



May 20, 2020

To all persons concerned

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Representative:	Sugimori Tsutomu Representative Director, President
Stock code:	5020; first section of Tokyo Stock Exchange and Nagoya Stock Exchange
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## **Second Medium-Term Management Plan (FY2020-2022)**

JXTG Holdings, Inc. (President: Tsutomu Sugimori) (the “Company”) hereby announces its second Medium-Term Management Plan (FY2020-2022) (the “Plan”).

The Company, pursuing transformation aimed at achieving our JXTG Group Long-Term Vision to 2040 (the “Long-Term Vision”) as announced last year, has formulated the Plan under the themes “Continue and accelerate structural reforms” and “Develop & strengthen growth businesses” in our business portfolios.

It should be noted that we forecast a decline in demand for petroleum products and other segments due to the impact of COVID-19 for the first half of the year ended March 2021 but not for the rest of the period in the Plan because of the difficulty in making a proper and reasonable estimate of the impact at this time.

We will carefully evaluate and disclose the impact on the Plan in accordance with developments in the global economy and the extent of recovery in domestic demand following resumption of economic activity after the state of emergency has been lifted.

The JXTG Group will continue working together to achieve the Plan in order to realize our envisioned goals for 2040 as stated in the Long-Term Vision.

### **1. Basic policy of Second Medium-Term Management Plan**

- “Pursue both implementation of business strategy to achieve the Long-Term Vision and management focusing on cash flow”

We will advance “Pursue selective investment to develop and strengthen growth business and optimize the business portfolio” based on “Generate ongoing cash flow by strengthen the competitiveness of base business”, and enforce “Maintain the soundness of the financial base and allocate cash flow appropriately”.

- “Strengthen the business foundation”

We will strengthen the effectiveness of governance by developing the management system to enable speedier decision making through and strengthening monitoring by the Board of Directors. We will also pursue enforcing system platforms and securing human resources. Moreover, focusing on the company’s transformation, we will promote constructive dialogs with stakeholders including shareholders and customers employees.

## 2. Management Indicator

- Operating income (excluding inventory valuation) 970 billion yen※
- Free Cash flow 150 billion yen※
- Net D/E ratio 0.8× or lower (on a total asset basis)
- ROE 10% or higher

※Cumulative total for FY2020-FY2022

Key factor	2020	2021	2022
Exchange Rate [Yen/\$]	105	105	105
Crude Oil price [Dubai][\$/B]	30	60	60
Copper price[ ¢ /lb]	250	270	270

## 3. Investment Plan 1,500 billion yen (Cumulative total for FY2020-FY2022)

## 4. Shareholder Return Policy

- Basic policy Secure sufficient
  - Secure sufficient financial soundness and liquidity to withstand resource price volatility and other business risks and enable procurement of capital for sustained investment in growth.
  - Based on the above, utilize constant financing to maintain an optimal capital structure and capital costs.
- Return Policy
  - Based on the understanding that return of profits to shareholders is a material management task, the JXTG Group will redistribute profits by reflecting changes in medium-term consolidated business results and prospects as a basic policy, while striving to maintain stable dividends.
- Indication of shareholder return in second Medium-term Management plan
  - Dividends: Not less than current level
  - Total return ratio:50% or more, excluding inventory valuation effects  
3-year cumulative

Attachment: Second Medium-Term Management Plan (FY2020-2022)

<https://www.hd.jxtg-group.co.jp/english/company/system/plan.html>

Security Code

Tokyo 5020

May, 20 2020

# **JXTG Group Second Medium-Term Management Plan FY2020 - FY2022**

Tsutomu Sugimori Representative Director, President

**JXTG** Holdings, Inc.

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Materials disclosed in May 2019  
(with some revisions)

# I. Group Long-Term Vision

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# Our Envisioned Goals for 2040

revision

## (1) Become one of the most prominent and internationally-competitive energy and materials company groups in Asia

The JXTG Group, as one of the most prominent and internationally-competitive energy and materials company groups in Asia, will contribute to the development of our communities and help to ensure a vibrant future by optimizing our value chain and efficiently providing a stable supply of products and services.

## (2) Create value by transforming our current business structure

The JXTG Group will create new value by expanding our growing businesses globally, enhancing our technology based business, and establishing innovative businesses, taking opportunities arising from digital transformation and changes in social needs.

## (3) Contribute to the development of a low-carbon, recycling- oriented society

The JXTG Group will contribute to the development of a low-carbon, recycling oriented society through the enhancement of environmentally conscious businesses and the pursuit of carbon neutral status in its own CO<sub>2</sub> emissions.

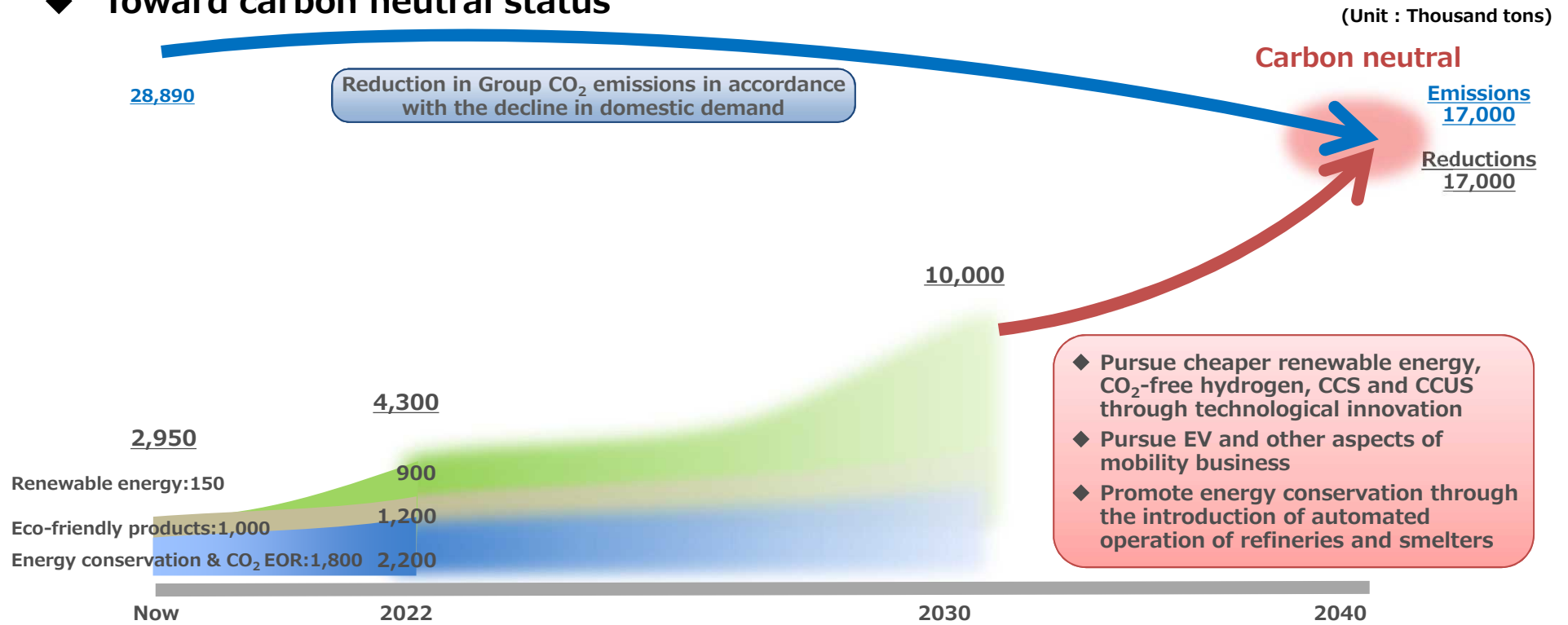
To accomplish our envisioned goals, we will transform our corporate culture through the development of more diverse and innovative human resources who can take on challenges on a global scale, and through improvement of operational quality by making the best use of ICT, while giving the highest priority to health, safety and environment, core values which are integral to our business operation.

# Our Envisioned Goals for 2040

## ◆ Contribute to the realization of a sustainable society, the aim of the SDGs, through the achievement of our envisioned goals

Through our business activities (Five key items)	7 エネルギーをみんなにそしてクリーンに AFFORDABLE AND CLEAN ENERGY	9 産業と技術革新の基盤をつくろう INDUSTRY, INNOVATION AND INFRASTRUCTURE	11 住み続けられるまちづくりを SUSTAINABLE CITIES AND COMMUNITIES	12 つくる責任 つかう責任 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 気候変動に具体的な対策を CLIMATE ACTION
Through corporate activities (Five key items)	3 すべての人に健康と福祉を GOOD HEALTH AND WELL-BEING	4 質の高い教育をみんなに QUALITY EDUCATION	5 ジェンダー平等を実現しよう GENDER EQUALITY	8 働きがいも経済成長も DECENT WORK AND ECONOMIC GROWTH	10 人や国の不平等をなくそう REDUCED INEQUALITIES

