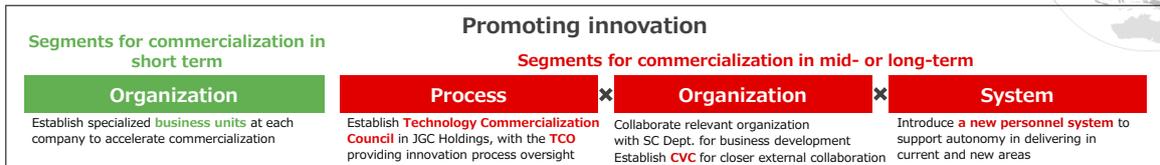


- Allocation focused on establishing EPC growth market and segments, expansion of high-performance functional materials, and future growth engine segments
- Expansion of human resources with diverse expertise in areas such as digital technologies, business development, and management
- Promotion of diverse working styles

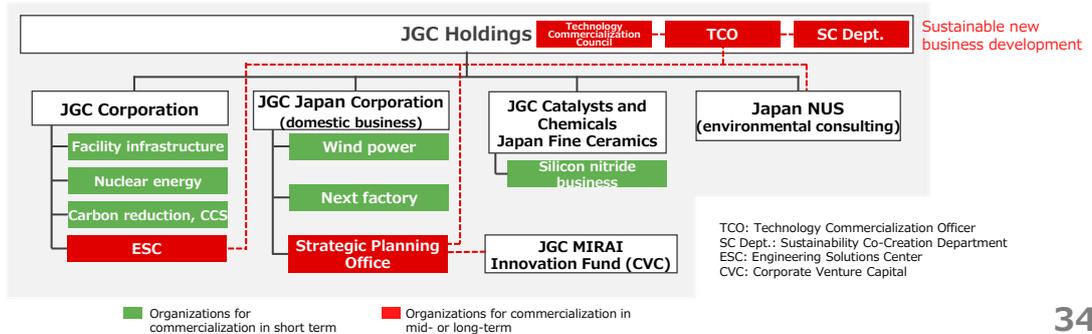
Total workforce of the Group: *
From **10,800** in 2021 to **12,000** in 2025

*Total of the holding company, EPC operating companies, high-performance material manufacturing companies, and Japan NUS (JANUS)

JGC Group innovation organization



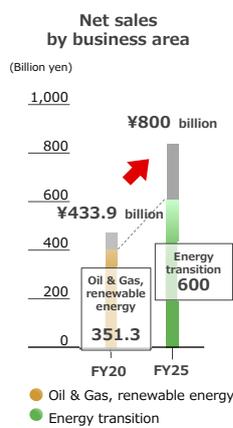
JGC Group innovation organization (overview)



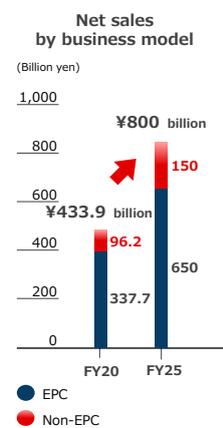
Financial targets

Financial targets

Expanding and diversifying revenue by FY2025



	FY2020 (record)	FY2025
Net sales	¥433.9 billion	¥800 billion
Operating income	¥22.8 billion	¥60 billion
Net profit	¥5.1 billion	¥45 billion
ROE	1.3 %	10 %



Capital and shareholder return policies

Capital and shareholder return policies

Basic capital policy: Strategic investments while maintaining sound finances

The period of this medium-term business plan is the first phase for transformation and growth toward our vision for 2040, positioned as “five years of challenge”. Strategic investments will aim at expanding future revenue

Disciplined investment and fund allocation will help the Group reach an ROE of 10%

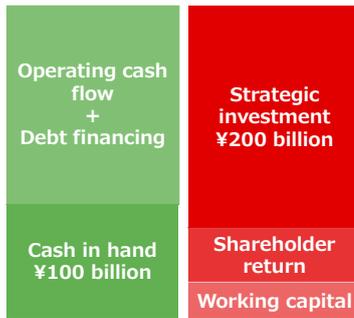
Greater corporate and shareholder value to be sought by taking a balanced approach to attaining the following objectives

- Maintain sound finances for the EPC of mega-sized projects
- Remain flexible in strategic investment
- Provide steady shareholder return



Financial strategy: Secure strategic investment funds by effective use of cash in hand

Anticipated fund allocation



Maintain sound finances

- Maintain stable equity ratio of 50% or higher
- Secure liquidity in hand for business continuity even during market turmoil
- Reduce effective tax rates

