

# Medium-term Management Plan (FY2023-2025)

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16 November 2022

Idemitsu Kosan Co.,Ltd.

Securities code: 5019

# Truly inspired

How often do we consider the countries and communities we touch,  
and how much empathy do we have for the people living there?

Are we contemplating what's best for them and then doing our utmost to act in their interests?

Each day, we must reflect on our actions;

we must strive to do better not only for ourselves, but also for others.

When we come together and our efforts are united, we make the impossible possible.

With integrity, solidarity, and determination, we will overcome any challenge we face.

## The Origin of Management

人間尊重

# Contents of the Medium-term Management Plan

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## **Vision for 2050 and the Direction**

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Management Targets in 2030 and the Basic Policy



Medium-term Management Plan  
(FY2023-2025)

# Shaping Change

We will fulfill our

**Responsibility to support people and their daily lives**

**Responsibility to protect the global environment now and in the future**

through the implementation of:

- Energy one step ahead
- Diverse resource conservation / circulation solutions
- Smart Yorozyua\*

\*Smart Yorozyua: Smart one-stop shop

# Our Business Environment Prediction for 2050

## Energy system based on CN\* society

- Power generation: hydrogen / ammonia mono fuel combustion, fossil fuel with CCS, renewable energy
- Transport: electrification, synthetic fuel, second-gen biofuel (non-edible sources)
- Industry: electrification, hydrogen reduction in ironmaking, etc.

## Entrenched circulatory society

- Biomass-derived materials
- Recycled plastic
- Collection and recycling of rare metals (lithium batteries, solar panels, etc.)

## Discontinuous technological innovation

- Negative emissions technology
- CCUS using CO2 as a resource
- Next-gen storage batteries
- Fully autonomous vehicles



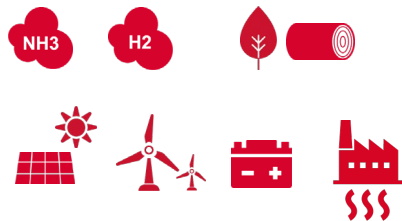
## Business transformation opportunities for Idemitsu

The realization of a CN and recycling-oriented society will require an organization that combines **discontinuous technological innovation** with **digital technology** and **implements them as systems in society**.

\* Carbon neutrality: hereinafter called "CN"

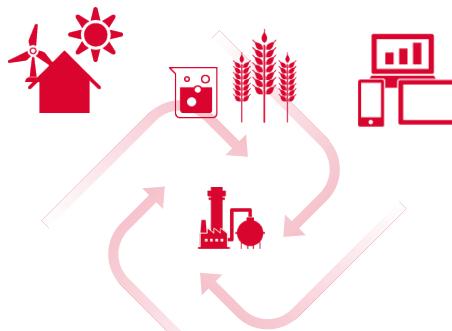
# 3 Business Domains towards Evolution of the Business Portfolio

Pursue an evolution of our business portfolio through social implementation in the “3 business domains”



## Energy one step ahead

Steady supply of diverse, eco-friendly CN energy



## Diverse resource conservation / circulation solutions

CN solutions for industrial activities and regular consumers



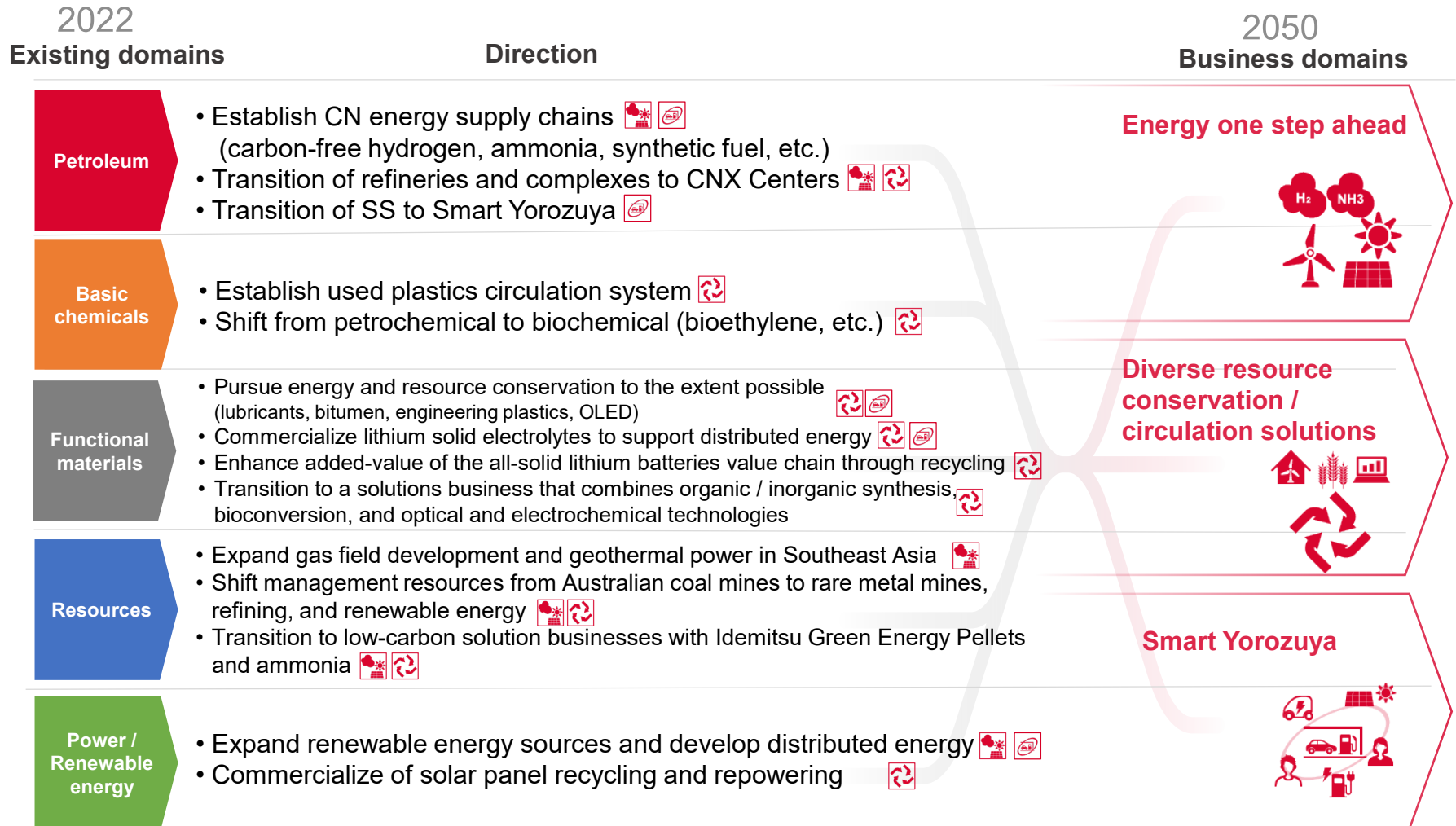
## Smart Yorozyua

Diverse energy and mobility centers that support regional lifestyles

By transforming the existing systems, we will fulfill **our responsibility to support people and their daily lives** and **to protect the global environment now and in the future**

