



Enabling the Future

NS Vision 2026

NIPPON SANJO HOLDINGS CORPORATION

Medium-term Plan Key Strategies (FYE2023 – FYE2026)

Agenda

- Medium-term Management Plan Policy
- Review of Ortus Stage 2 (FYE2018 – FYE2021)
- Business Environment Outlook During the Next Medium-term (FYE2023 – FYE2026)
- Focused Fields of NS Vision 2026
 1. Sustainability Management
 2. Exploring New Business toward Carbon Neutrality
 3. Total Electronics
 4. Operational Excellence
 5. DX Initiatives
- Regional Business Strategy
 - Japan, the U.S., Europe, Asia & Oceania
 - Thermos
- Numerical Target, Financial & Non-Financial KPI
- Appendix



Medium-term Management Plan Policy

Medium-term Management Plan Name

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Medium-term Management Plan Slogan

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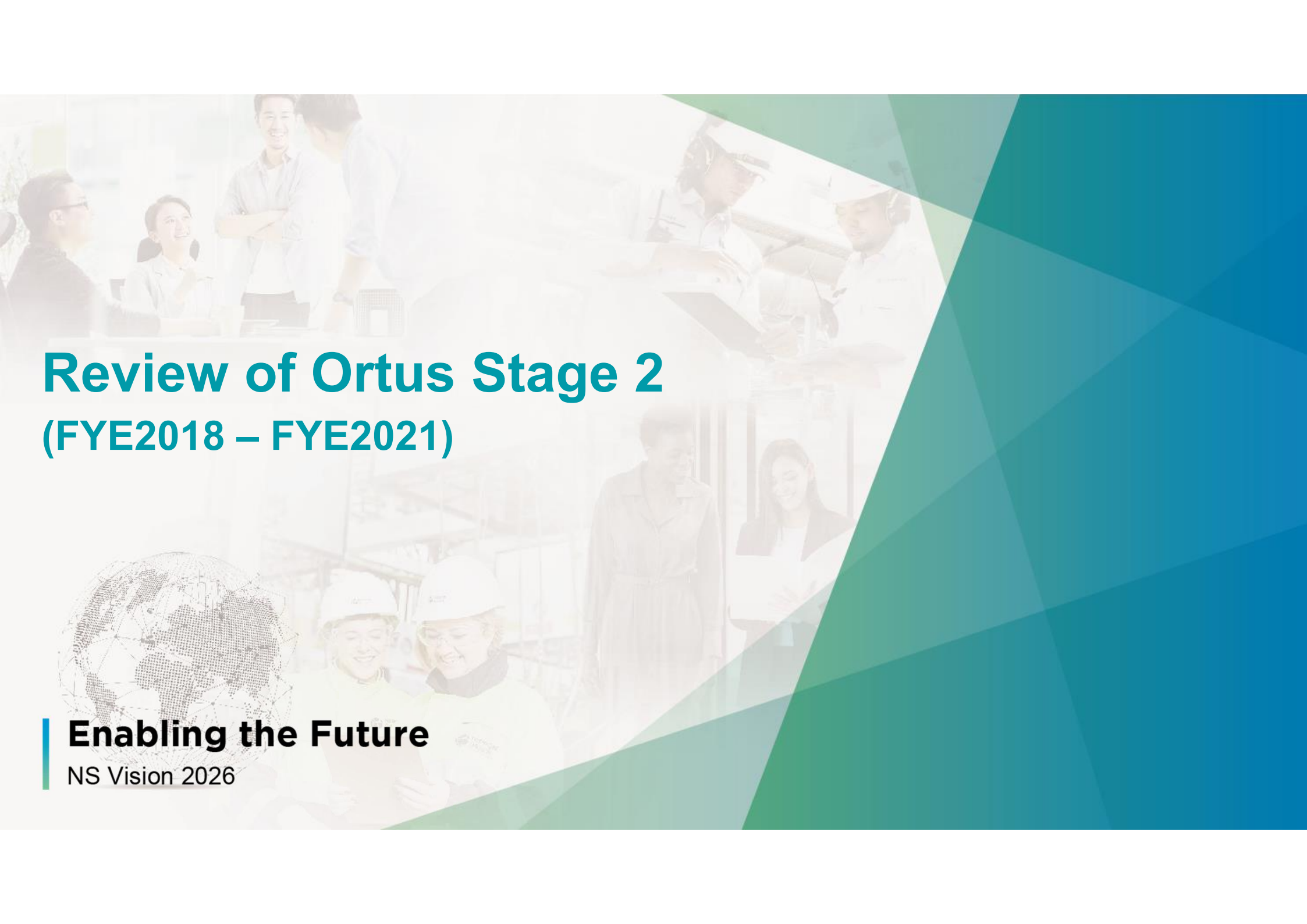
We formulated our first medium-term management plan, NS Vision 2026, after the establishment of Nippon Sanso Holdings in October 2020 with the vision that,

“We aim to create social value through innovative gas solutions that increase industrial productivity, enhance human well-being and contribute to a more sustainable future.”

Under the four global regions + Thermos business structure, we established five strategies:

Sustainability Management, Exploring New Business toward Carbon Neutrality, Total Electronics, Operational Excellence, and DX Initiatives.

We will strengthen the group’s comprehensive capabilities and achieve further growth to provide a bright and comfortable future for people, society, and the Earth.

The background features a collage of four images: a group of business professionals in an office setting, two call center agents wearing headsets, two women in business attire reviewing documents, and two construction workers in hard hats and safety vests looking at a tablet. A large, semi-transparent blue and green geometric shape is on the right side of the slide.