Remain flexible in strategic investment

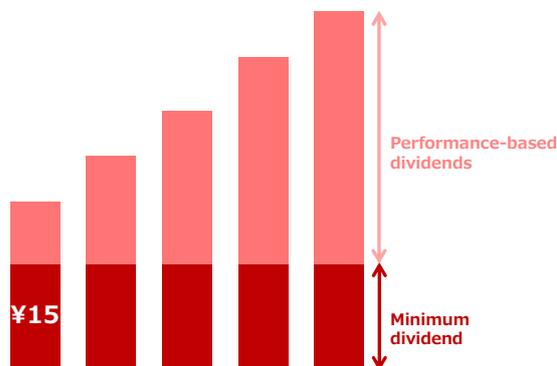
- Allocate around ¥100 billion of cash in hand for strategic investment
- Use debt financing
- Optimize cash management

Provide steady shareholder return



Shareholder return policy: Newly introducing a minimum dividend

Cash dividends (illustrative)



Dividend Policy

Basic policy is for annual cash dividends aimed at **payout ratio of 30%**. Additionally, **introduce minimum ¥15 dividend per share**.

Share buybacks

Share buyback will be considered as necessary in light of business situation.

ESG initiatives



ESG initiatives

Transforming and expanding in business areas that enhance planetary health



Purpose

Enhancing planetary health

JGC Group materiality

Environmental

E Societies in harmony with the environment

Social

Energy access
Quality of life
Working with local communities around the world
Human rights, employee motivation

Governance

G Corporate governance
Risk management

2040 Vision five (5) business areas

Energy transition

Healthcare / Life sciences

High-performance functional materials

Circular economy

Industrial & Urban infrastructure

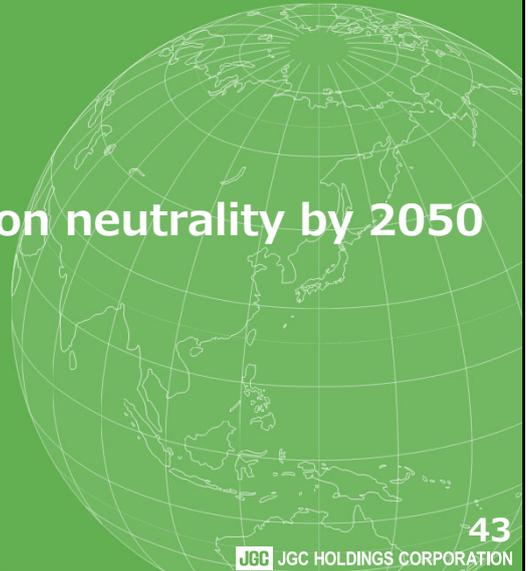
Key strategies of BSP 2025

Transformation of EPC operations

Expansion of manufacturing business for high-performance functional materials

Establishment of future engines of growth

JGC Group commitment to carbon neutrality by 2050



JGC Group commitment to carbon neutrality by 2050

Toward net-zero CO₂ emissions by 2050

Contributing to planetary health, the JGC Group will commit to ambitious target toward net-zero CO₂ emissions from business activities by 2050 aiming at balancing energy stability with decarbonization



Target	Net-zero initiatives	Disclosure
Scopes 1+2 2050 Net-zero CO ₂ emissions	For Scope 1 and 2 reductions, adopt low-carbon / decarbonized practices such as by reducing energy consumed in business activities, by use of renewable energy and by other means	In responding to climate change, disclose relevant information in line with TCFD recommendations
Scopes 1+2 2030 30% reduction in CO ₂ emissions per unit of production		
Scope 3 Reduction as determined in consultation with stakeholders	For Scope 3 reductions, leverage technologies cultivated by the JGC Group to provide energy transition solutions to stakeholders <ul style="list-style-type: none"> ● Reduction of plant energy consumption through smart O&M ● CCS technology ● Construction of environmentally conscious facilities such as solar power, biomass power, offshore wind power, and small modular reactors ● Hydrogen / fuel ammonia operations ● Chemical recycling (plastic and fiber waste, SAF, etc.) 	



Enhancing planetary health

45

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Cautionary Statement



This presentation may contain forward-looking statements that reflect JGC's plans and expectations.

Such statements are based on currently available information and current assumptions of future events which may not prove to be accurate. Such statements are also subject to various risks and uncertainties that could cause actual results to differ materially from those forward-looking statements.

JGC Holdings Corporation undertakes no obligation to update any forward-looking statements after the date of this presentation. These potential risks and uncertainties include, but are not limited to:

- Changes in general economic conditions, including foreign currency exchange rates, interest rates and other factors that could affect our profitability
- Changes in government regulations or tax laws in jurisdictions where we conduct business

For questions concerning this material please contact:

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46

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