## ◆ Toward carbon neutral status

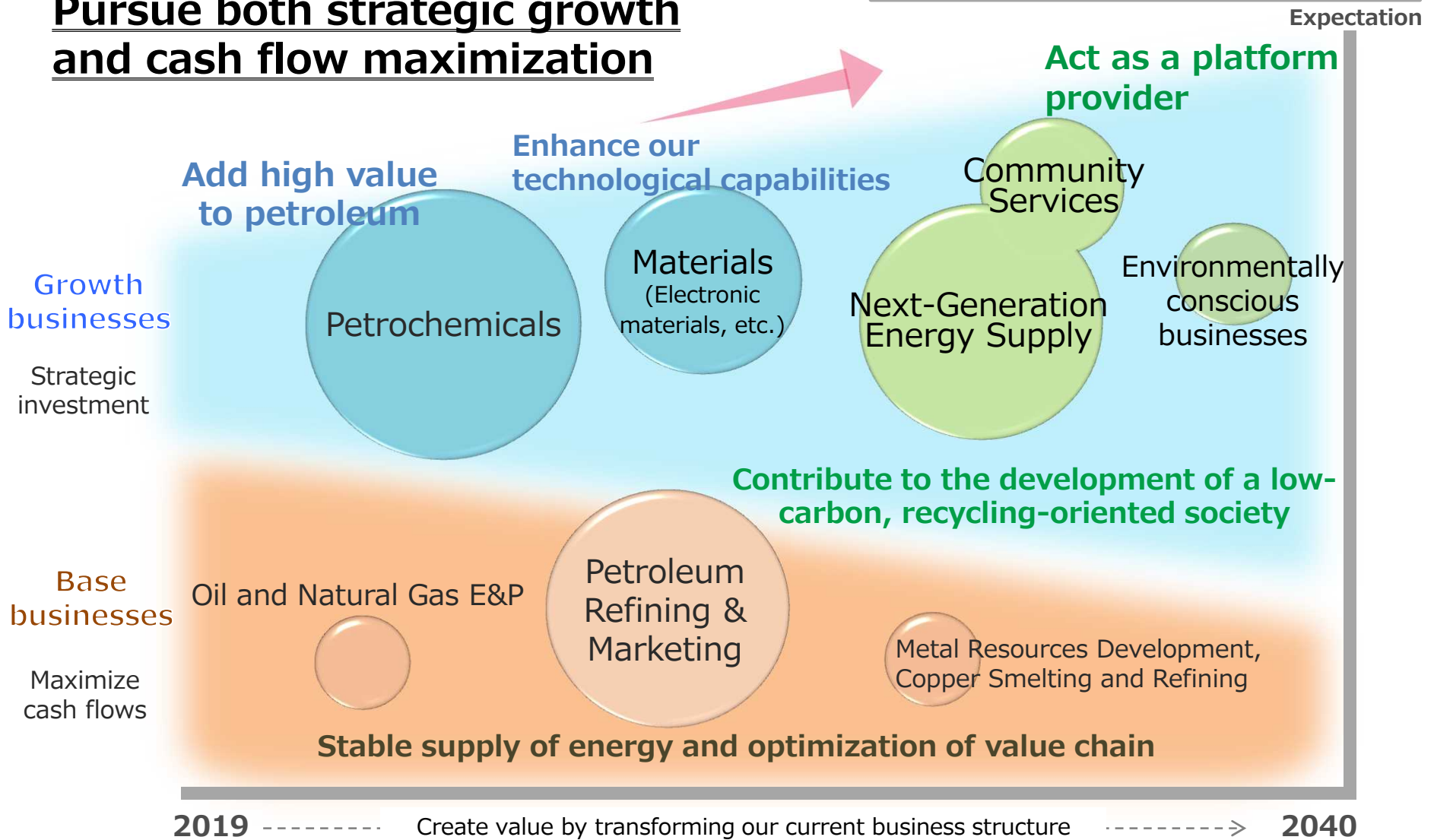


# Overview of Our Future Businesses to 2040

revision

Bubbles show 2040 business portfolio image

## Pursue both strategic growth and cash flow maximization





## **II. Second Medium-Term Management Plan**

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**— Pursuit of Transformation Aimed at  
Achieving the Long-Term Vision —  
(FY2020-FY2022)**

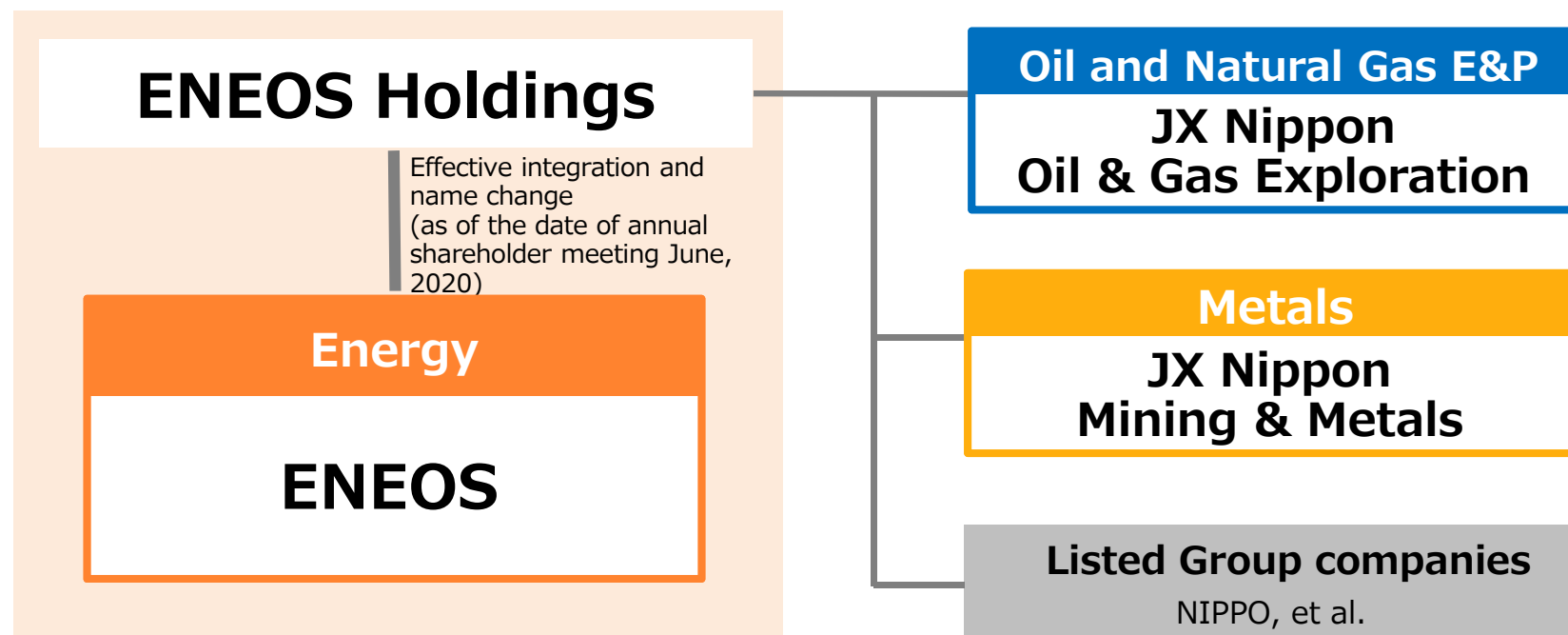
# 1. First Medium-Term Management Plan Results

	Energy	Oil & Natural Gas E&P	Metals
Enhancing profitability of core businesses	<ul style="list-style-type: none"> <li>Maximized integrated synergies</li> <li>Integrated under the ENEOS brand</li> <li>Made Muroran a business location, decided to halt the refining function in Osaka, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Started production at projects in Malaysia, Abu Dhabi, and the UK</li> </ul>	<ul style="list-style-type: none"> <li>Strengthened profitability of Caserones</li> <li>Increased production capacity of treated rolled copper foil and other electronic materials</li> </ul>
Focusing on cash flows and capital efficiency	<ul style="list-style-type: none"> <li>Strengthened the electric power and gas businesses, including renewable energy</li> <li>Divested the cell culture material business</li> </ul>	<ul style="list-style-type: none"> <li>Divested interest in Syncrude Oil Sands Project in Canada</li> </ul>	<ul style="list-style-type: none"> <li>Acquired tantalum and niobium business</li> <li>Optimized copper mine equity interest</li> </ul>
Strengthening business foundation	<ul style="list-style-type: none"> <li>Worked on project to introduce ERP, internal controls based on global standards, and ESG management</li> <li>Transitioned to a company with Audit and Supervisory Committee</li> <li>Formulated the JXTG Group Long-Term Vision to 2040</li> <li>Announced changes to Group management structure and name change to <b>ENEOS Group</b> in June 2020</li> </ul>		
Management indicators	<ul style="list-style-type: none"> <li>Good performance in FY2017 and FY2018, but earnings decreased significantly in FY2019 due to a downturn in petrochemicals margins resulting from eased supply-demand balance, and worsened in the forth quarter due to a decline in oil prices and reduced demand for petroleum and petrochemical product brought about by the global spread of the novel coronavirus (COVID-19).</li> <li>On the other hand ,we achieved a three-year cumulative cash flow of around 829 billion yen (vs. initial plan of 500 billion yen) and established a stable financial base.</li> </ul>		

Enter a new stage aimed at achieving the Long-Term Vision to 2040 while maintaining a stable financial base

## 2. About the New ENEOS Group

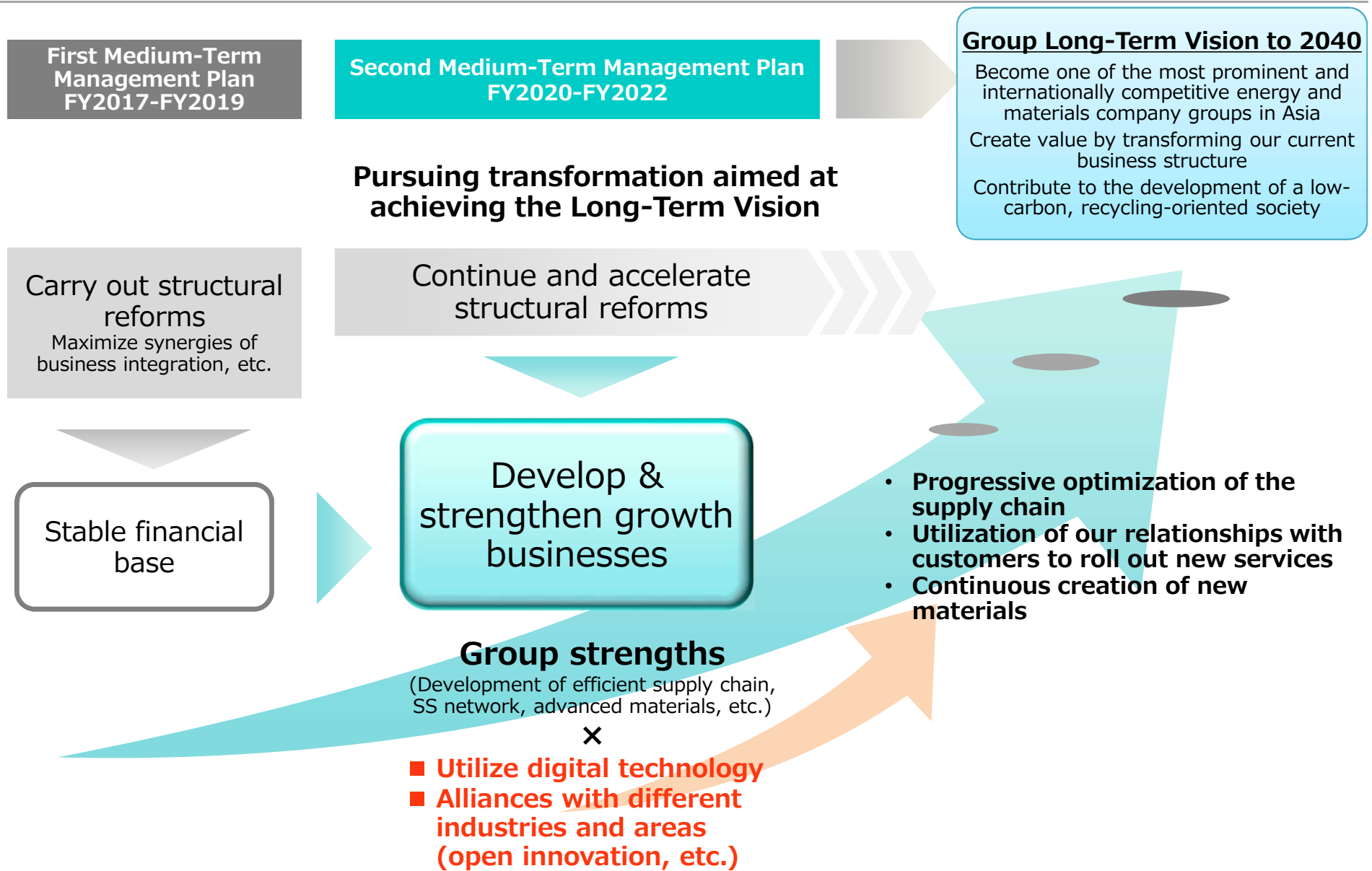
Aiming to become one of the most prominent and internationally competitive energy and materials company groups in Asia



### Reasons for Changes to the Group Management Structure

- ❑ To accelerate decision-making and execution of our business in a rapidly changing business environment
- ❑ To develop growth businesses and pursue creation of new businesses by utilizing the highly recognized brand name, ENEOS

### 3. Positioning of Second Medium-Term Management Plan



## 4. Basic Policy of Second Medium-Term Management Plan

- Pursue both implementation of business strategy to achieve the Long-Term Vision and management focusing on cash flow

(1) Generate ongoing cash flow by strengthening the competitiveness of base businesses

(2) Pursue selective investment to develop and strengthen growth businesses and optimize the business portfolio

(3) Maintain the soundness of the financial base and allocate cash flow appropriately

Financial Plan  
See Page 27 onward for further information.