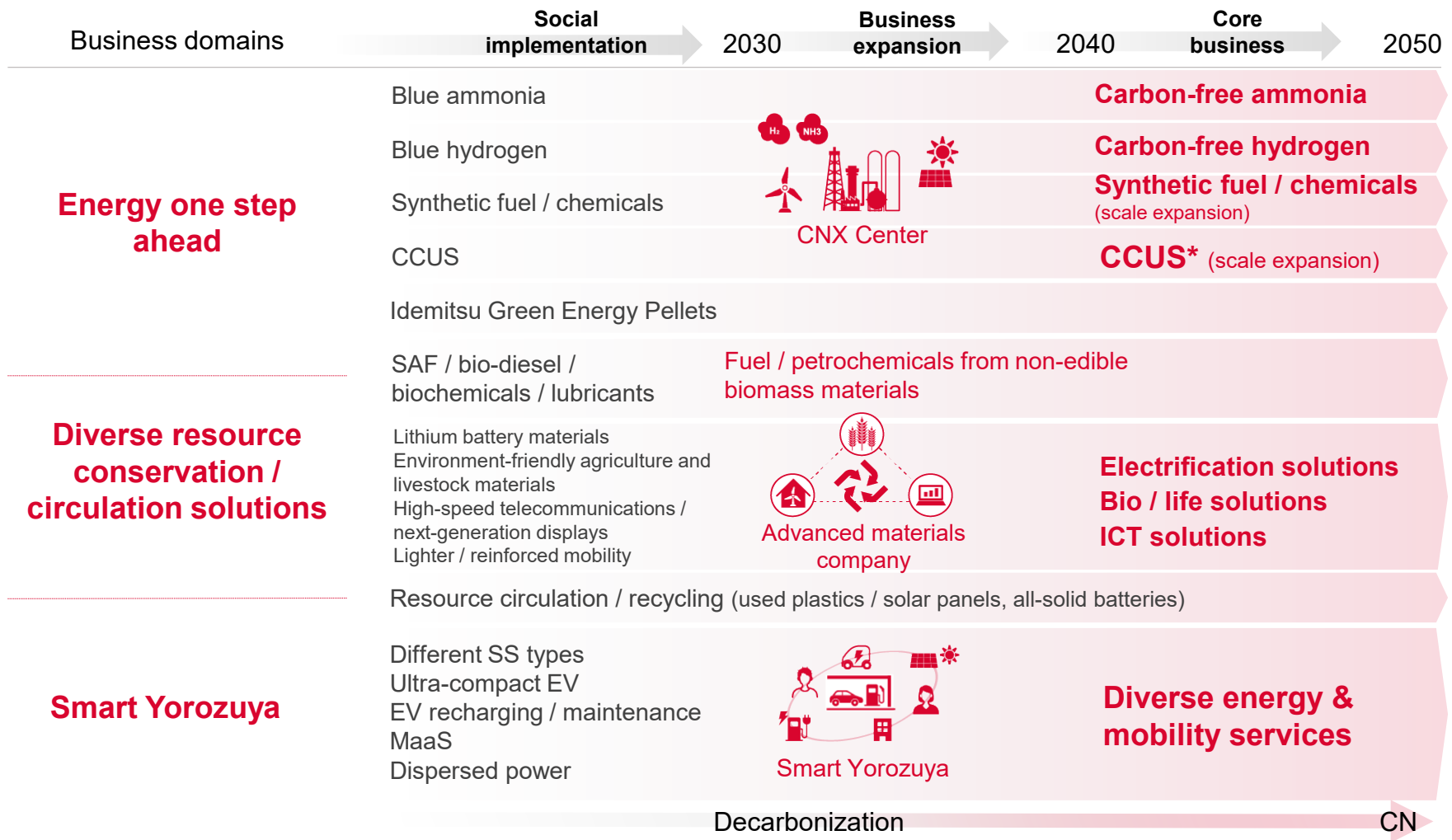
# Direction of Existing Businesses

Shift to domains offering CN solutions combining diverse products and services



# Themes for implementation in 3 domains of society

We will implement solutions in 3 domains of society by 2030 to become a **main player in energy and CN solutions** in the CN / circulatory society by 2050



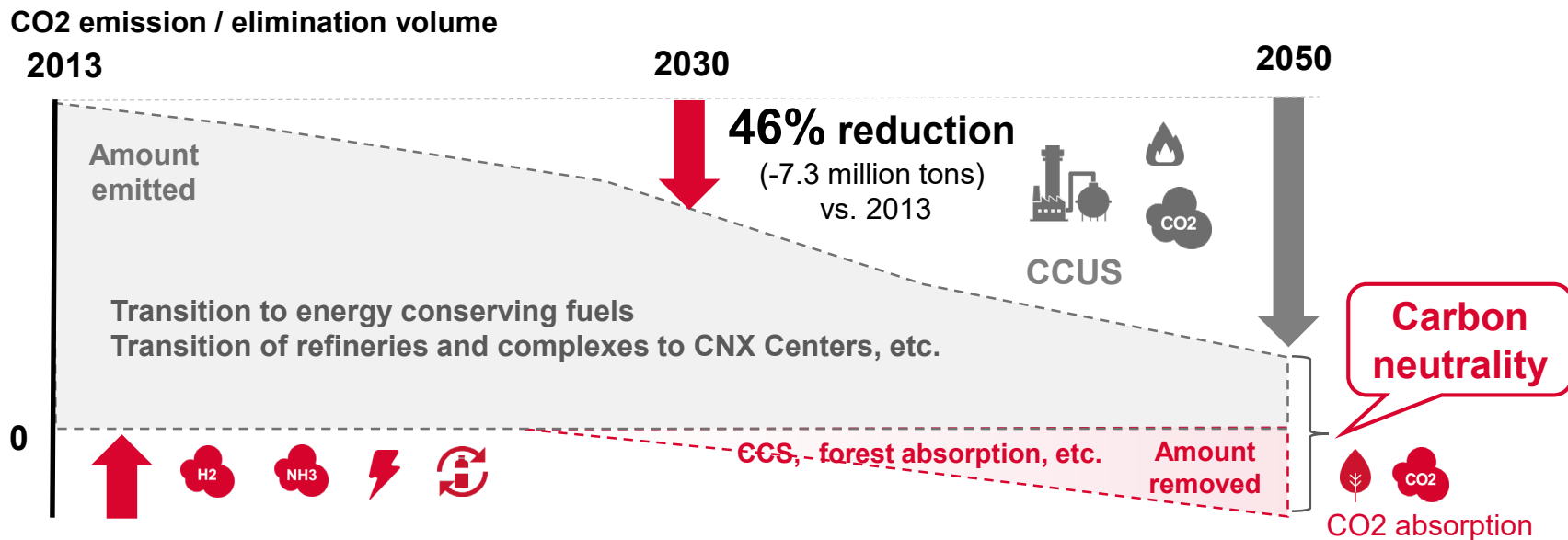


# Roadmap to CN in 2050

## Towards a CN society in 2050

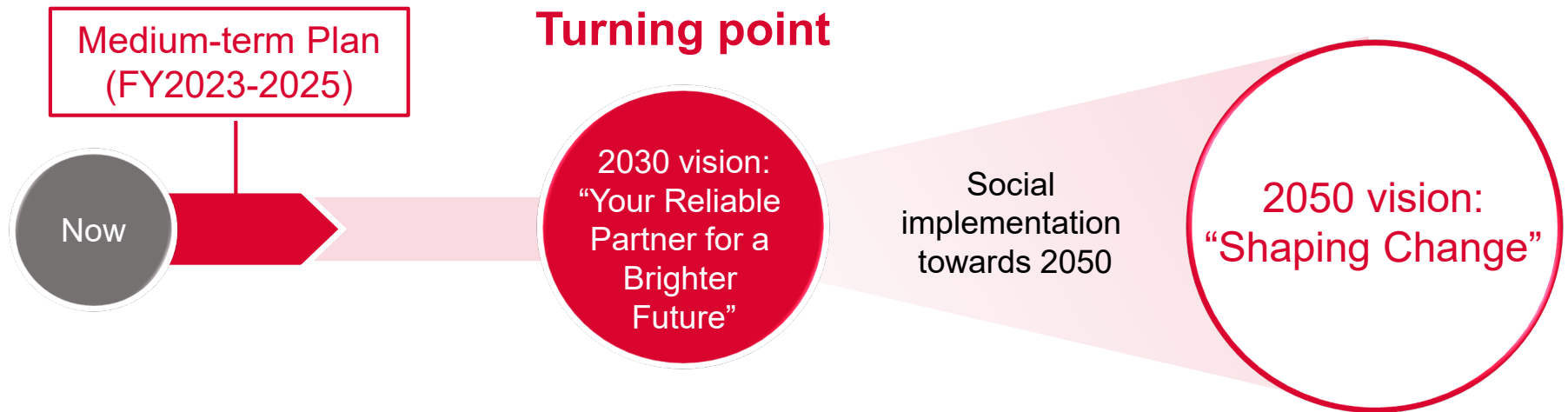
- Establish a circulatory supply / resource system for sustainable energy and materials based on the Idemitsu Group's technological and social implementation capabilities by coordinating efforts with the government, industry, and various stakeholders
- **Achieve CN (=net zero CO2 emissions)** from Idemitsu's own operations (Scope1+2) and pursue CN for the entire supply chain (Scope 3) by providing solutions to businesses and consumers

**Emission reduction target for Idemitsu's operations (Scope1+2) by 2030: -46%** vs. 2013  
(increased from previous target)



# Importance of 2030

- While discontinuous technological innovation is essential to achieving CN in 2050, continuous supply of energy and materials is needed.
- Amid uncertainties such as technological trends, we must accumulate knowledge and skills ahead of 2050 and start systematically doing so now.
- 2030 will be a turning point to partially realize the 2050 CN transition while still providing steady supplies of energy and materials.