Review of Ortus Stage 2 (FYE2018 – FYE2021)

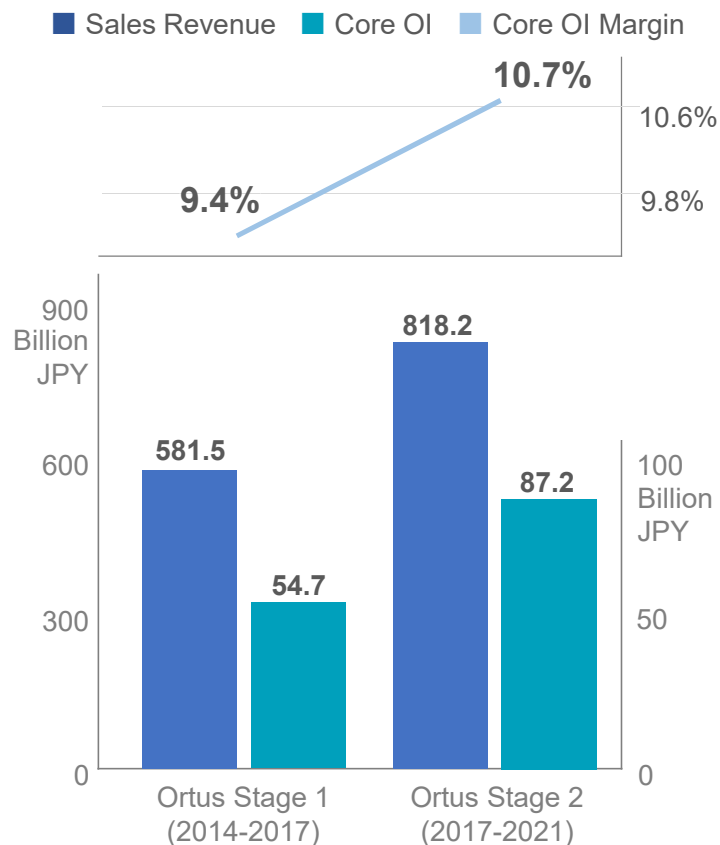
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Look Back on Past Medium-term Management Plan

Sales Revenue & Core OI



Review of Ortus stage 2

Main efforts, strong focus, and achievements:

1. Increased globalization and expansion through the acquisition of **the European business** and **the U.S. HyCO* business**
2. Commissioned **on-site projects** and **CO₂ Projects** in **the U.S.**
3. Strengthened **the electronics specialty gases business** in **East Asia**
4. Enhanced and expanded **supply base** in the **Asia & Oceania** region
5. Transitioned to **holdings company structure** which fosters improved communication, faster decision making and mobilization

**On-site supply of H₂ and CO to the petroleum refining and chemical industries.*



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Characteristics of Nippon Sanso Holdings Group

What we are aiming for

- Further global expansion and growth
- Safe and reliable supply of industrial gas to all industries
- In the Thermos business, we propose a comfortable and eco-friendly lifestyle for people and society

What are the characteristics of our system?

- Local business with production and consumption in same geographic area
- Regional organization and management structure
- 4 global regions + Thermos business structure



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What will Change?

Management team was formally running the domestic gas business and overseeing its ownership in the overseas group companies



We changed three things after becoming a holding company

1



Speedier decision-making
through authority delegation,
and appropriate management
resource allocation

2



Greater clarity in
business execution responsibilities
and performance

3



Enhance the group's
comprehensive capabilities
by sharing regional strengths
and advantages



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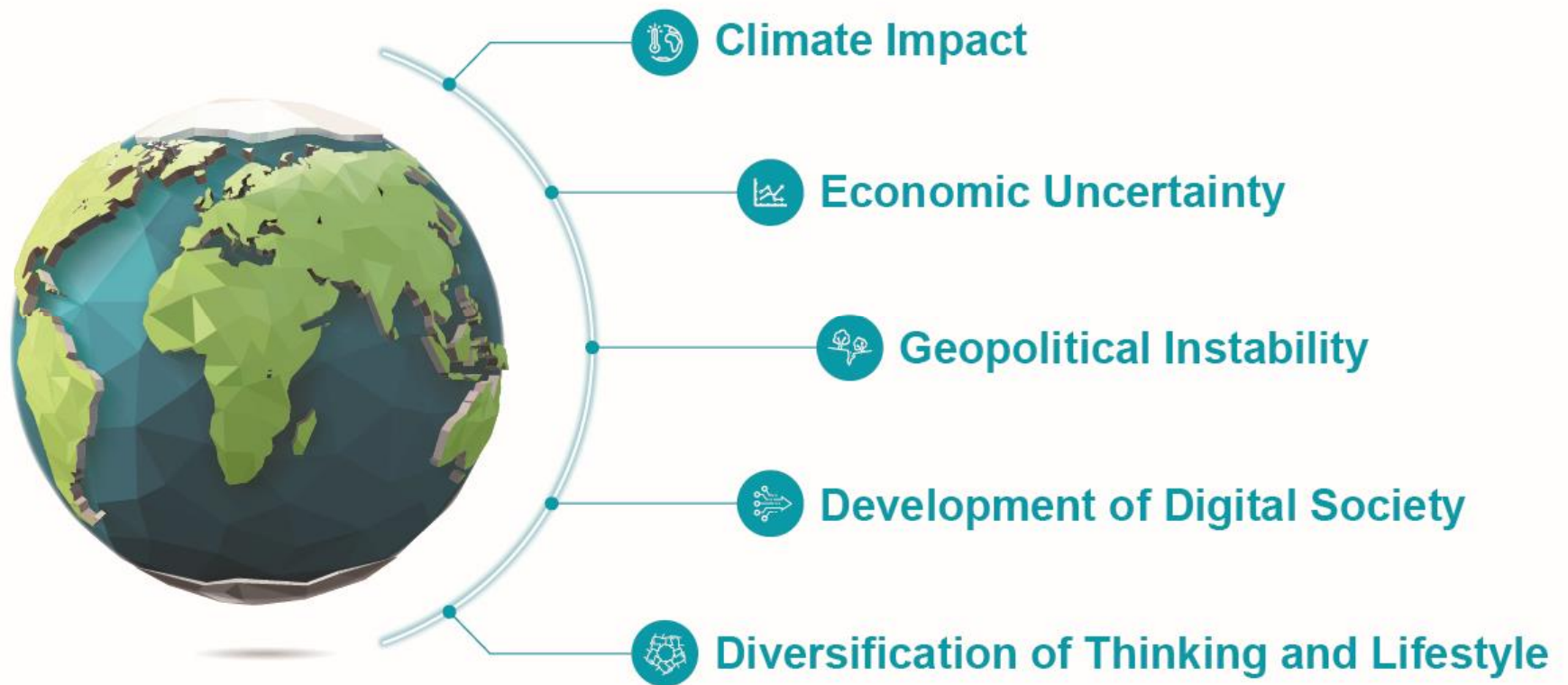
Business Environment Outlook During the Next Medium-term (FYE2023 – FYE2026)