3-year cumulative total

Operating Income  
(Excl. inventory valuation)

Capital Investment & Financing  
Sale of property

Free Cash Flow

Total Return Ratio

970 billion yen

15,000 billion yen  
1,500

1,500 billion yen

50% or higher

Net D/E ...

0.8× or lower

ROE ...

10% or higher

### ■ Strengthening the business foundation

- Strengthen the effectiveness of governance

(Develop the management system to enable speedier decision making and strengthen monitoring by the Board of Directors, etc.)

- Strengthen system platforms

(Realize the benefits of newly introduced ERP, strengthen security, and support diverse workstyles through the use of IT tools)

- Implement measures to develop and secure human resources

- Pursue constructive dialogue with stakeholders

## 5. ESG Management in the JXTG Group

ESG management in the JXTG Group means realizing the goals envisioned in the Long-Term Vision to 2040 and creating social and economic value.

### Environment

#### Contribute to the development of a low-carbon, recycling-oriented society —by transforming our current business structure—

- Strive to become carbon neutral by 2040 (in Group emissions)
- Pursue next-generation energy supply and environmentally conscious businesses
- Continue to implement energy conservation and other environmental measures
  - Long-term target for reduction in CO<sub>2</sub> emissions:  
Reduction of 10 million tons in FY2030 (vs. FY2009)
  - Continue to pursue zero emissions
  - Implement soil pollution countermeasures at each site as well as forest preservation activities and other environmental initiatives

### Social

#### Make persistent efforts to solve social challenges

- Maintain a safe and stable energy supply structure capable of responding to medium- and long-term changes in demand
- Supply advanced materials to support the development of society
- Strengthen human rights initiatives for all people involved in the supply chain

### Governance

#### Strengthen the governance structure

- Develop the management system to enable speedier decision making and strengthen monitoring by the Board of Directors.
- Analyze the risks and opportunities in climate change and other changes, and reflect these in the Long-Term Vision, Medium-Term Management Plan, and other plans
- Regularly check and explain whether it is optimal to maintain the listed companies as subsidiaries from the perspective of increasing corporate value and improving capital efficiency for the Group as a whole.

# 6. Business Strategy

(1) Petroleum Refining & Marketing, Oil & Gas E&P, Metal Resources Development, Copper Smelting and Refining




Base businesses

## Vision

Strengthen international competitiveness by introducing digital and other new technologies and building optimal production structures while ensuring safe and stable supply

## Measures in the 2nd Medium-Term Management Plan

### Active introduction of digital technology

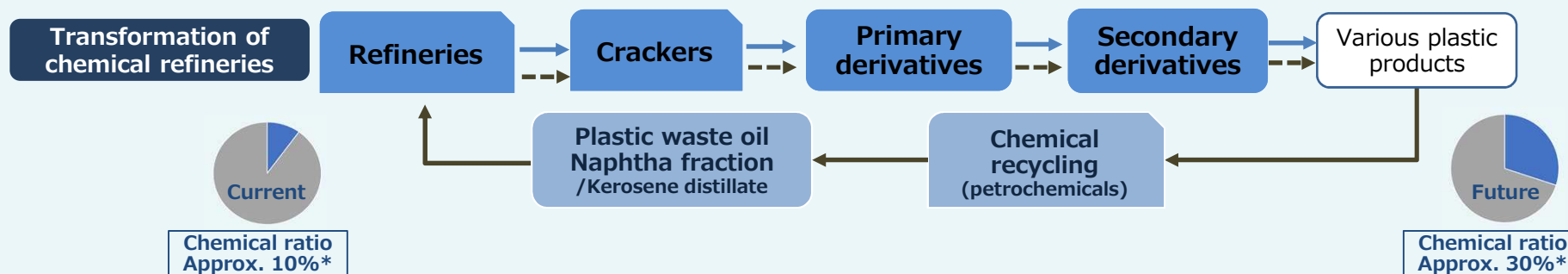
<b>Petroleum Refining &amp; Marketing</b>	<p><b>Transformation of the supply chain</b></p> <ul style="list-style-type: none"> <li>➤ Continue to pursue optimal production and supply structure and build optimal petroleum products sales structure</li> <li>➤ Rebuild OIREC business (Halt the refining function in Osaka and relocate refinery management to Chiba)</li> <li>➤ Shift human resources to growth business in according with decreases in domestic demand</li> </ul>		<ul style="list-style-type: none"> <li>• Improve equipment maintenance with predictive diagnostics</li> <li>• Verify automated operation of refinery equipment</li> <li>• Optimize overall SCM</li> <li>• Improve delivery efficiency</li> </ul>
<b>Oil &amp; Gas E&amp;P</b>	<p><b>Maximize the value of existing assets and strengthen competitiveness</b></p> <ul style="list-style-type: none"> <li>➤ Steadily expand exploration and production</li> <li>➤ Increase the recovery rate by using gas/chemical EOR (enhanced oil recovery) technology</li> </ul>		<ul style="list-style-type: none"> <li>• Highly accurate production forecasting</li> <li>• Increased efficiency via remote operation</li> <li>• Sophisticated forecasting of underground geological structure and velocity distribution</li> </ul>
<b>Metal Resources Development, Copper Smelting and Refining</b>	<p><b>Continue stable operation of Caserones</b> Improve operating efficiency by strengthening automated control of operations.</p> <p><b>Integrate Smelting and Refining Business and Recycling Business</b></p> <ul style="list-style-type: none"> <li>➤ Achieve the best feed mix of copper concentrate/recycled materials and maximize profits in the smelter business</li> <li>➤ Steadily integrate recycled materials with high profit margin</li> </ul>		<ul style="list-style-type: none"> <li>• Enhance efficiency through automated production planning and management</li> <li>• Implement remote operation of smelters</li> <li>• Introduce AI to speed up sorting and analysis of recycled materials</li> </ul>

## 6. Business Strategy (2) Petrochemicals

Growth businesses

### Vision

Increase competitiveness and profitability by transforming refineries to produce more chemical products and entering the high-value-added derivatives business.



\*The chemical ratio at the Kawasaki, Kashima, Mizushima, and Oita industrial complexes

### Measures in the 2nd Medium-Term Management Plan

#### Concrete measures aimed at increasing the chemical ratio at the Kawasaki, Kashima, Mizushima, and Oita industrial complexes

- Develop concrete measures for equipment configuration at each site that are also based on comparison with chemical refineries overseas
- Strengthen alliances with Mitsubishi Chemical by establishing LLP with the ultimate goal of zero gasoline production in Kashima
- Develop concrete measures for entering the derivatives areas where we have strengths, without limiting ourselves to basic petrochemical products

#### Expand the scale of technologically superior products\*

- Work to install new equipment to achieve higher profitability by doubling production capacity by 2030

\* Product examples: Hydrogenated petroleum resin (used as an adhesive in disposable diapers), ENB (used as an additive in synthetic rubber for vehicle parts), electrical wire insulation material (used for specialty electrical wire such as high-voltage and ultra-high voltage wire)



## 6. Business Strategy (3) Materials (Electronic Materials)

Growth  
businesses

### Vision

- Contribute to social development by supplying advanced materials for highly advanced and high-value-added products

Communications  
& Digital  
(IoT devices)

Mobility  
(EV, connected  
cars)

Healthcare  
Devices  
(diagnostic  
equipment, testing  
kits, imaging)

Next-generation  
Batteries  
(all solid state  
batteries)

Capture the need for advanced materials, which is growing with the increasing use of digital data in various industries, and continually generate Global Niche Top businesses

### Measures in the 2nd Medium-Term Management Plan

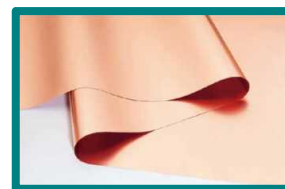
- Steadily capture growth in demand accompanying the proliferation of 5G-capable devices and the rebound in the memory segment.
- Improve products for advanced functionality and higher added value while establishing production capacity in accordance with growing demand.
- Cultivate the seeds of new businesses and develop the next core pillars through M&A and open innovation.



Semiconductor target



Compound semiconductors  
(Indium-Phosphorus)