# Contents of the Medium-term Management Plan

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Vision for 2050 and the Direction



**Management Targets in 2030 and the Basic Policy**

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Medium-term Management Plan  
(FY2023-2025)

# FY2030 Management Targets

2030  
Vision

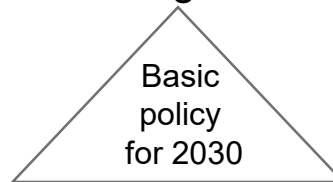
## “Your Reliable Partner for a Brighter Future”

Contribute to the achievement of a CN society  
while fulfilling our responsibility to provide a stable energy supply



Evolve the business  
platform

Engage in ROIC  
management



Maximize employee  
growth and engagement

### Financial Targets

**Operating + Equity Income**  
(excluding inventory impact)

**¥270 billion**

**ROE**

**10%**

**Fossil fuel business  
profit contribution\*1**

**≤50%**

**ROIC**

**7%**

### Non-financial Targets

#### GHG Reduction

CO2 reduction (Scope1+2)  
vs. 2013

**-46%**

#### Human Capital Investments

Idemitsu Engagement  
Index\*2

**≥80%**

D&I

Female  
recruiting ratio

**≥50%**

Female ratio in  
key positions

**≥10%**

Male ratio taking  
childcare leave

**100%**

Investments in  
education per  
employee

**≥¥100,000**  
(top class in Japan)

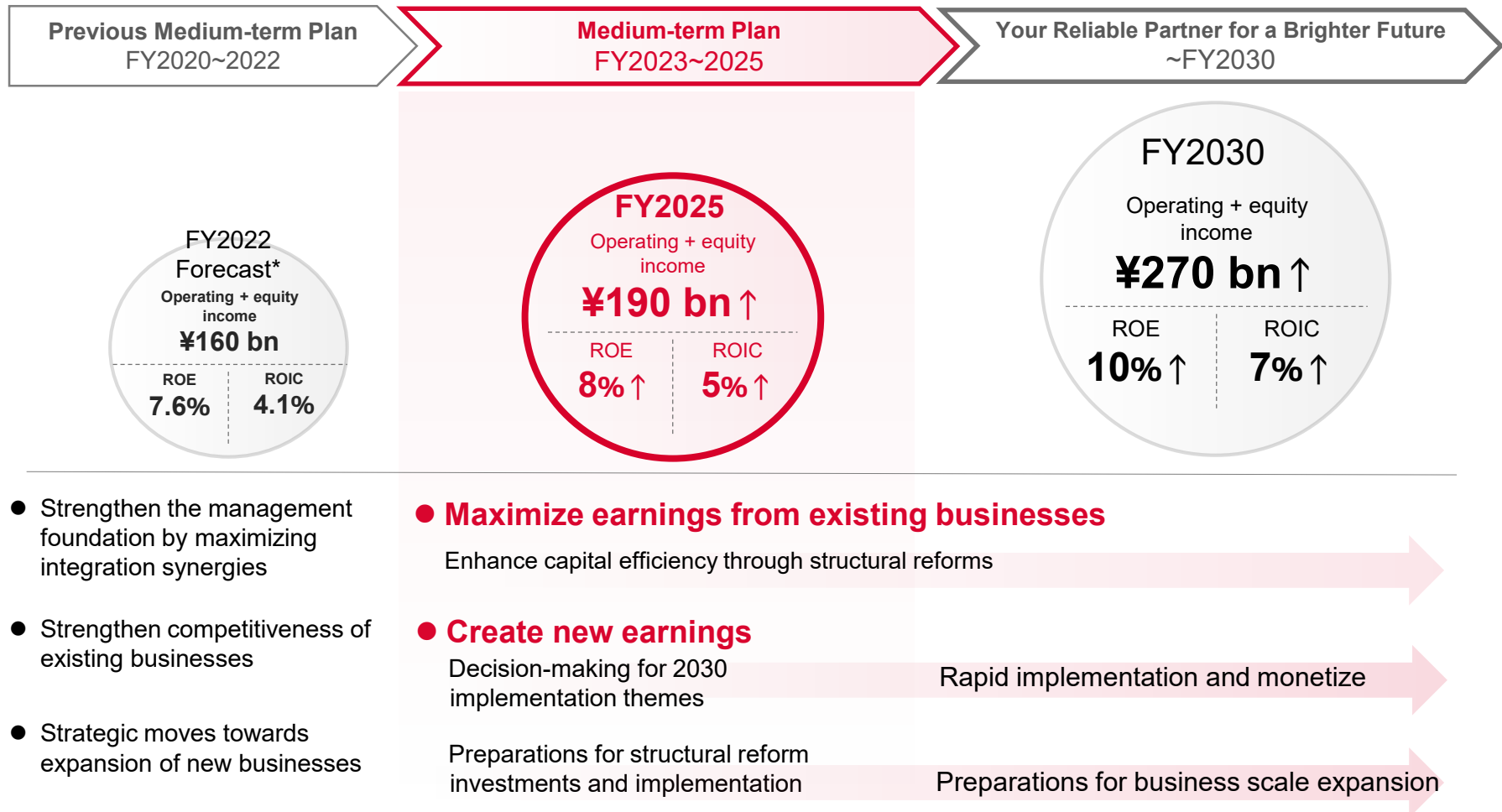
\*1 Fossil fuel business profit contribution = percentage of company-wide profits from the petroleum and

resources businesses (operating + equity income) [excluding inventory impact]

\*2 Indicator to monitor the commitment level of the employee towards the organization

# Positioning of the Medium-term Management Plan

We position this medium-term management plan as the **execution plan for the 2030 vision** **“Your Reliable Partner for a Brighter Future”**, promoting the transition of our business portfolio



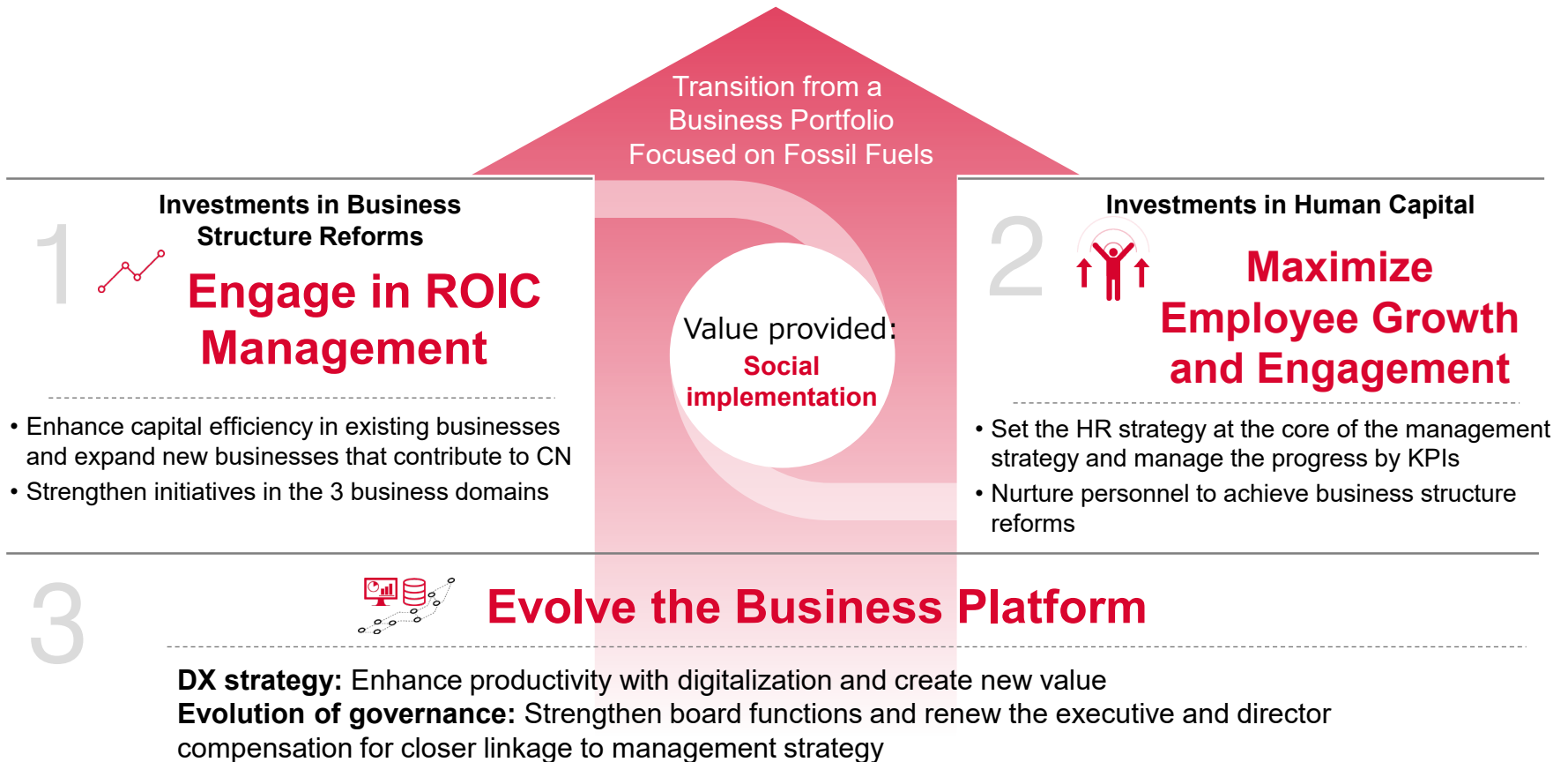
\* 2022 forecast is an adjusted figure which applies market assumptions for coal prices, etc. to the current medium-term management plan