A wireframe globe icon with a network of lines connecting various points across its surface, symbolizing global connectivity or technology.

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Key Considerations: Environment and Society



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Key Considerations: Industrial Gas Market



Reliable Acquisition of Business Opportunities

Regional Market overview

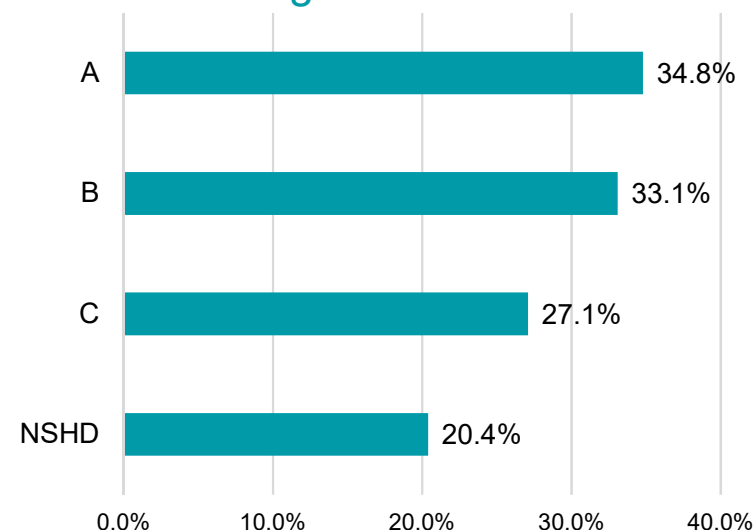
	Japan	the U.S.	Europe	Asia & Oceania
2019 Industrial Gas Market* (MM USD)	5,719	21,994	18,519	20,215
2019 Market Ranking	#1	#4	#4	#6
GDP Growth Rate - Assumption	1.0 - 1.5%	2.5 – 3.0%	2.0 – 2.5%	4.0 - 4.5%

*Estimation based on "Gasworld Industrial Gas Market Forecast 2020"



Improve Profitability

EBITDA Margin



Source: Refinitiv Eikon most recent fiscal year end



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Focused Fields of NS Vision 2026 (FYE2023 – FYE2026)



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Structure of NS Vision 2026



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Focused Fields of NS Vision 2026



**Sustainability
Management**



Exploring
New Business toward
Carbon Neutrality



DX Initiatives
Further enhancement
of business base



**Operational
Excellence**
Efficient & disciplined operations with
continuous improvements



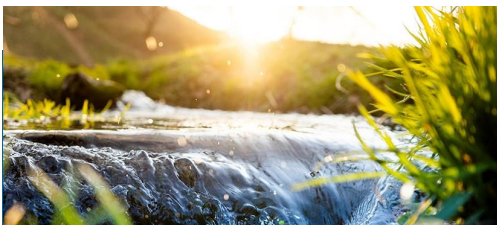
Total Electronics
Full utilization of group networks
to gain business opportunities

**Focused
Fields**



Sustainability Management: Concept

We will strive to engage in dialogue and collaboration with our stakeholders and aim to continuously enhance our corporate value by contributing to a sustainable society.



Environment

- ▷ Resource-recycling society
- ▷ Harmonizing with environment
- ▷ Reduce environmental impact



Safety & Quality

- ▷ Process safety and security
- ▷ Community based
- ▷ “Selling gas is selling safety”
- ▷ Quality management and assurance



HR

- ▷ Respect people and their rights
- ▷ Work worthwhile for each and every employee



Compliance

- ▷ In a sincere and fair manner
- ▷ International/regional rules and the laws

Nippon Sanso Holdings Corporation signed the United Nations Global Compact (UNGC) advocated by the United Nations and was registered as a participant on January 18, 2022.



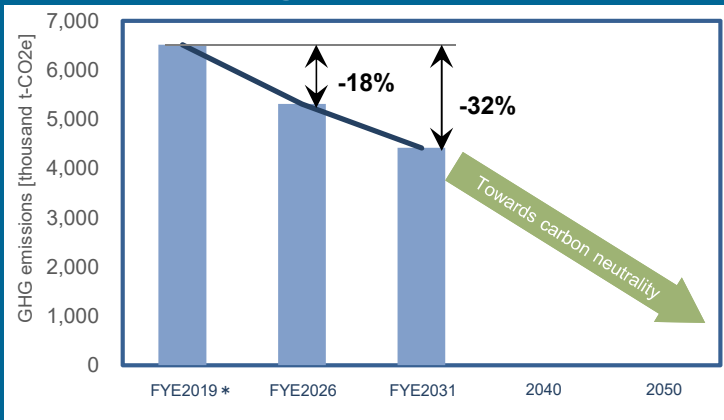
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Sustainability Management

Based on TCFD recommendations, we conducted scenario analysis of climate related issues identified as the next materiality.