Treated rolled copper foil

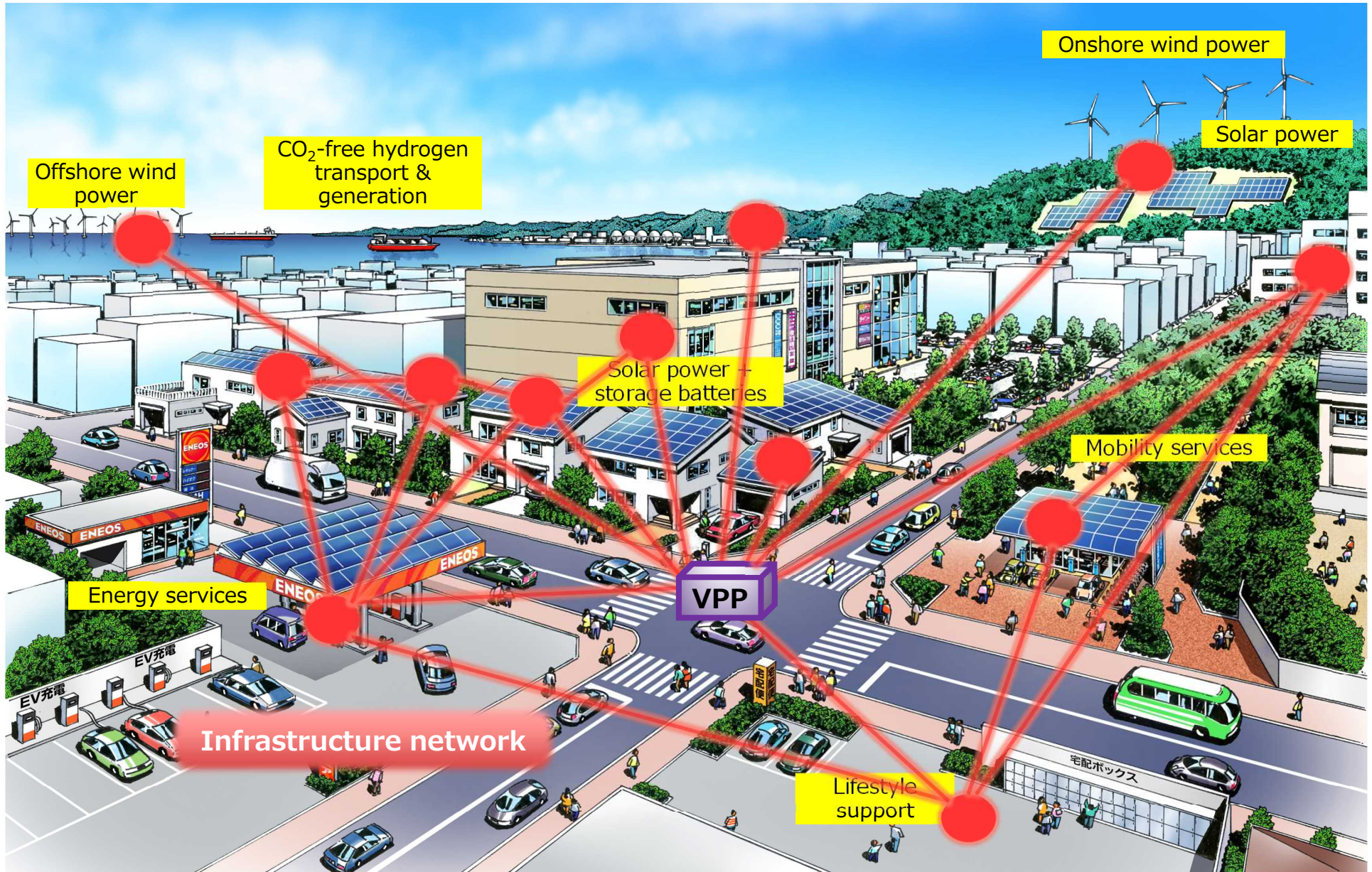


Tantalum powder

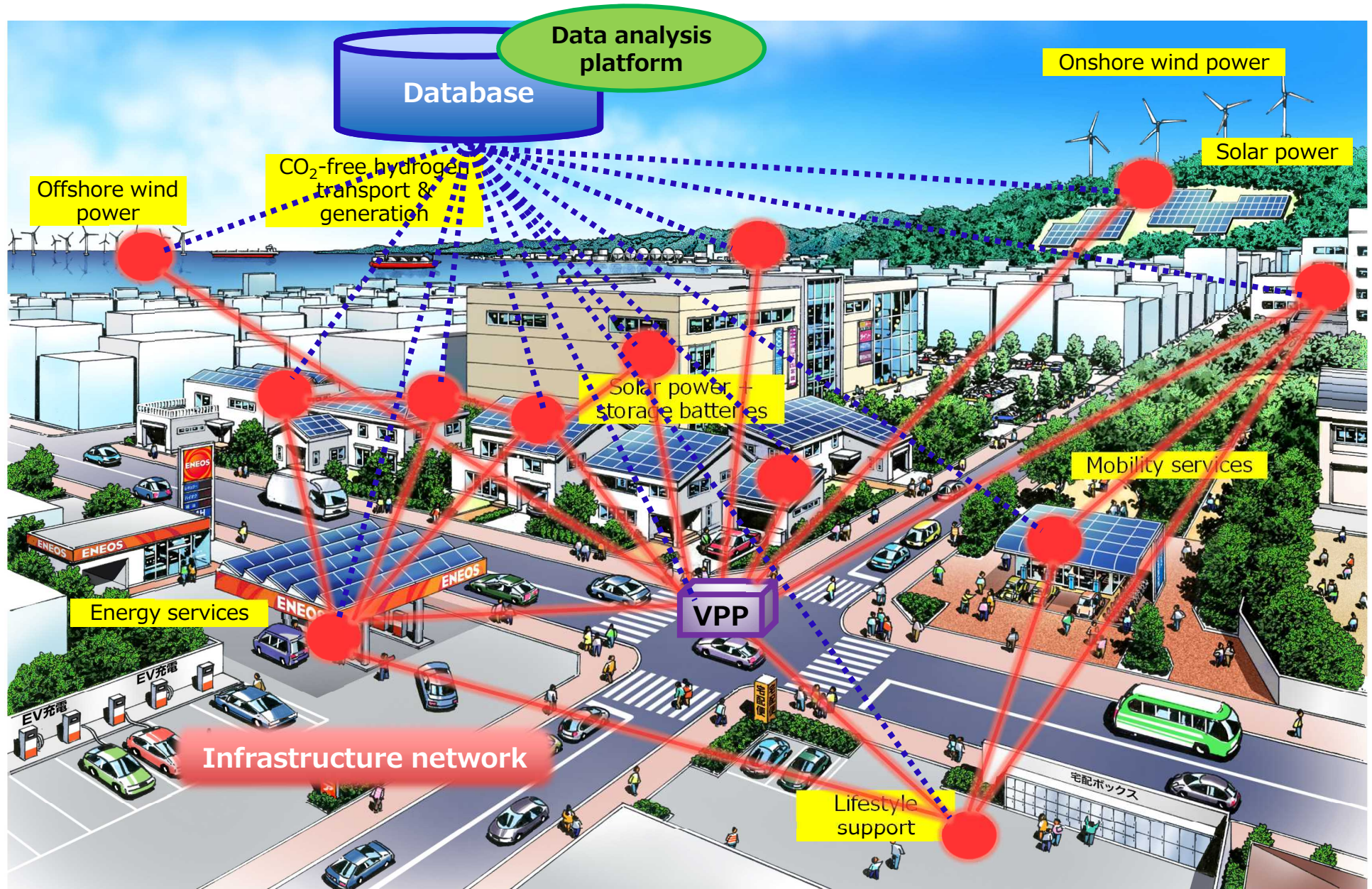
## 6. Business Strategy (4) Next-generation Energy Supply and Community Services (Overall Image)



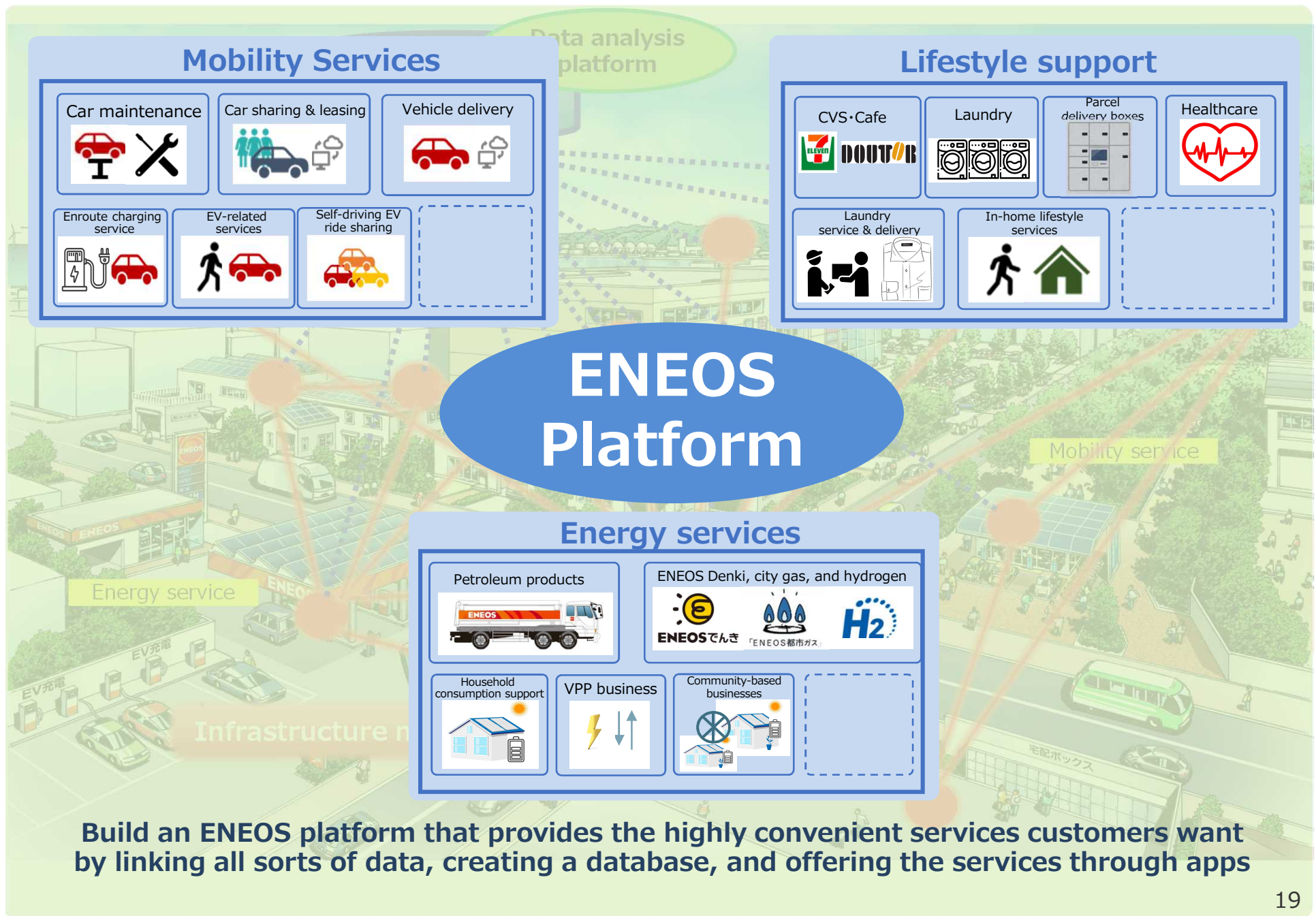
## 6. Business Strategy (4) Next-generation Energy Supply and Community Services (Overall Image)