# Basic Policies for 2030

We will maintain the basic policies for 2030 stated in the current medium-term plan while investing in business structure reforms and in human capital to evolve the business portfolio

2030  
Vision

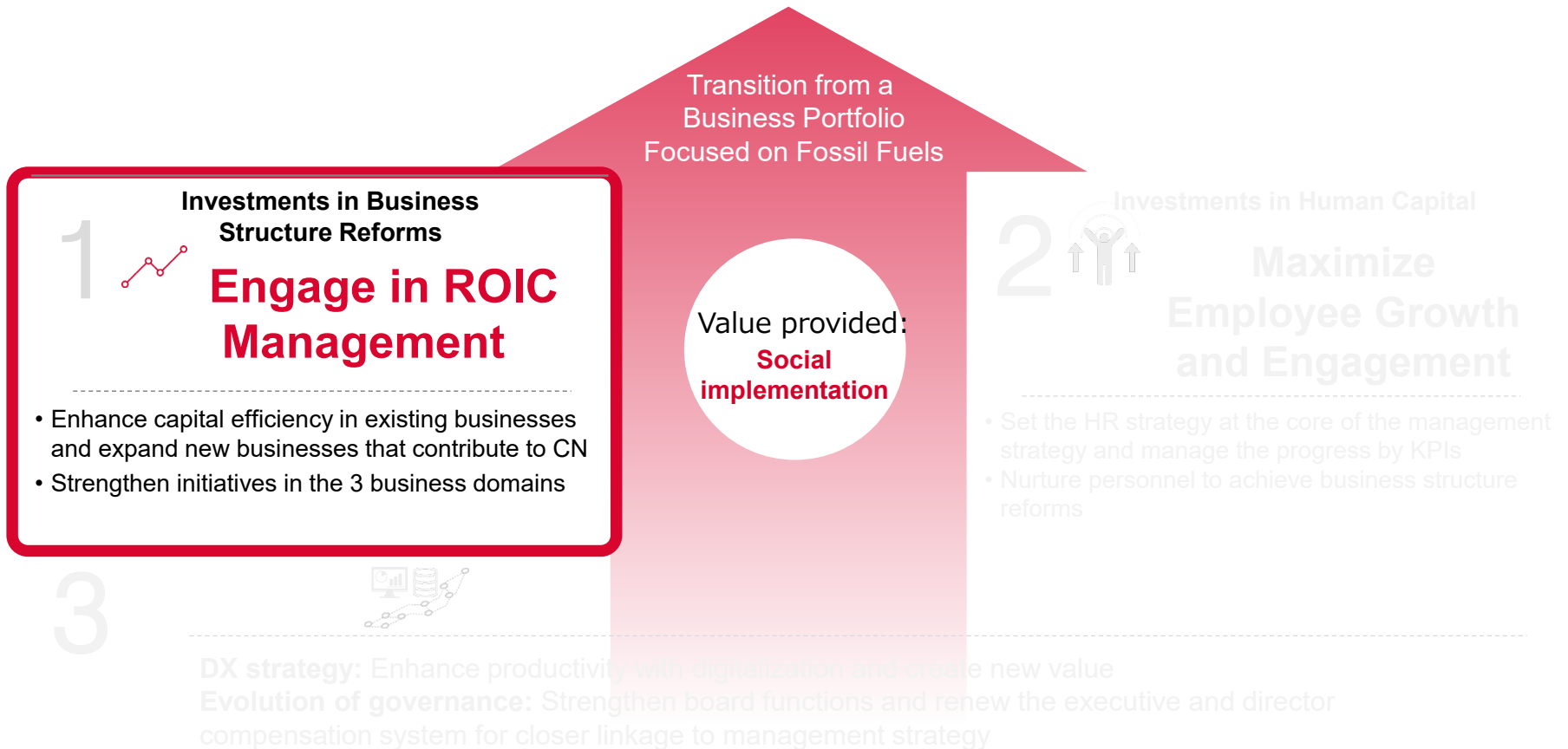
## “Your Reliable Partner for a Brighter Future”



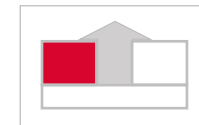
# Basic Policies for 2030

2030  
Vision

**“Your Reliable Partner for a Brighter Future”**

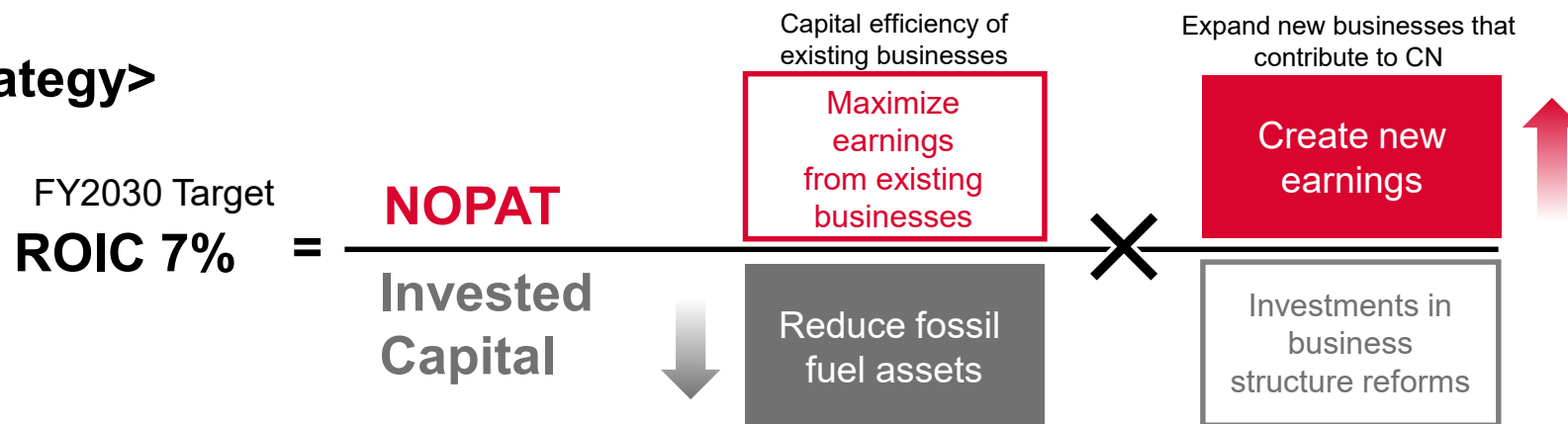


# Transition of the Business Portfolio through the ROIC Management

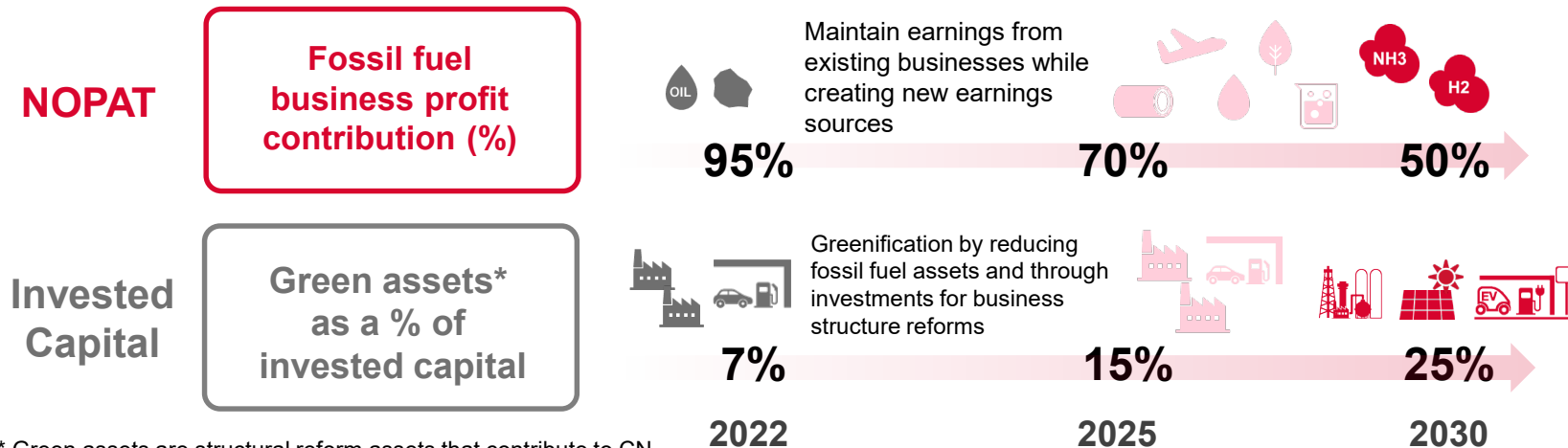


Aim for **7% ROIC** by enhancing capital efficiency while revamping the business portfolio