Carbon Neutral Program I



- ▷ **Energy conservation and efficiency** of energy use
- ▷ **Renewable energy and green power**
- ▷ **Carbon capture and offsets**

Carbon Neutral Program II

Lower Customer GHG emissions through environmental product offerings and applications



NSHD Group GHG emission (FYE2026)

- ▷ Global GHG reduction through **NSHD's products and technologies**

Zero Waste Program

- Japan: **HALD** (Halve Amount of Landfill Disposal)
Reduce TNSC's landfill waste disposed by 50% by FYE2026
- ▷ Appropriate **waste management and recycling**

Sustainable Water Program

- ▷ Investigation of **water stress** by use of the "**Aqueduct**" (WRI)
- ▷ Identify gas production plants in high-risk areas every year



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※ Base year: set in FYE2019, when the European gas business and the US HyCO business joined to the Group
GHG emissions in FYE2019 show the actual GHG emissions in FYE2019 plus the following:

- ① emissions of European gas business in FYE2019:
- ② estimated emissions of the US HyCO business in FYE2019

Sustainability Management

Safety First Program

Lost Time Injury Rate (LTIR)*

≤ 1.6**

until FYE2026

- ▷ **Sharing information** on work related injuries and **best practices**
- ▷ **Safety capability** by using **DX, AI and IoT**
- ▷ **Safety education/utilizing the Technical Academy**
- ▷ Investment for safety

Talent Diversity Program

Talent development strategies for sustainable growth

- ▷ Embrace and motivate diversified talents
- ▷ **Promote cross regional talent exchanges**
- ▷ Enhance successor development plans

Quality Reliability Program

- ▷ **Quality ethics** and **compliance education**
- ▷ **Quality audit program**
- ▷ **Automatization** of test, inspection and analysis recording
- ▷ Increasing customer satisfaction through the activities of **Semiconductor Specialty Gas Quality Committee**

Compliance Penetration Program

- ▷ Continue **compliance training** in each **region** to instill awareness and ethics among all employees
- ▷ Prevent **compliance violations**
- ▷ Detect compliance violations through disseminating and operating the **whistleblowing system**

* Number of lost time injuries per one million working hours

** The average value of FYE2017-2021 (2.53) is set as a benchmark, and a reduction of about 40% by FYE2026 is set as a goal



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Focused Fields of NS Vision 2026



Exploring New Business toward Carbon Neutrality : Action Plan



Gaining “quick-win” CN projects

- ▷ Join/Gain **CN project** in Steel/Glass/Ceramics/Aluminum/non-ferrous market
- ▷ **HyCO projects** for a hydrogen society with internal training to sales rep



R&D development and strategic partners

- ▷ Join various **CN projects** and share knowledge among the Group
- ▷ Find potential **strategic partners**
- ▷ Increase resources into dedicated R&D themes such as combustion technology etc.



External/Internal communication

- ▷ Establish **communication platform**
- ▷ Enhance our presence through proactive efforts such as posting CN activities on social networking service



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Exploring New Business toward Carbon Neutrality

Solutions for the Steel Market

Reducing CO₂ footprint

- ▶ Provide alternatives to replace coal by using well proven **HyCO technologies**
- ▶ **CO₂ capture solution** and expertise in **transport of LCO₂*** by ship for a **CCS** project**
- ▶ **H₂ burner** to reduce CO₂ emissions in electric furnaces

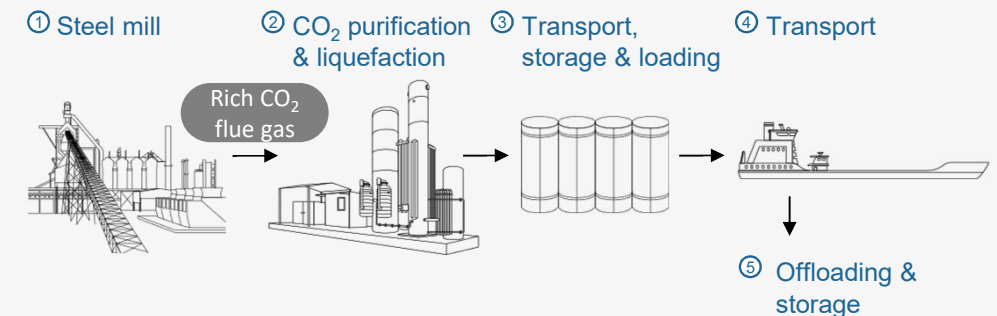
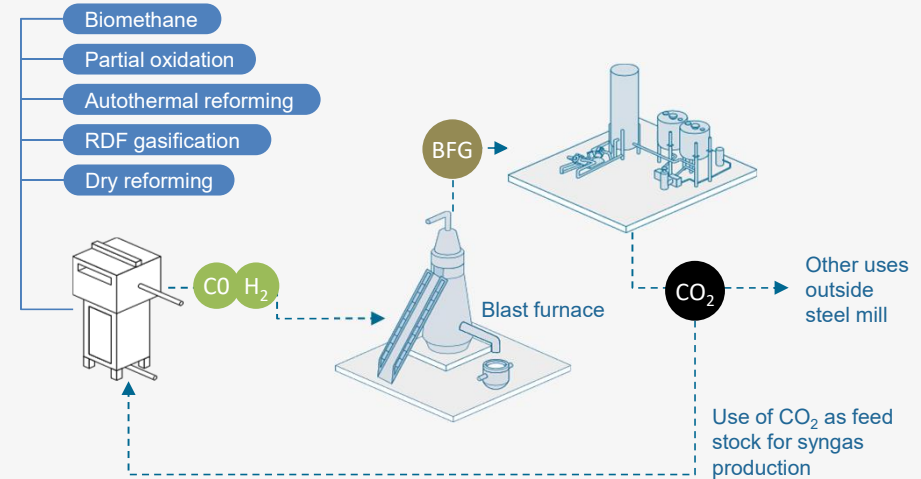
**Liquified CO₂*