# 6. Business Strategy (4) Next-generation Energy Supply and Community Services (Overall Image)



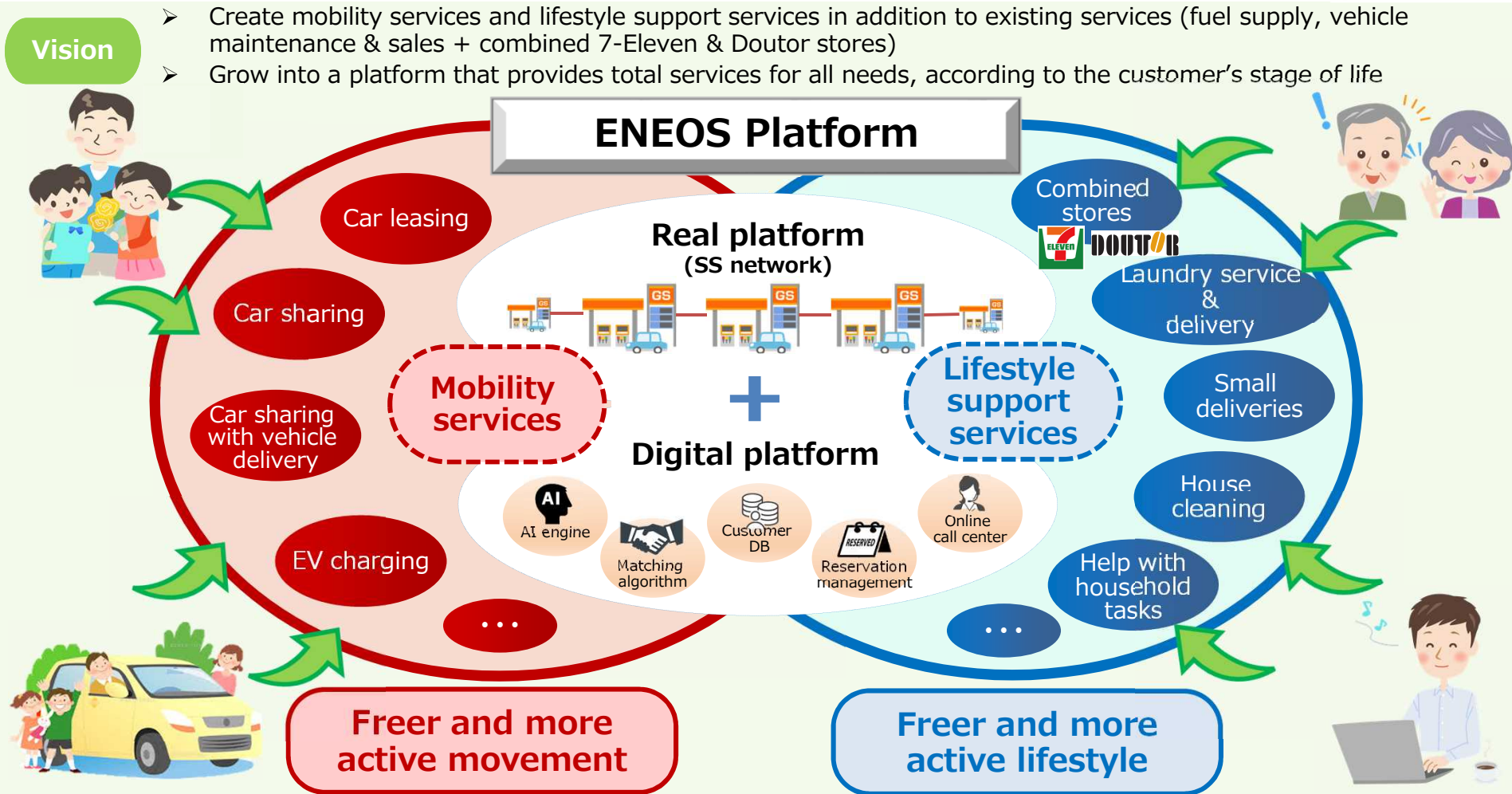
# 6. Business Strategy (4) Next-generation Energy Supply and Community Services (Overall Image)



# 6. Business Strategy

(5) Next-generation Energy Supply and Community Services Based on SS

Growth businesses



Measures in the 2nd Medium-Term Management Plan

<b>Mobility</b>	<ul style="list-style-type: none"> <li>➢ Build a car delivery and sharing business model</li> <li>➢ Use SS customer contact points to develop the car leasing business</li> <li>➢ Conduct a verification trial of an enroute EV charging service</li> </ul>
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<b>Lifestyle support</b>	<ul style="list-style-type: none"> <li>➢ Build a new business model via alliances/collaboration</li> <li>➢ Expand services by utilizing ENEOS brand power, business partners and agencies, and SS OTC real-time contact points</li> </ul>
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# 6. Business Strategy

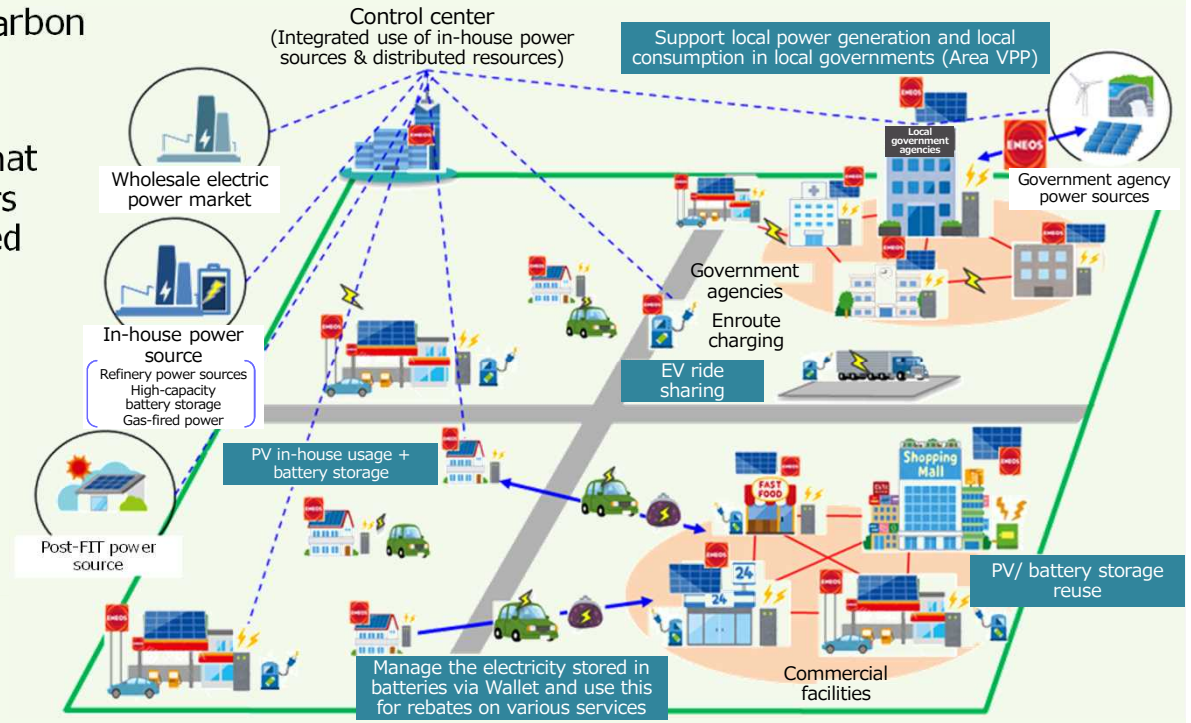
## (6) Next-generation Energy Supply and Community Services Centered on Use of Distributed Power Sources

Growth businesses

**Vision** Efficient, stable supply of low-carbon energy

- Roll out an electric power service that meets the many needs of customers through integrated use of distributed power sources
- Build a CO<sub>2</sub>-free hydrogen supply chain

Measures in the 2nd Medium-Term Management Plan



- **Expand customer base and build optimal portfolio of power generation sources**
  - Expand the ENEOS Denki customer base size nationwide and proceed with replacement of the Goi thermal power station (to start operation in FY2024)
  - Expand domestic and overseas renewable energy power generation capacity to over 1 million kW (roll out domestic solar power, offshore wind power, and onshore wind power)
- **Create energy services that make full use of in-house resources**
  - Pursue household consumption support services (rooftop solar power generation)
  - Conduct verification trial of VPP using in-house power sources, battery storage, and distributed power sources (post-FIT sources, etc.)
- **Conduct verification trial aimed at building an overseas hydrogen supply chain**
  - Explore the potential for implementation as a means of storing and transporting CO<sub>2</sub>-free hydrogen through participation in the Japan-Australia project (liquified hydrogen) and joint technical verification\* to produce an organic hydride from renewable energy power source

\* Utilization of technology that was succeeded in technical verification to produce CO<sub>2</sub>-free hydrogen at low cost with Chiyoda Corporation, the University of Tokyo, and Queensland University of Technology in March, 2019

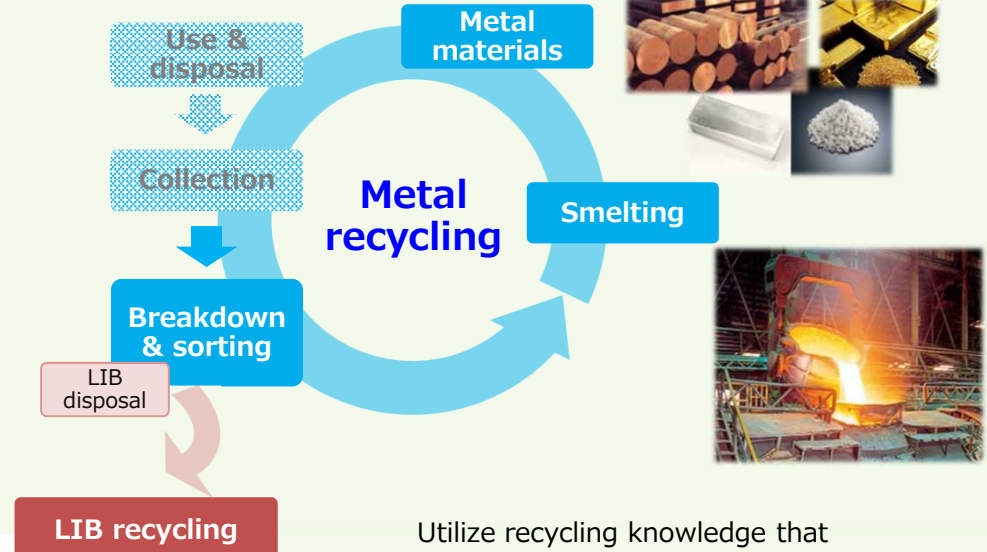
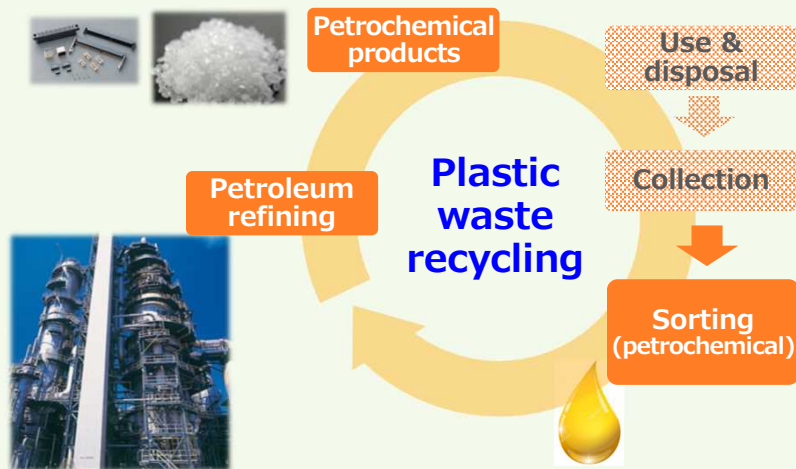
# 6. Business Strategy

(7) Environmentally conscious businesses (Recycling)

Growth businesses

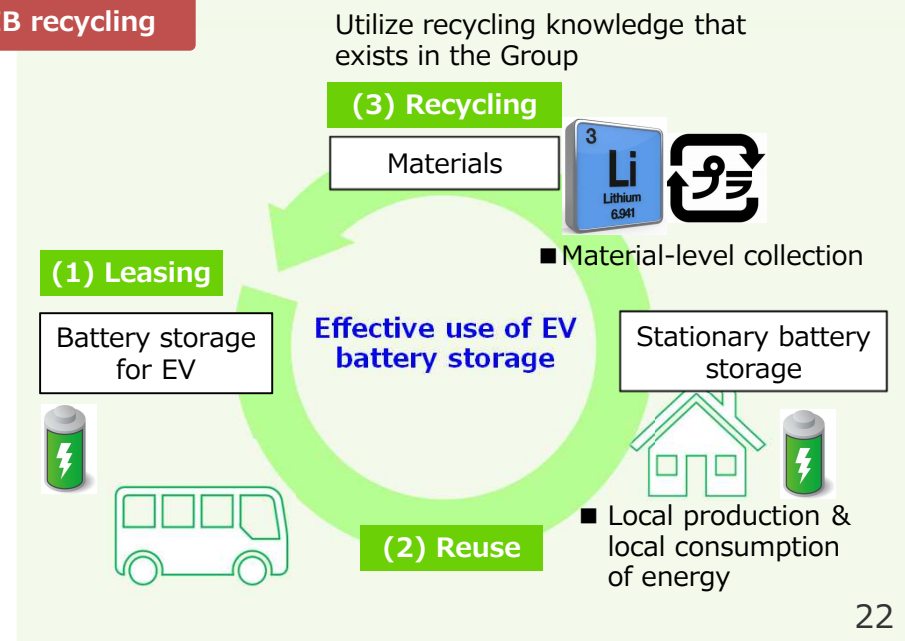
## Vision

- Contribute to the formation of a recycling-oriented society by pursuing plastic waste and metal recycling using refineries and smelters, and vehicle LIB recycling, which is increasingly needed due to the spread of EV