## <Strategy>

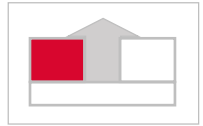


## <KPIs>



\* Green assets are structural reform assets that contribute to CN





# Capital Efficiency of Existing Businesses

Previous Medium-term Plan  
FY2020~2022

Medium-term Plan  
FY2023~2025

Your Reliable Partner for a Brighter Future  
~FY2030

**20% decrease** in domestic petroleum demand (2022→2030)

**NOPAT** **Maintain earnings through cost reductions and streamlining (maximize profits)**

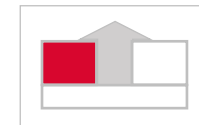
- Reduce costs / streamline in line with declines in domestic demand
- Expand earnings in existing domains through M&A, etc.
- Enhance productivity through increased use of DX

**Invested  
Capital**

**Reduce fossil fuel assets by 20% by 2030\***

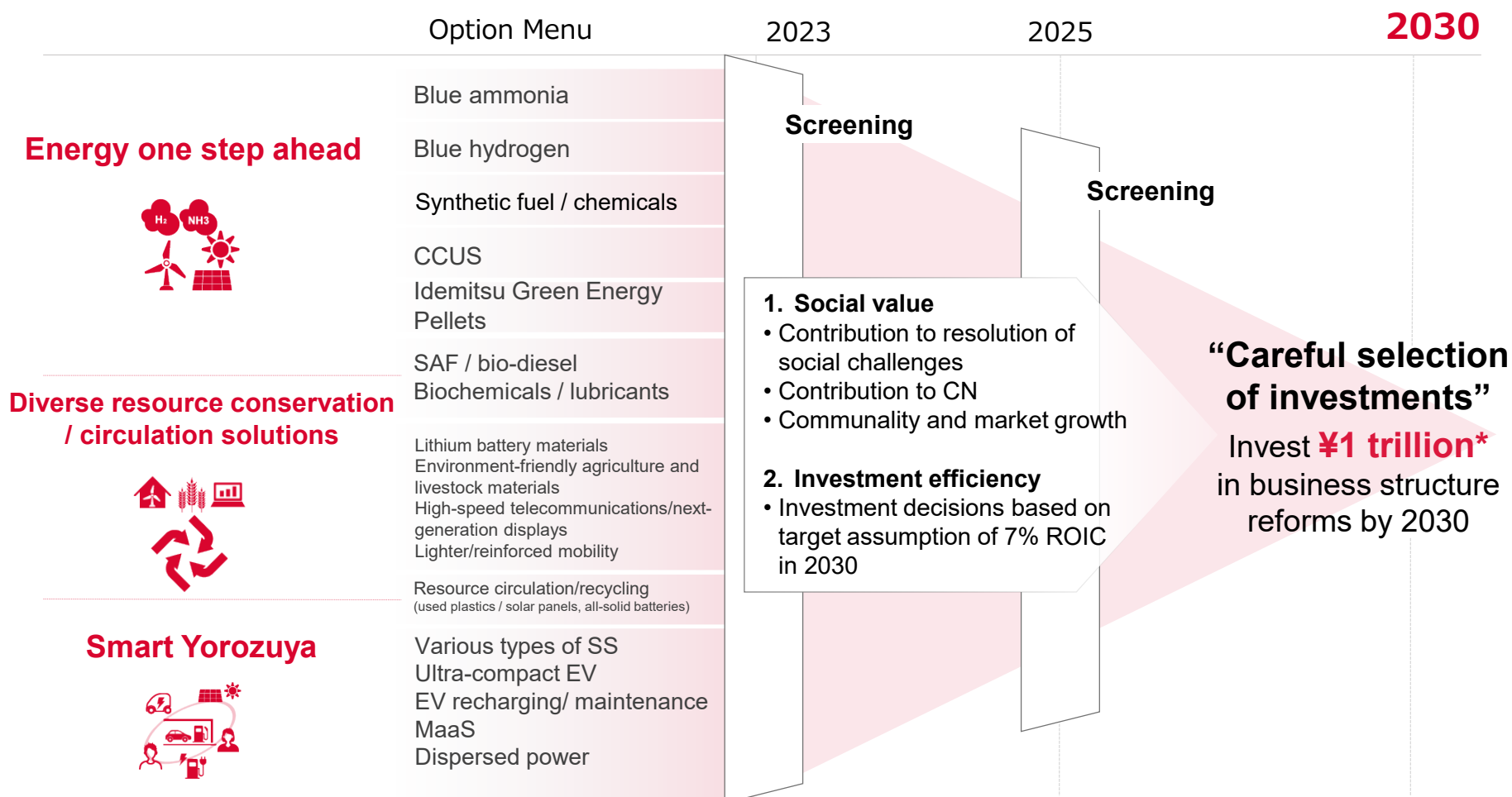
- Review supply structure in line with declines in domestic demand
  - Achieve 300,000 BD reduction by 2030
  - Maintain 90% peak capacity utilization despite reduced domestic demand
- Structurally reform existing businesses
  - Reduce production size at coal mines, sort out non-operating and inefficient assets

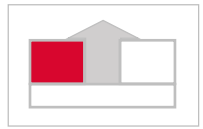
Enhancing capital efficiency of existing businesses



# Candidates for “New Business Themes that Contribute to CN”

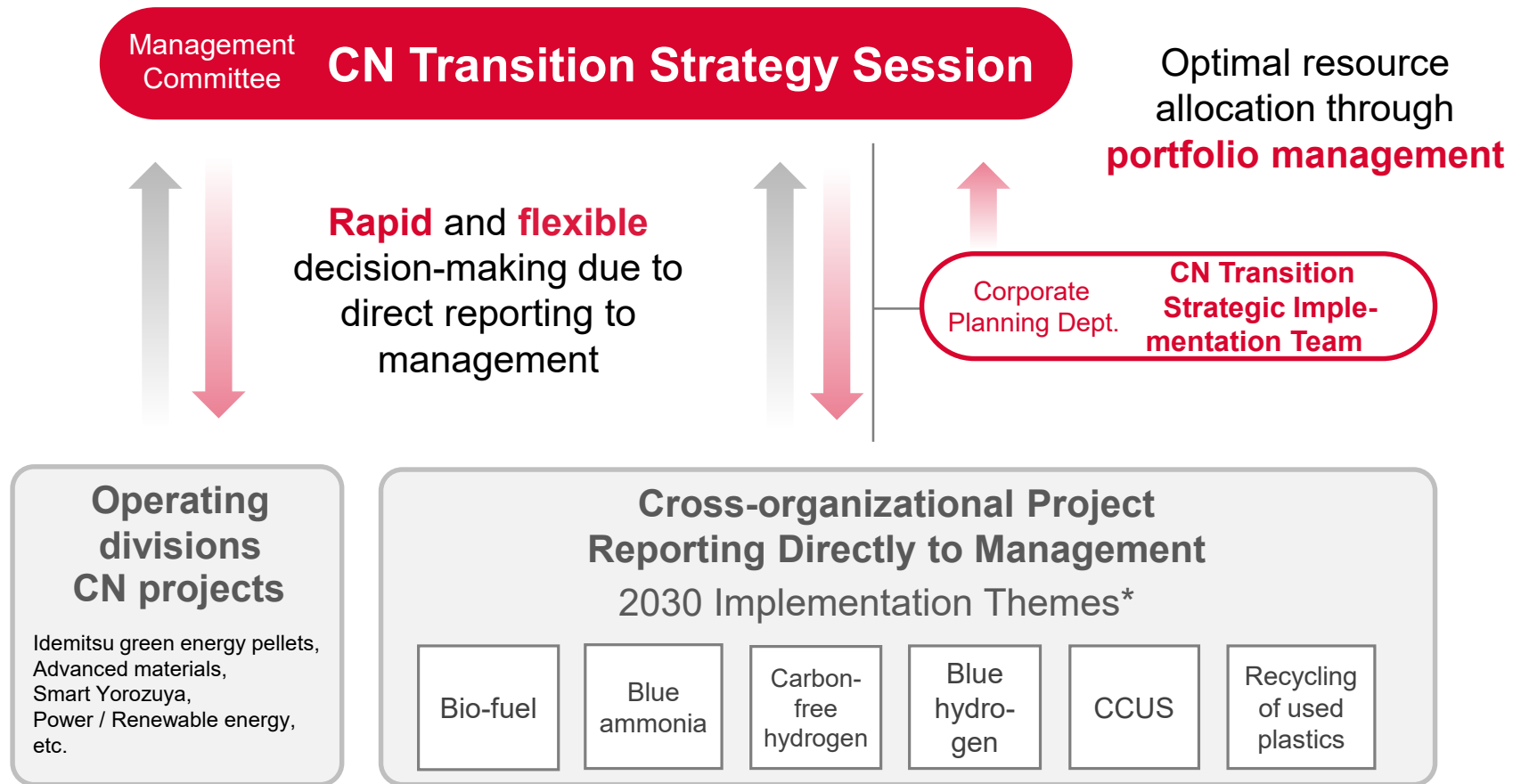
- Most investment decisions will be made during this medium-term plan period (FY2023-2025)
- Consider a broad universe of alternatives and carefully select investments towards 2050