*** Capturing CO₂ emissions from industrial process for storage deep underground*

Solutions for the Glass and Non-Ferrous Market

Greening combustion process

- ▶ From air-fuel to 100% Oxy-fuel



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Focused Fields of NS Vision 2026

DX Initiatives
Further enhancement
of business base

**Sustainability
Management**

Exploring
New Business toward
Carbon Neutrality

**Focused
Fields**

**Operational
Excellence**
Efficient & disciplined operations with
continuous improvements

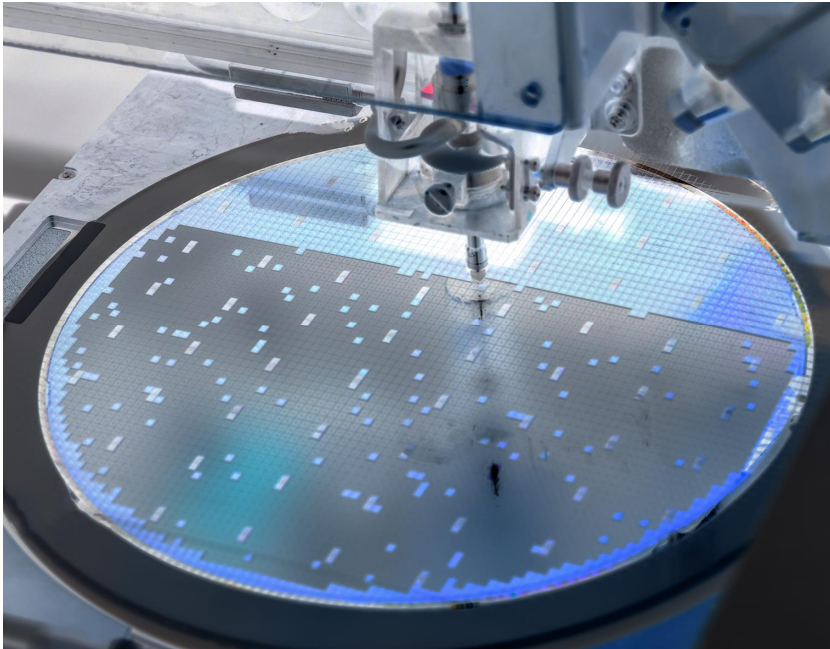


Total Electronics
Full utilization of group networks
to gain business opportunities



Total Electronics: Action Plan

We have a long history in the semiconductor materials and gas business.



Global supplier in semiconductor ecosystem

- ▷ Offering robust/updated **quality assurance**, **new product** and **technology solutions**
- ▷ Leverage and enhance our existing **group capability** and **solutions**



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Total Electronics

Initiatives to Achieve Financial Target

1



Enhance SSG* business

- ▷ Increase the product line-up and production capability
- ▷ Improving group SSG quality and responsiveness

*SSG: Semiconductor Specialty Gases

2



Group capability enhancement for equipment, ASU and engineering

- ▷ Leverage group capability for equipment in Electronics
- ▷ Enhance the possibility to acquire on-site business for semi-investment
- ▷ Expand the opportunity for semi/PV** opportunity in Asia

**PV: Photovoltaics

3



DX Introduction

- ▷ Enhancing semiconductor quality through DX



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Focused Fields of NS Vision 2026



DX Initiatives

Further enhancement
of business base

Sustainability Management



**Exploring
New Business toward
Carbon Neutrality**

Focused Fields



Operational Excellence

Efficient & disciplined operations with
continuous improvements



Total Electronics

Full utilization of group networks
to gain business opportunities



Operational Excellence

Action Plan

1



Fostering a **group-wide productivity improvement** mindset through global **Operational Excellence Day** events

2



Early success by **horizontal sharing of best practices** across operating companies

3



Promotion of **standardization and optimization of operations** throughout the group

Group Goals

Cost reduction effect of **over ¥ 56.0 billion** in total for 4 years.



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Focused Fields of NS Vision 2026