## Measures in the 2nd Medium-Term Management Plan

- Conduct a verification trial of using refineries to recycle petrochemicals (including collaboration with Mitsubishi Chemical)
- Explore commercialization of recycling of LIB for vehicles in 2025 or later
- Work to build a “Lease-Reuse-Recycle” model for battery storage recycling for EV buses in collaboration with BYD





## 6. Business Strategy (8) Environmentally Conscious Business (CCS/CCUS)

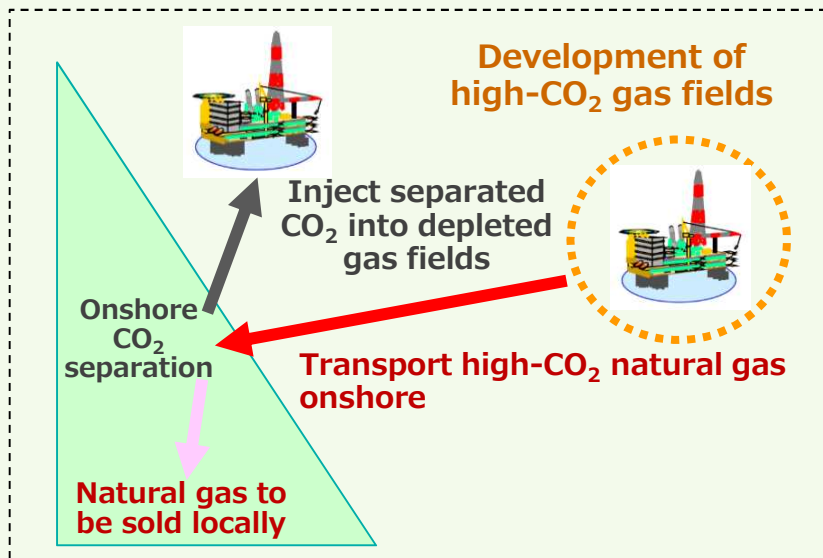
Growth  
businesses

### Vision

- Roll out CCS/CCUS primarily to the Southeast Asian region, about which we are knowledgeable, and contribute to formation of a global low-carbon society

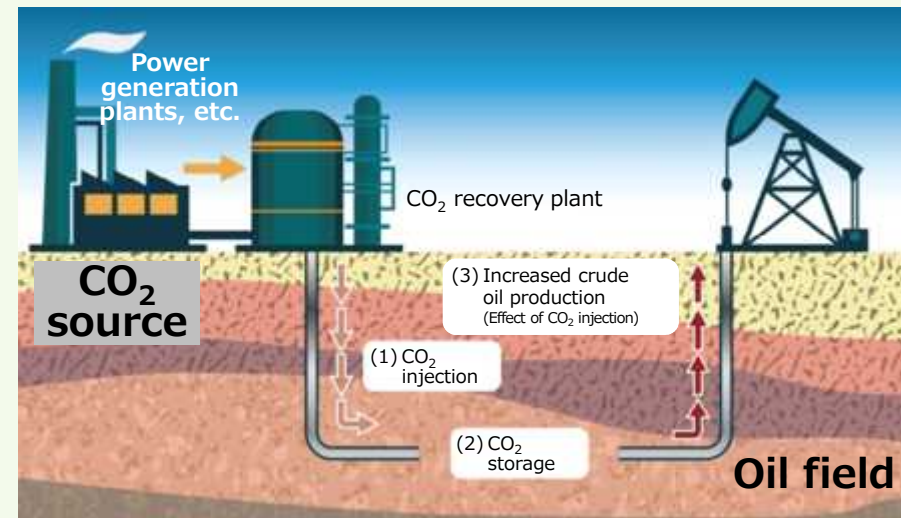
#### Business Model (1): High-CO<sub>2</sub> gas field x CCS

Separate and recover CO<sub>2</sub> from undeveloped high-CO<sub>2</sub> gas fields that have already been discovered and produce clearer natural gas (the separated CO<sub>2</sub> is to be injected into a nearby depleted oil fields).



#### Business Model (2): Depleted oil field x Co<sub>2</sub>-EOR

Capture and recover CO<sub>2</sub> generated from power plants and other facilities and inject it into depleted oil fields to increase the crude oil recovery rate.












### Measures in the 2nd Medium-Term Management Plan

- Utilize CCS/CCUS and other technologies developed through the U.S. CO<sub>2</sub> EOR business
- Collaborate with strategic partners in evaluating business potential

# 7. Open Innovation

Strive to create innovative businesses and utilize technology and ideas from different industries, including start-up companies and universities

Innovation Partners  Wholly owned subsidiaries of HD	Themes to pursue		Have begun investment/collaboration	Under verification
	 <p>Community development &amp; mobility</p>	<ul style="list-style-type: none"> <li>Local infrastructure service platform centered on energy supply</li> <li>New sustainable mobility infrastructure</li> </ul>		
	 <p>Low-carbon, recycling-oriented society</p>	<ul style="list-style-type: none"> <li>Carbon neutral in the Group's own CO2 emissions</li> <li>Sustainable material recycling model</li> </ul>		
	 <p>Data science</p>	<ul style="list-style-type: none"> <li>Create new business value by data digitalization and utilization</li> </ul>		

Numerous other projects currently under consideration

## Energy

- LG Japan Lab × Tokyo Institute of Technology × JXTG  
Smart Materials & Devices Collaborative Research Programs established at Tokyo Institute of Technology
- ENEOS Lab established at Waseda University  
To conduct innovative research on CO<sub>2</sub> reduction and develop human resources
- Venture capital investments  
DNX Ventures (in Silicon Valley), et al.

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## JX Nippon Mining & Metals

- The University of Tokyo  
Development of recycling technology based on environmental research on base metals and rare metals and development of human resources
- Tohoku University  
Donation for a research lab as a locus of innovation in the field of next-generation wiring material technology where the company will launch a joint research course and to use in human resource development and collaboration with venture firms the company invests in
- Kyoto University  
Established a joint research program on SDGs for the Shishu-Kan at the university to develop global human resources

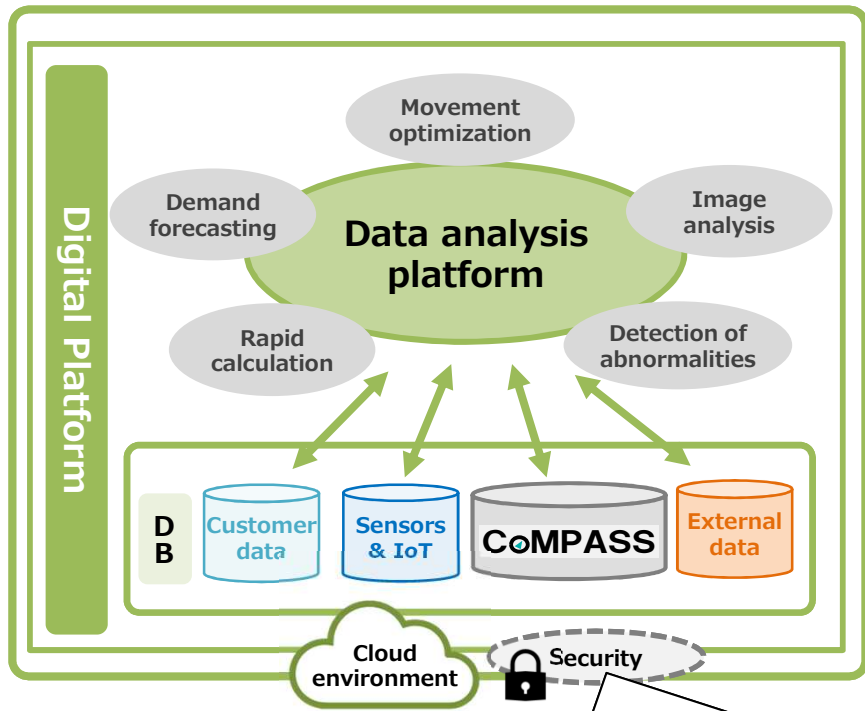
## JX Nippon Oil & Gas Exploration

- The University of Texas at Austin  
R&D on Chemical EOR (Enhanced Oil Recovery)

JXTG Holdings, Inc.

# 8. Path to Digital Transformation

- ◆ **Energy:** Use a platform for diverse data (customer data, data from various kinds of sensors/IoT devices, CoMPASS, and external data) and data analysis to improve the efficiency of base businesses and create innovative new products and services



Provide both safety and reliability through the flexible use of data and continuing to introduce the latest security technology via a cloud environment

**Improve the efficiency of base businesses**

- **Efficient refinery operation**  
Combine data obtained from sensors and AI to automate operations and various kinds of maintenance
- **Improve the efficiency of supply and logistics**  
Optimize tanker allocation and improve the efficiency of land transport based on sophisticated demand predictions
- **Efficient operation of SS**  
Automate various kinds of operations

**Create innovative new products & services**

- **Build a business model through matching**  
Car sharing, help with household tasks, last one mile, next-generation logistics
- **Digital marketing**  
Extract potential needs and trends from customer ideas and usage status, propose the optimal services, and provide various kinds of incentives
- **Speed up and improve the efficiency of development of new materials and media**  
Speed up development through use of materials informatics, etc.
- **Participate in the energy platform business**  
Local energy production and consumption, VPP

- ◆ **Oil & Gas E&P:** Use advanced digital E&P technology to increase the sophistication of oil and gas field operations
- ◆ **Metals:** Use IoT and AI to automate smelters, operate them remotely, increase sophistication, and improve safety

# 9. Securing and Developing Human Resources

—Move away from conventional human resource measures and pursue transformation—

## Transformation & Challenge

## Diversity

### Securing & Developing Human Resources

- Introduce **hiring by job type** and **year-round** recruitment of human resources, including those who have **digital skills**
- Support independent career development
- Introduce a **talent management system** (Manage and use human resources data for optimal personnel deployment)

- Expand hiring of and actively support **human resources with diverse talents and values** in and out of the country.
- Develop human resources capable of carrying out new businesses, overseas business, etc. **to promote the company's transformation**

### Evaluation & Benefits

- Introduce a personnel evaluation system more oriented toward employee **competence and performance**, that is not governed by conventional compensation by seniority
- Provide benefits that better reflect **job duties** and **performance**