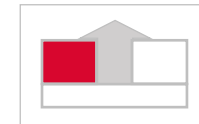
# Management Framework towards the Transition to CN

Pursue rapid implementation based on a management structure reporting directly to the management team

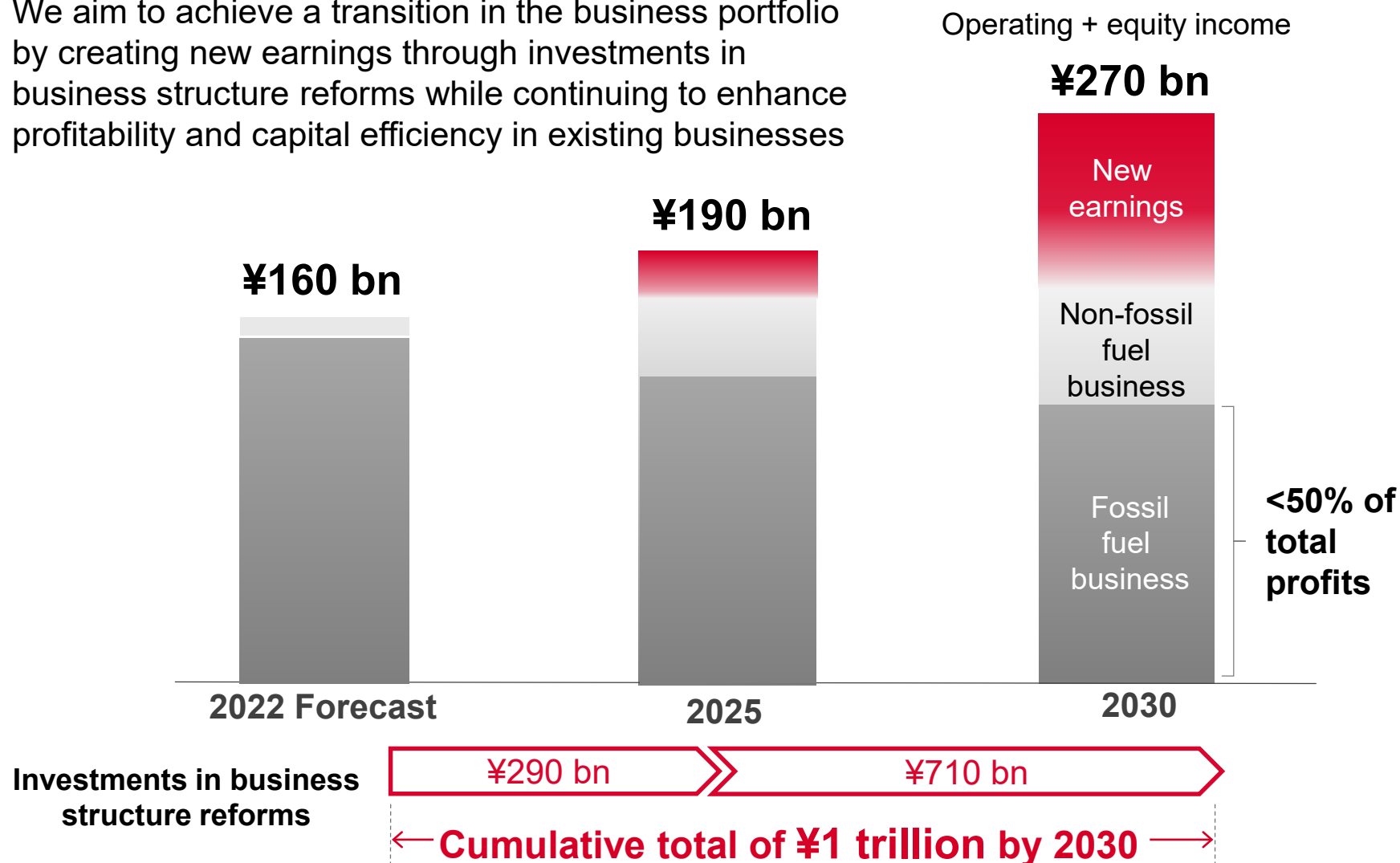


\*Themes will be reviewed based on changes in the external environment, progress of discussions, etc.

# Transition of the Business Portfolio through Creation of New Earnings



We aim to achieve a transition in the business portfolio by creating new earnings through investments in business structure reforms while continuing to enhance profitability and capital efficiency in existing businesses



# Basic Policies for 2030

2030  
Vision

## “Your Reliable Partner for a Brighter Future”

Transition from a  
Business Portfolio  
Focused on Fossil Fuels

### 1 Investments in Business Structure Reforms Engage in ROIC Management

- Enhance capital efficiency in existing businesses and expand new businesses that contribute to CN
- Strengthen initiatives in the 3 business domains

### 3



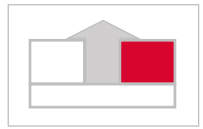
**DX strategy:** Enhance productivity with digitalization and create new value

**Evolution of governance:** Strengthen board functions and renew the executive and director compensation for closer linkage to management strategy

Value provided:  
**Social  
implementation**

### 2 Investments in Human Capital **Maximize Employee Growth and Engagement**

- Set the HR strategy at the core of the management strategy and manage the progress by KPIs
- Nurture personnel to achieve business structure reforms



## 2050 Vision “Shaping Change”

**A strong and flexible team that can shape the future, no matter what the future has in store**

### Organizational and Personal Growth

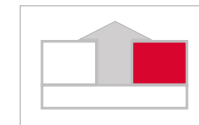
- Enrich direct communications between the management and employees
- Accelerate discussions relating to the medium-term management plan at the working level
- Timely sharing of management information



- Women in key roles, understanding towards LGBTQ (Ally), recruiting of the physically challenged
- Promote national employees
- Promote recruiting experienced personnel
- Support for re-skilling and self-career options based on the personal strengths and life stages
- Increase education investments per employee
- Review of the human resources system to support challenges

Management Philosophy: Truly inspired

The Origin of Management: 人間尊重



# KPIs for the Human Capital Strategy

- Establish KPIs as a part of the management strategy and manage progress
- Reflect in the officers' compensation