DX Initiatives
Further enhancement
of business base



**Sustainability
Management**



**Exploring
New Business toward
Carbon Neutrality**

**Focused
Fields**



**Operational
Excellence**
Efficient & disciplined operations with
continuous improvements

Total Electronics

Full utilization of group networks
to gain business opportunities

DX Initiatives: Action Plan

1 Focus on Digitization & Digitalization efforts

Phase 1: **Digitization**

Phase 2: **Digitalization**

Phase 3: **DX**

2 Prioritize the three fields

Customer Engagement

Operational Excellence

Employee Engagement

3 Initiatives by regional management

4 Dedicated DX organization in the NSHD Group

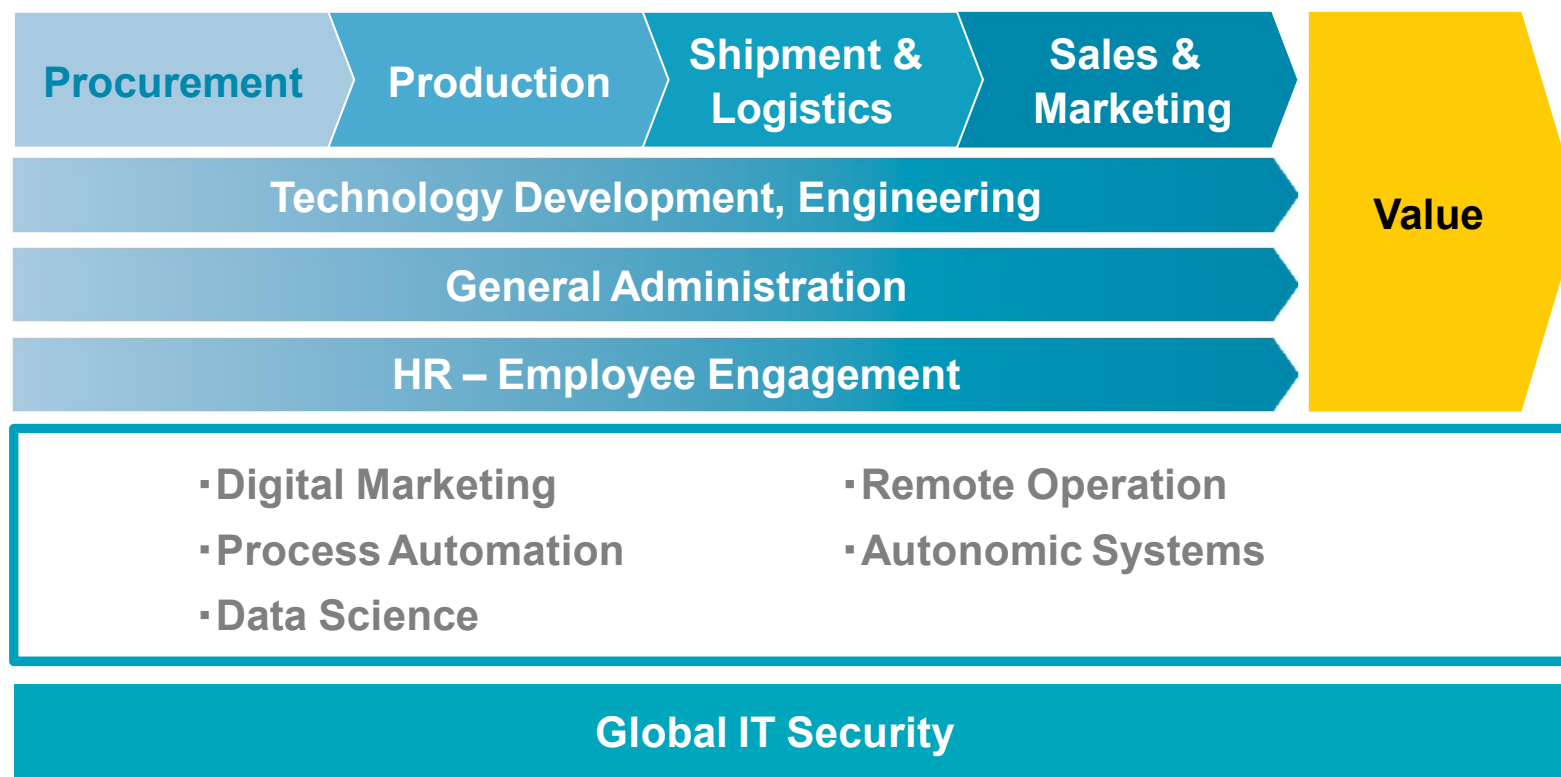


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DX Initiatives

Digital Initiatives Bring New Value



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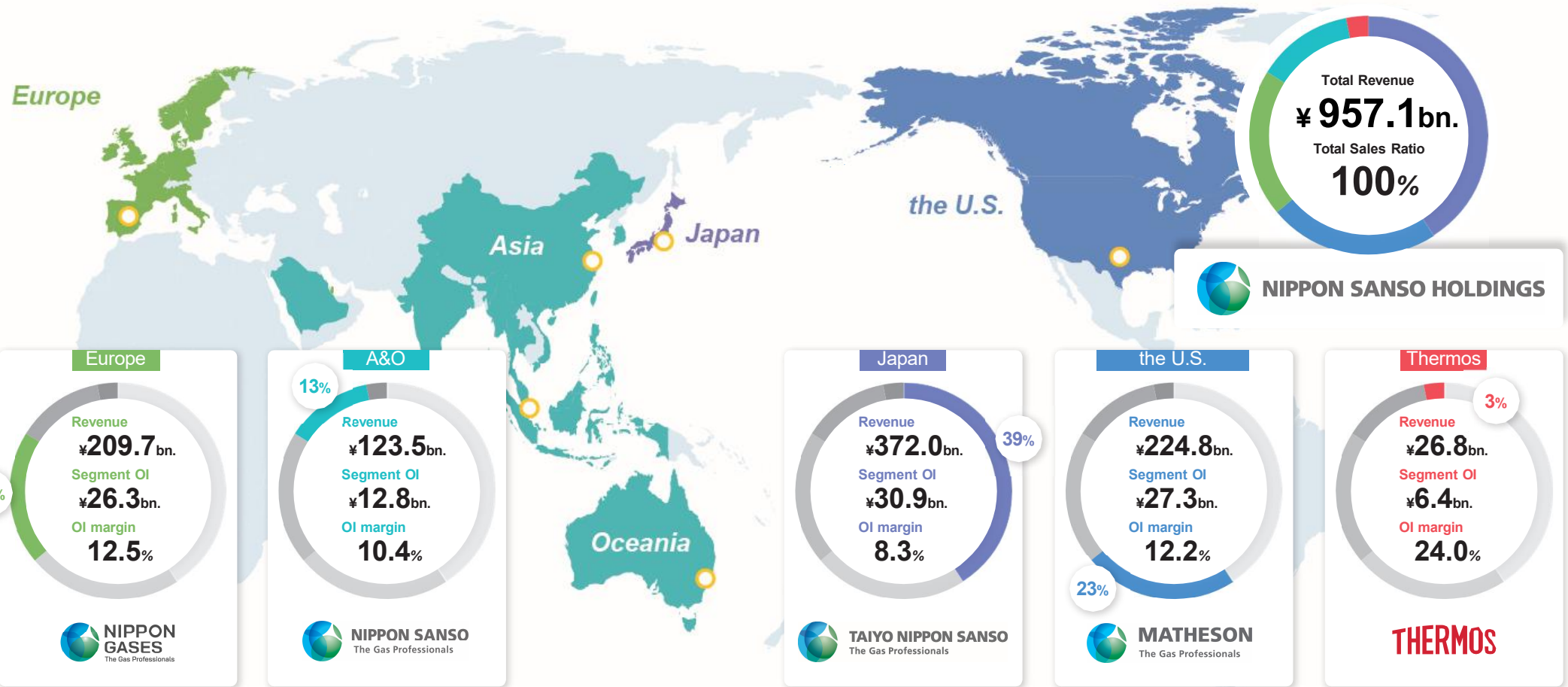
Regional Business Strategy