- Actively promote **competent, ambitious human resources** based on evaluation from various aspects
- Actively advance experienced employees

### Workstyle Reform

- Promote **independent** and **flexible** workstyles to improve productivity and increase added value
- Actively use digital tools
- Maintain and improve the mental and physical health of employees

- Expand programs to **support balancing** work with childcare, family care, and working while receiving medical treatment
- Change mindsets and build relationships of trust through dialogue

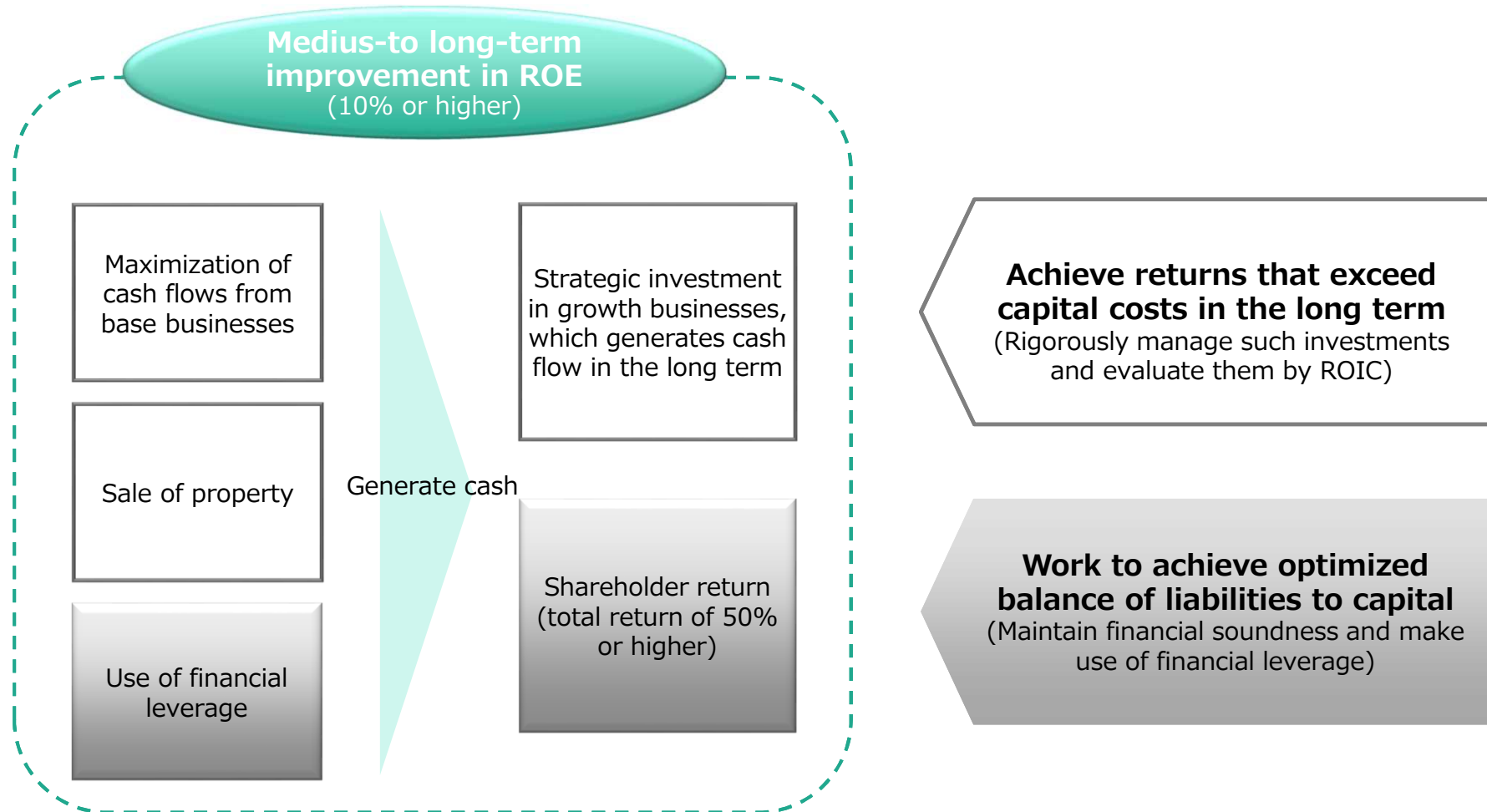
# **III. Financial Plan**

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**(FY2020-FY2022)**

# 1. Financial Strategy

Work to maximize corporate value through a financial strategy underpinned by rigorous management of capital investments and use of financial leverage



## 2. Financial Plan

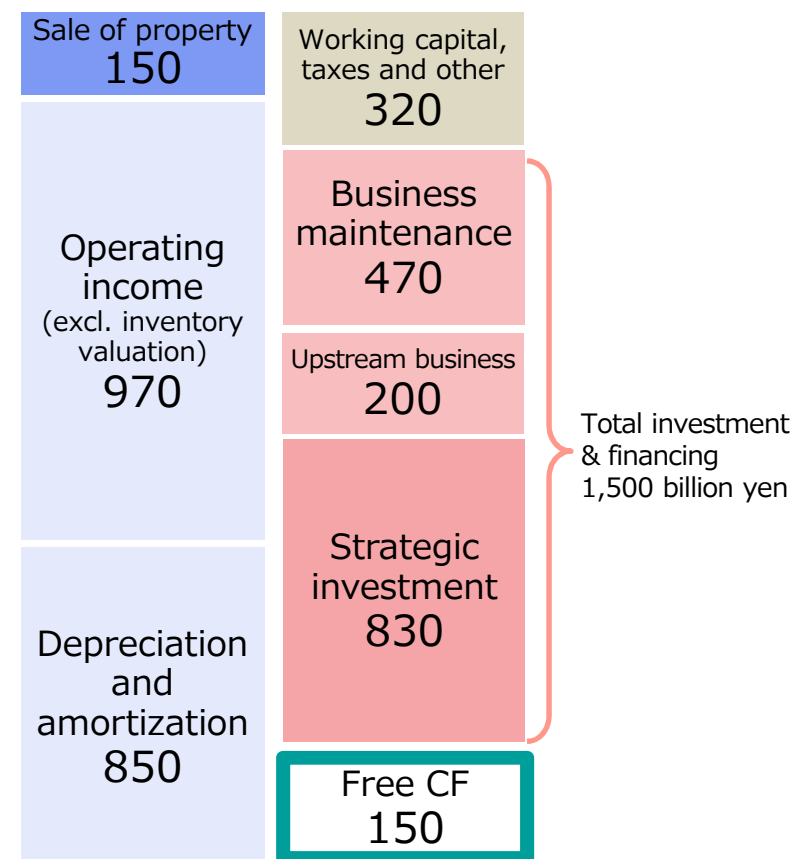
### Management Indicators

<b>Operating income</b> (excl. inventory valuation)	(Cumulative total for FY2020-FY2022) <b>970 billion yen</b>
<b>Free cash flow*</b>	(Cumulative total for FY2020-FY2022) <b>150 billion yen</b>
<b>Net D/E ratio</b>	<b>0.8x</b> or lower (on a total asset basis)
<b>ROE</b>	<b>10%</b> or higher

\*excluding the impact of lease accounting

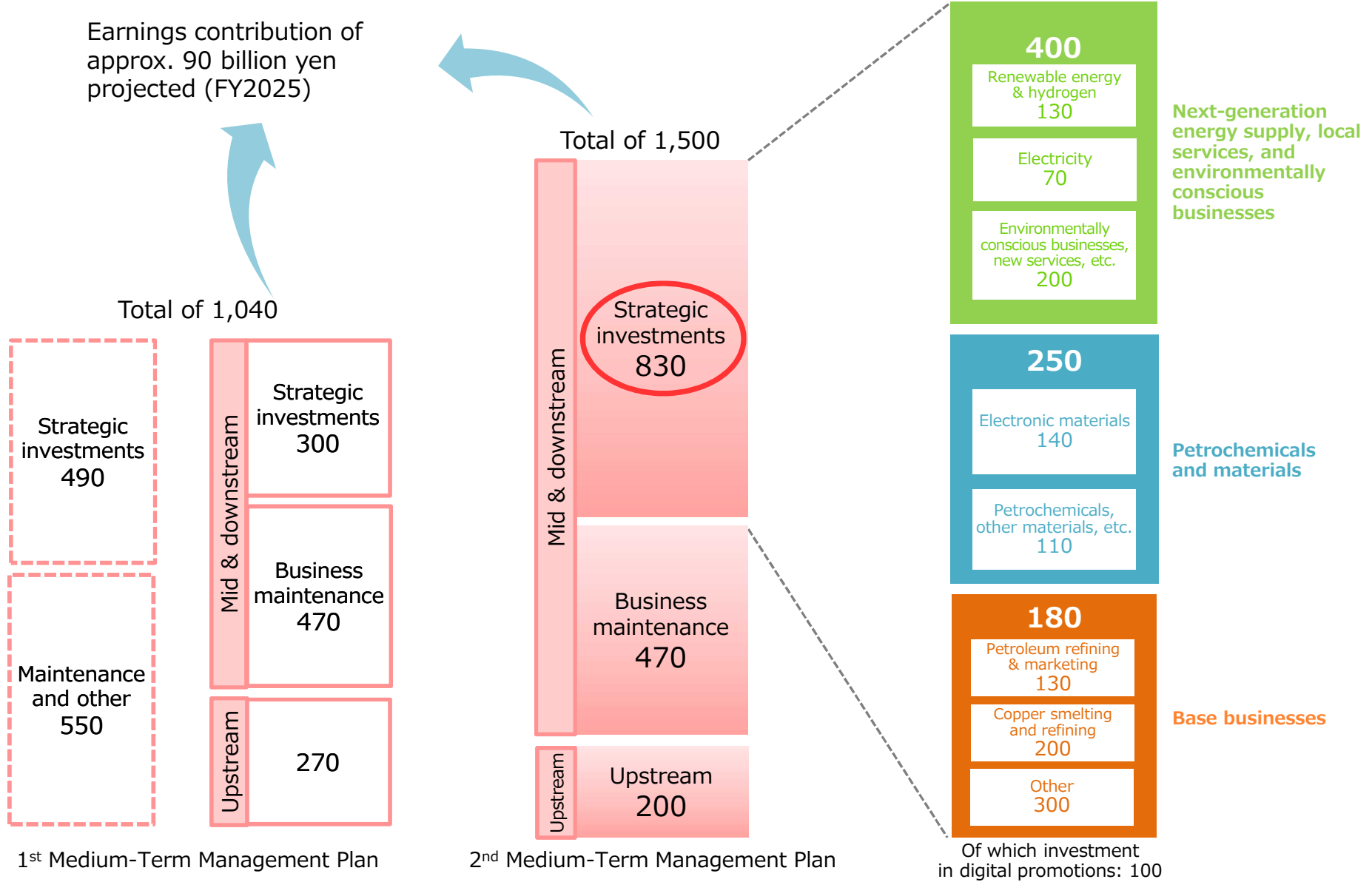
Key factors	2020	2021	2022
Exchange rate [Yen/\$]	105	105	105
Crude oil price [Dubai] [\$]/B]	30	60	60
Copper price [¢/lb]	250	270	270

### Cash Flow Plan (Billion yen)



# 3. Investment Plan

Unit: Billion yen





# 4. Shareholder Return Policy

<p>Basic policy</p>	<ul style="list-style-type: none"> <li>Secure sufficient financial soundness and liquidity to withstand resource price volatility and other business risks and enable procurement of capital for sustained investment in growth.</li> <li>Based on the above, utilize constant financing to maintain an optimal capital structure and capital costs.</li> </ul>	
<p>Return policy</p>	<ul style="list-style-type: none"> <li>Based on the understanding that return of profits to shareholders is a material management task, the JXTG Group will redistribute profits by reflecting changes in medium-term consolidated business results and prospects as a basic policy, while striving to maintain stable dividends.</li> </ul>	
<p>Indication of shareholder return in second Medium-term Management plan</p>	<ul style="list-style-type: none"> <li>Dividends Not less than current level</li> </ul>	<ul style="list-style-type: none"> <li>Total return ratio – 3-year cumulative 50% or more, excluding inventory valuation effects</li> </ul>

## Cautionary Statement Regarding Second Medium-Term Management Plan

- ❑ It should be noted that we forecast a decline in demand for petroleum products and other segments due to the impact of COVID-19 for the first half of the year ended March 2021 but not for the rest of the period in the Plan because of the difficulty in making a proper and reasonable estimate of the impact at this time.
- ❑ We will carefully evaluate and disclose the impact on the Plan in accordance with developments in the global economy and the extent of recovery in domestic demand following resumption of economic activity after the state of emergency has been lifted.