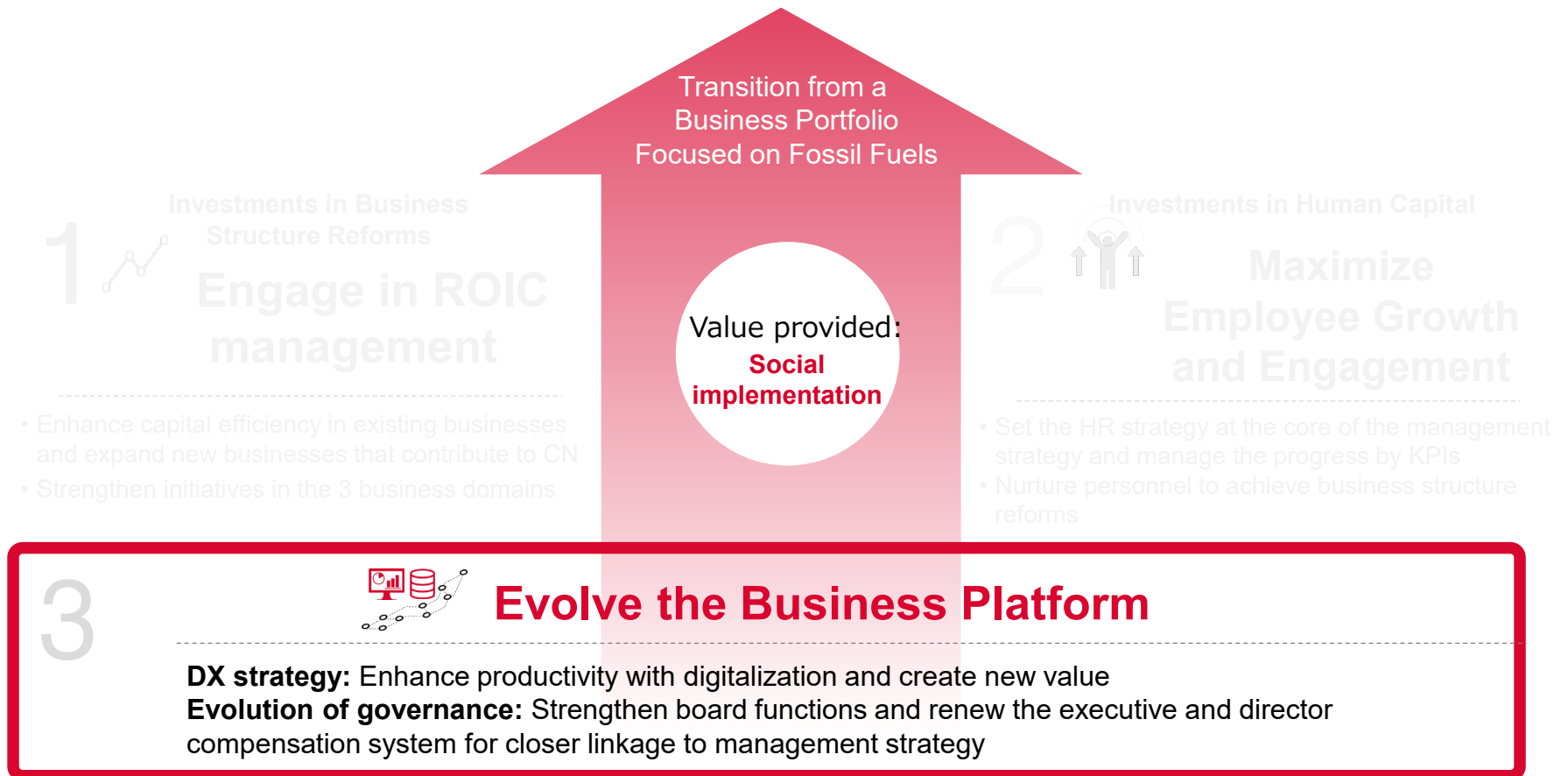
KPIs		As of 2022		2030 Target	
Idemitsu Engagement Index*		67%	➡	≥80%	
D&I	Female recruiting ratio	23%	➡	≥50%	
	Female ratio in management-level positions	3%	➡	≥10%	
	Male ratio taking childcare leave	56%	➡	100%	
Investments in education per employee		¥43,000	➡	≥¥100,000 (top class in Japan)	 <b>DX</b>

\*Quantifying the understanding of the corporate mission, support for corporate strategy and targets, understanding of one's own roles within the organization, visible personal growth, etc. every year and managing targets as an index

# Basic Policies for 2030

2030  
Vision

## “Your Reliable Partner for a Brighter Future”





# DX Strategy



## Create New Value

Promote use of data to accelerate development and social implementation of next-generation energy, resource circulation solutions, and smart one-stop shops

### Customers

Individual and corporate customers



Products

OMO\*

Services

Provide value to customers across all products and services

Cross-marketing

Foundation for data analysis



Simple & composable

Co-creation with partners to enhance efficiency and to create value

Data coordination

### Partners

Business partners, alliance partners, external institutions, etc.



Idemitsu

Continuous, data-driven process reforms

Nurture personnel who support DX

Security

Enhance productivity by 30%

Simplify/automate business processes to secure free cash and time for personnel to create new value by implementing DX

# Evolution of Governance



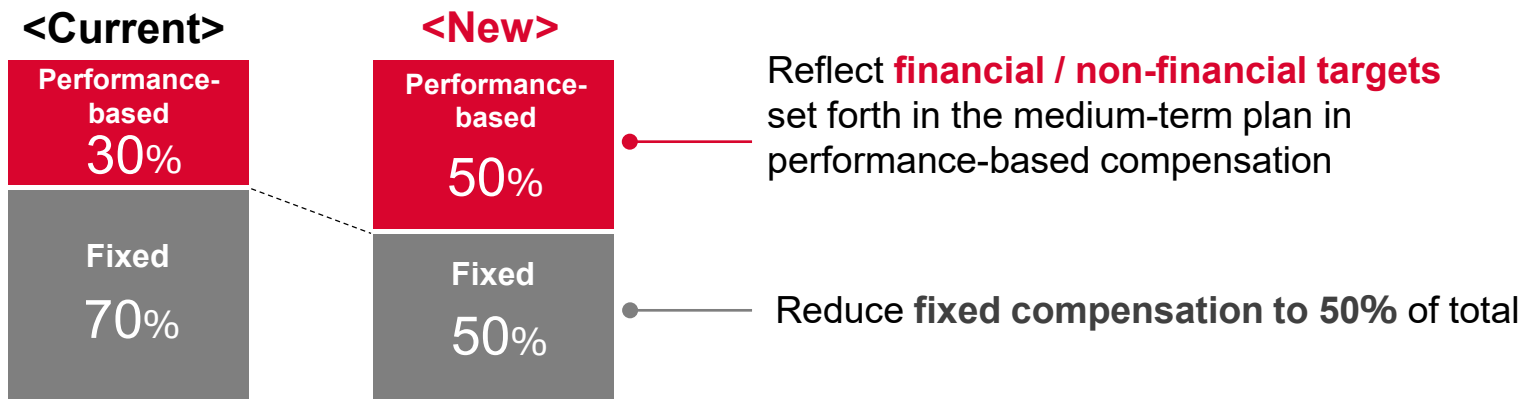
## Strengthen board functions

- **Skills matrix**  
Review skills sets and appointment of members based on medium-to-long-term management challenges
- **Succession plan**  
Implement long-term succession plans to select and nurture future leaders
- **Effective board operations**  
Focus on discussions aimed at enterprise value creation, including management strategy and governance



## Renew the executive and director compensation

Currently in planning of the increase in performance-based pay ratio which leads to more focus on mid-to long term enterprise value creation and shareholder returns (to be implemented from FY2023\*)



# Contents of the Medium-term Management Plan

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Vision for 2050 and the Direction



Management Targets in 2030 and the Basic Policy



**Medium-term Management Plan  
(FY2023-2025)**

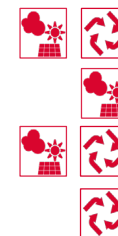
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# Progress in Business Structure Reforms in the Current Medium-term Plan

- **Steady progress towards the 2030 vision “Your Reliable Partner for a Brighter Future”** by achieving profit targets in the revised medium-term plan and improvement in financial position following maximization of integration synergies and countermeasures for the decrease in domestic petroleum demand
- **Further acceleration in the business portfolio transition** through **enhancing capital efficiency in existing businesses and expanding new businesses that contribute to CN**

Theme	Major initiatives
<b>Response to reduced domestic petroleum demand</b>	<ul style="list-style-type: none"> <li>● Completed integration: ¥60 bn in synergies, Completed the unification of the brands and major systems</li> <li>● Reorganization of refineries: Seibu (decision to terminate refinery operations), Toa (acquired to become a 100% subsidiary)</li> </ul>
<b>Business restructuring</b>	<ul style="list-style-type: none"> <li>● Sale of N. American gas and Canadian uranium businesses</li> <li>● Functional chemicals business (withdrawal from acrylic acid business), Solar Frontier (withdrawal from panel production)</li> <li>● Agri-bio business (100% acquisition of SDS Biotech)</li> </ul>
<b>Asset sales</b>	<ul style="list-style-type: none"> <li>● Sale of idle assets and cross shareholdings: created ¥60+ bn cash</li> </ul>
<b>Early efforts towards CN</b>	<ul style="list-style-type: none"> <li>● CNX centers: Shunan Ammonia, SAF, Tokuyama Biomass</li> <li>● Resources: Shift from oil to natural gas development</li> <li>● Idemitsu Green Energy Pellets: Commenced construction of commercial production plant in Vietnam</li> <li>● Lithium battery materials: Small validation tests (FY2021 3Q~ )</li> </ul>