A wireframe globe icon with a network of lines connecting various points across its surface, symbolizing global connectivity or technology.

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Global Business Network



Industrial Gas Business - Region

Japan

Growth

- Enhance new products and services
- Provide and expand Industrial Gas Solutions for customers

Business Transform

- Review of low profitable business portfolio

Europe

Growth

- Focus on resilient markets
- M&A opportunity

Optimize Base Business

- Invest in application technology
- Evaluate market mix
- Geographical footprint

the U.S.

Growth

- Organic Growth:
Enhance cross-selling efforts
- Expand plant networks,
onsite generator installs and pursue
targeted distributor M&A

Asia & Oceania

Growth

- Large scale onsite project acquisition
and expand ASU capabilities
- New products & sales area expansion
- Global HyCO Opportunities

Management

- Launch of new management structure

Focused Fields

Sustainability Management

Exploring New Business
toward Carbon Neutrality

Total Electronics

Operational Excellence

DX Initiatives

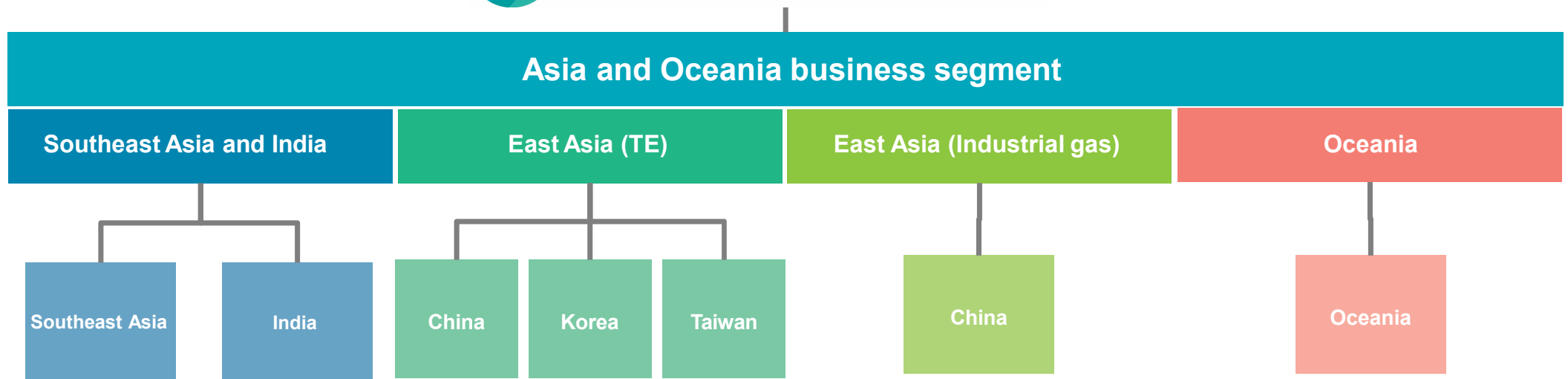


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New Management Structure of Asia and Oceania



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- Organized the region into four sub-segments based on differences in business environment and strategic direction
- Each of four sub-segments is responsible for managing its own region
- At the beginning of FYE2024, target to launch new management structure in Asia and Oceania (governance structure, authority delegation level, key meetings, internal audit structure, etc.)



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Thermos Business

THERMOS

What is THERMOS?

Providing **a wide variety of products** to create new lifestyles for a sustainable society. The Thermos Business is solely a **B2C business**, creating a broad range of contact points with general consumers.

Why have THERMOS?

- Strong profitability, cash flow generation, and favorable growth rates as a result of shifting consumer trends from disposable bottles to long lasting replacement products
- Proactive customer service and tailoring products to meet customer demands which the Industrial Gas businesses constantly strive to achieve

Growth

- New products, direct operating stores, EC platform business
- Develop an interactive communication system
- Increase Thermos brand awareness and maximize the brand equity



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Numerical Target Financial & Non-financial KPIs

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Targeted Group KPI - Summary



Revenue

JPY 975.0-1,000.0
Billion*

Core Operating Income

JPY 125.0-135.0
Billion*
EBITDA Margin

Group:
≥24%
Japan, the U.S., EU, A&O,
Thermos:
≥17~33%

Adjusted net D/E Ratio

≤0.7

ROCE after Tax

≥6%

Environment

Reduction rate of GHG emissions (Base year: FYE2019)

18% :FYE2026 32% :FYE2031

GHG reduced emissions through environmental product offer

Lower GHG emissions
through environmental product
offerings > NSHD Group GHG emission
FYE2026

Safety Management

Lost Time Injury Rate

≤1.6
FYE2026

Compliance

Rate of receiving compliance training

100%
FYE2026

HR

Rate of female employees

≥22% :FYE2026
25% :FYE2031

Rate of female management posts

≥18% :FYE2026
22% :FYE2031

* Due to the uncertainty in the global economy, revenue and core operating income are shown in range.