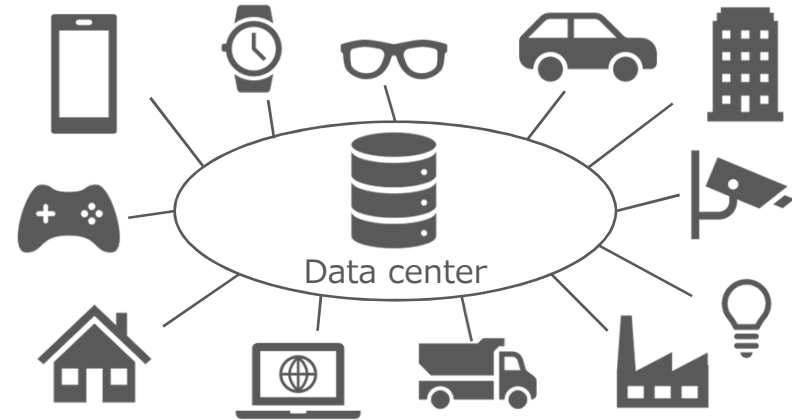
# Second Medium-Term Management Plan Supplementary Data

# Supplementary Data | Business Environment

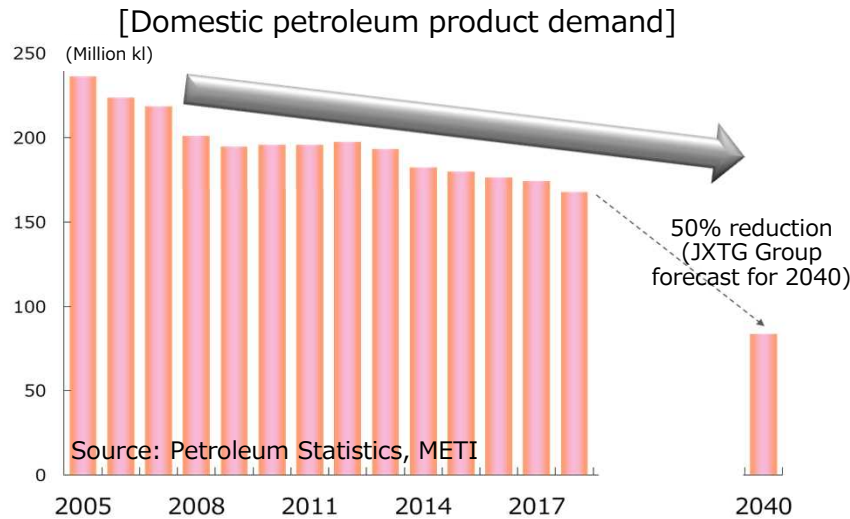
## Development of a low-carbon, recycling-oriented society

- Concerns over global warming continue to increase worldwide due to factors such as the occurrence of extreme weather events around the world.
- Concerns about plastic waste and securing a stable supply of rare metals and other scarce resources will greatly increase the need for recycling of these materials.

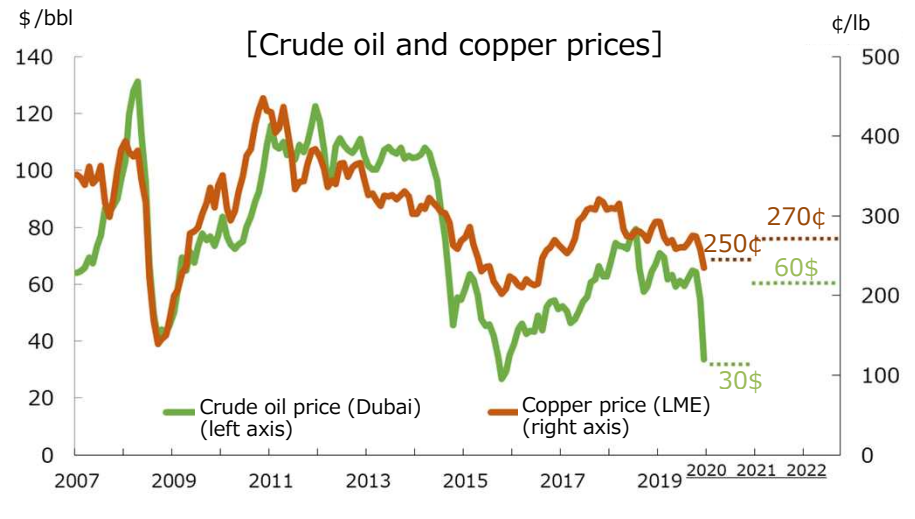
## Proliferation of 5G and development of smart communities



## Continuous decline in domestic petroleum product demand



## Sharp drop in oil prices



## Supplementary Data | Operating income of each segment

	FY2019	FY2020	(billion yen) FY2020-2022
Operating Income (Excl. inventory valuation)	<b>96.7</b>	<b>165.0</b>	<b>970.0</b>
<b>Energy</b>	<b>43.7</b>	<b>90.0</b>	<b>530.0</b>
Petroleum products	7.5	40.0	305.0
Petrochemicals	(19.0)	20.0	85.0
*1 Electric power	10.8	5.0	30.0
*2 Materials	44.4	25.0	110.0
<b>Oil &amp; Natural Gas E&amp;P</b>	<b>(38.8)</b>	<b>0.0</b>	<b>120.0</b>
<b>Metals</b>	<b>47.9</b>	<b>29.0</b>	<b>170.0</b>
Functional Materials, Thin Film Materials and others	14.5	21.0	100.0
Mineral Resources	14.7	10.0	60.0
Smelting and Recycling	22.9	8.0	35.0
Non-allocated corporate expenses and others	(4.2)	(10.0)	(25.0)
<b>Others</b>	<b>43.9</b>	<b>46.0</b>	<b>150.0</b>

\*1 Home electricity retail business and Renewable Energy

\*2 Lubricants, High performance materials and Cokes

## Supplementary Data | Investment plan of each segment

3-year Cumulative Total(billion yen)

Energy	Strategic investments	620
	Business maintenance	350
	Sub Total	970

- Expand of power generation sources (Goi thermal power station)
- Domestic and Overseas renewable energy projects
- Business development including Verification trial of lifestyle support and mobility services

Oil & Natural Gas E&P	Upstream	140
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- Tangguh LNG Project (Indonesia Berau) etc.

Metals	Strategic investments	160
	Business maintenance	80
	Upstream	60
	Sub total	300

- Strengthen of Electric Materials business  
Capacity increase of Copper foil and Sputtering targets and Development of advanced materials to create new business

Others	Strategic investments	50
	Business maintenance	40
	Sub total	90

Total	Strategic investments	830
	Business maintenance	470
	Upstream	200
		1,500

{Investment plan each year}

FY2020	450
FY2021	500
FY2022	550
3-year total	1,500

# Supplementary Data | Medium-Term Environmental Management Plan

<b>Environmental Vision (FY2040)</b>	<p>The JXTG Group aims to be carbon neutral in its own CO<sub>2</sub> emissions in FY2040. We will achieve this by strengthening and expanding businesses that impose a low environmental burden and strengthening environmentally conscious businesses.</p>	
<b>Long-term environmental targets (FY2030)</b>	<p>We aim to reduce CO<sub>2</sub> emissions by 10.17 million tons in FY2030, compared to FY2009, by pursuing energy conservation measures in business activities and pursuing sales and development of environmentally friendly products, including renewable energy, while also pursuing environmentally conscious businesses and contributing to the development of a low-carbon, recycling-oriented society.</p>	
Key Themes	Basic Initiatives	Concrete Measures Aimed at FY2022
<b>I. Contribution to a low-carbon society</b>	Pursuit of energy conservation measures in business activities CO <sub>2</sub> recovery in business activities (Scope 1 and Scope 2) Reduction of CO <sub>2</sub> emissions in the supply chain (Scope 3)	<ul style="list-style-type: none"> <li>Reduce CO<sub>2</sub> emissions by 2.16 million tons compared to FY2009 by pursuing energy conservation</li> <li>CCS/CCUS initiatives</li> <li>Reduce CO<sub>2</sub> emissions of customers by 1.2 million tons compared to FY2009 by promoting sale and development of environmentally friendly products</li> </ul>
	Develop businesses in hydrogen and renewable energy	<ul style="list-style-type: none"> <li>Develop hydrogen station business</li> <li>Develop renewable energy business</li> </ul> <p>Total reduction of 920,000 tons from biomass, solar power, wind power, and other forms of renewable energy.</p>
<p><b>Total CO<sub>2</sub> emission reduction target: 4.28 million tons in FY2020</b></p>		
<b>II. Contribution to a recycling-oriented society</b>	Pursuit of the “3 Rs” (reduce, reuse, recycle)	<ul style="list-style-type: none"> <li>Maintain zero emissions (waste-to-landfill ratio of less than 1%)</li> <li>Develop recycling business (plastic waste, rare metals, etc.)</li> </ul>
<b>III. Contribution to environmental protection</b>	Initiatives for reducing the environmental burden	<ul style="list-style-type: none"> <li>Control emissions of hazardous substances</li> <li>Reduce hazards by enacting voluntary standards on management of chemical substances</li> <li>Soil pollution surveys and countermeasures</li> <li>Protect the environment through high-efficiency lighting</li> <li>Effective use of water resources</li> </ul>
	Biodiversity initiatives	<ul style="list-style-type: none"> <li>Effective Measures to preserve biodiversity in manufacturing sites</li> <li>Forest conservation activities in Japan and overseas</li> </ul>
	Group initiatives	<ul style="list-style-type: none"> <li>Strengthen the environmental management structure</li> <li>Carry out environmental education for Group employees</li> </ul>