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Capital Allocation

IN

NS Vision 2026
(The Total for 4 years)

Operating
CF
730.0
bn JPY

OUT

Strategic

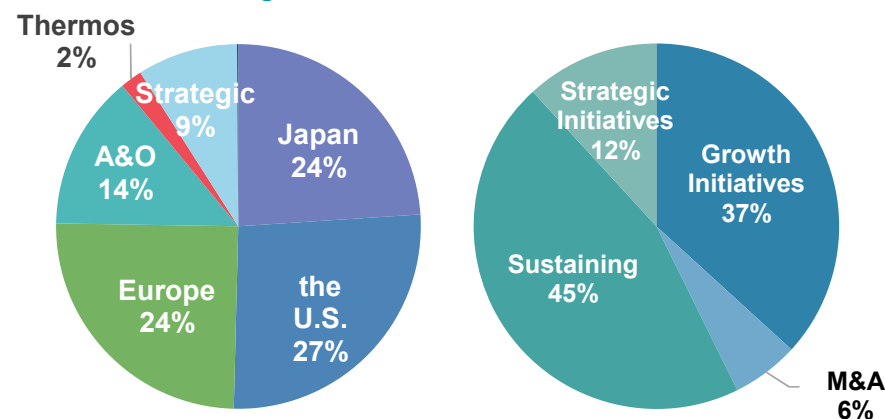
Investment
433.0
bn JPY

Dividend &
Repayment
of debt

Strategic investment 38.0 bn JPY

➤ **Investment for**

- Carbon Neutral related initiatives
- Digital Transformation initiatives



<Investment / revenue % by business segment>

Japan: 7.4%, the U.S.: 10.5%, Europe: 12.9%, A&O: 11.1%, Thermos: 6.9%



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END

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Appendix

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Our Materiality

Reflecting the incremental social awareness of sustainability and global environmental issues as well as change of the corporate structure, our materiality was revised after previous version in 2015, and obtained approval of NSHD board on December 2nd, 2021.

Preconditions for the existence of an enterprise



Importance to Nippon Sanso Holdings

● Key issues related to the global environment ● Key issues related to social systems ● Key issues related to the Company and its organizational structure

Abbreviations

SFP: Safety First Program, CNP I: Carbon Neutral Program I, CNP II: Carbon Neutral Program II, ZWP: Zero Waste Program, SWP: Sustainable Water Program, QRP: Quality Reliability Program, TDP: Talent Diversity Program, CPP: Compliance Penetration Program, UNGC: United Nations Global Compact, TCFD: Task Force on Climate-related Financial Disclosures



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TCFD Scenario Analysis

- Conduct scenario analysis of climate related issues identified as the next materiality, based on TCFD recommendations, using "transition scenarios" and "physical climate scenarios"
- "Transition scenario" is considered by IEA SDS, "physical scenario" by IPCC RCP8.5
- Organize the Group's opportunities and risks, and analyze the impact of "procurement", "operations" and "products and services"

Type		Climate change risks	Financial Impact	Business risks	Business opportunities	Response / Actions by NSHD
Transition	Policy regulations	Introduction of carbon pricing	Large	《Medium- to long-term》 > Decrease in profits due to increased tax burden	《Medium- to long-term》 > Acquire business opportunities by differentiating through early response	> Increase introduction of renewable energy by power purchase agreement and green power certificates
	Technology	Replacement to low-carbon alternative products/Progress in energy saving	Medium	《Medium- to long-term》 > Decrease in sales of existing products due to screening of low-carbon products	《Short- to medium-term》 > Increase profit margin by energy saving > Increase in demands for existing products that contribute to low carbonization 《Medium- to long-term》 > Increase in business opportunities for environment-friendly products that contribute to low carbonization	> Promote the development of environment-friendly products that contribute to low carbonization > Promote energy saving by improving productivity through the introduction of DX technology, etc. (Introduction of SAITEKI, optimization of delivery)
	Markets	Changes in market needs/Changes in customers' business activities	Large	《Long-term》 > Decrease in sales due to changes in the manufacturing process of the steel and chemical sector > Decrease in sales due to new entrants utilizing byproduct O2 gas as demand for water electrolysis process expands	《Medium- to long-term》 > Increase in demand for blue and green H2 > Increase in demand for green fuels > Increase in demand for CO2 capture for CCUS	> Promote the introduction of carbon-free (H2, NH3) combustion technology > Expanding the use of oxygen combustion > Acquire demand for medium-scale CO2 capture in response to CCS/CCUS > Expansion of H2 supply business by HyCO business > Increase sales environment-friendly products that contribute to low carbonization
	Reputation	Industry criticism	Large	《Medium- to long-term》 > Investor valuation decline for GHG emitting companies	《Medium- to long-term》 > Continue stable funding by demonstrating contribution to GHG reduction	> Disclosure of quantitative data on GHG reduction contributions through integrated reports, etc. > Promote disclosure of non-financial information
Physical	Acute	Intensification of Disasters/Frequent typhoons/Heavy rain/Droughts	Medium	《Medium- to long-term》 > Plant shutdowns due to disasters caused by abnormal weather > Increase in premiums paid		> Promotion of disaster countermeasures > Use of insurance
	Chronic	Sea level rise/ Rise in average temperatures	Small	《Long-term》 > Narrowing of profit margin due to increase in running costs of air separation unit caused by rising temperatures	《Medium- to long-term》 > Increasing demand for medical products to treat diseases	> Replacement of aging air separation unit to reduce running costs > Provision of medical oxygen, etc.

Short-term (~ 2025) 、 Medium-term (2025 ~ 2030) 、 Long-term (2030 ~ 2050)