3 business domains



# FY2025 Management Plan

## Financial Targets

### Profits (excluding inventory impact)

Net income

**¥135 bn**

Operating + equity income

**¥190 bn**

### Capital Efficiency

ROE

**8 %**

ROIC

**5%**

### Business Portfolio Transition

Fossil fuels business  
profit contribution

**≤70%**

## Non-financial Targets

### Investments in Human Capital

Idemitsu Engagement Index

**≥75%**

#### D&I

Female recruiting  
ratio\*1

**≥50%**

\*1As of 4/2026

Female ratio in  
key positions\*2

**≥5%**

\*2As of 7/2026

Males taking childcare  
leave\*3

**≥80%**

\*3As of 3/2026

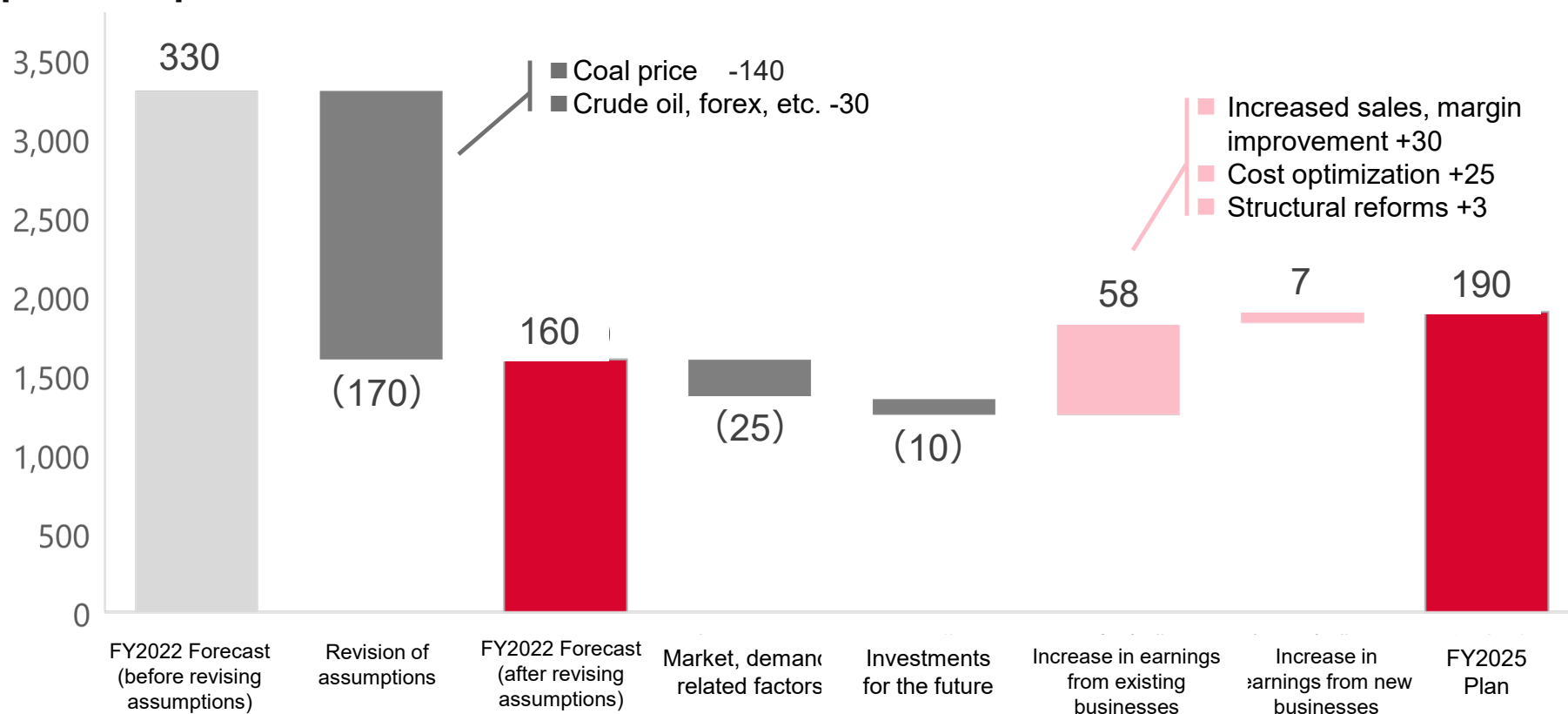
Education investments  
per employee

**≥¥100,000**  
(top class in Japan)

## Operating + Equity Income excluding Inventory Impact (1) (FY2022 forecast v. FY2025 plan)

- Revised assumptions for FY2022 forecasts, which serve as the starting point for the plan: ¥160 billion
- Aiming to achieve ¥190 billion in FY2025 amid decreasing domestic petroleum demand by implementing structural reforms and improving earnings from existing businesses (+¥30 billion vs. FY2022 after revising assumptions)

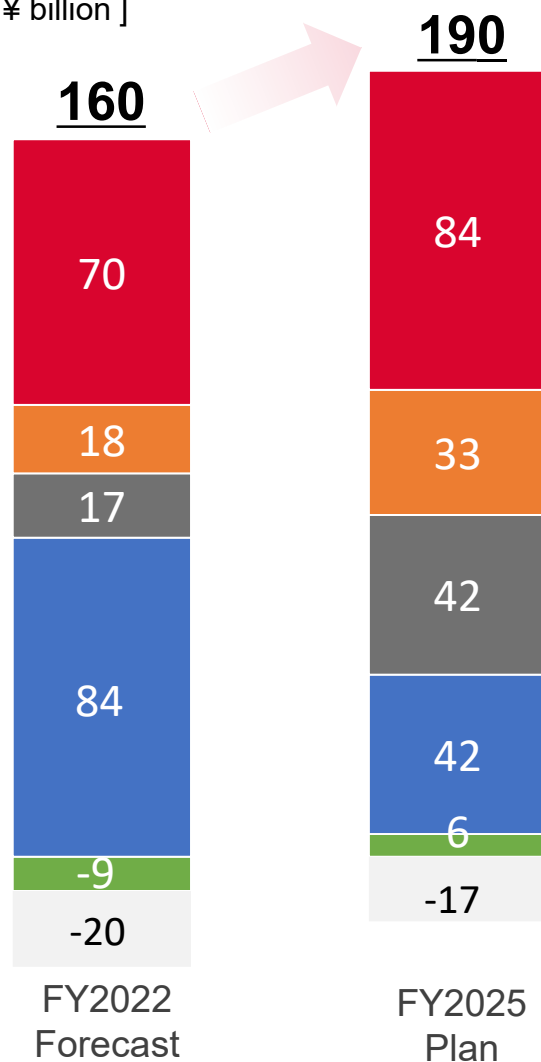
[Unit: ¥ billion]



\* Revision of assumptions: Revised major assumptions in FY22 forecasts to assumptions for FY23

## Operating + Equity Income excluding Inventory Impact (2) (FY2022 forecast v. FY2025 plan)

[Unit: ¥ billion]



(after revising assumptions)

### Reasons for change vs FY2022

Petroleum +14	<ul style="list-style-type: none"> <li>● Decrease in domestic fuel demand</li> <li>● Cost optimization prior to the reduced demand</li> <li>● Overseas sales expansion</li> </ul>
Basic chemicals +15	<ul style="list-style-type: none"> <li>● Recovery in the aroma market</li> <li>● Reduction in maintenance and renewal investments</li> <li>● Earnings contribution from Chita Office</li> </ul>
Functional materials +25	<ul style="list-style-type: none"> <li>● Lubricants: Sales expansion of IBMO, etc.</li> <li>● Functional chemicals: Business structure reforms</li> <li>● Electronic materials: Increase in sales due to development of new materials, etc.</li> </ul>
Resources -42	<ul style="list-style-type: none"> <li>● Resources: Stable operations at gas fields in Vietnam</li> <li>● Coal: Decrease in production volume, market decline</li> </ul>
Power / Renewable energy +15	<ul style="list-style-type: none"> <li>● Power: Sales adjusted to scale of power generation</li> <li>● SF: Transition to an Sler</li> </ul>
Others +3	<ul style="list-style-type: none"> <li>● Reduction of corporate costs</li> </ul>

# Investment Plan (3 years)

Total investment: **¥690 billion**

## Business structure reforms

New businesses: **¥290 bn**

Cumulative **¥1 trillion** investment by 2030

**Energy one step ahead**  
**190 bn**

- Chiba SAF manufacturing equipment (100,000 KL)
- Establish Tokuyama ammonia base
- Expand Idemitsu green energy pellets

Diverse resource conservation /  
circulation solutions  
**80 bn**

- Expand lithium solid electrolytes
- Recycle used plastics
- M&A in key domains (electrification, bio / life, ICT)

Smart  
Yorozuya  
**20 bn**

- Manufacture ultra-compact EV
- EV charging

## Existing businesses

Strengthening the business foundation: **¥130 bn**

**Petroleum**

- Develop SS
- Strengthen overseas trading

**Basic chemicals**

**Functional materials**

- M&A in existing domains

**Resources**

- Develop acquired mines

**Power / Renewable energy**

- Develop renewable energy sources

Maintenance investments: **¥270 bn**



# Shareholder Returns Policy

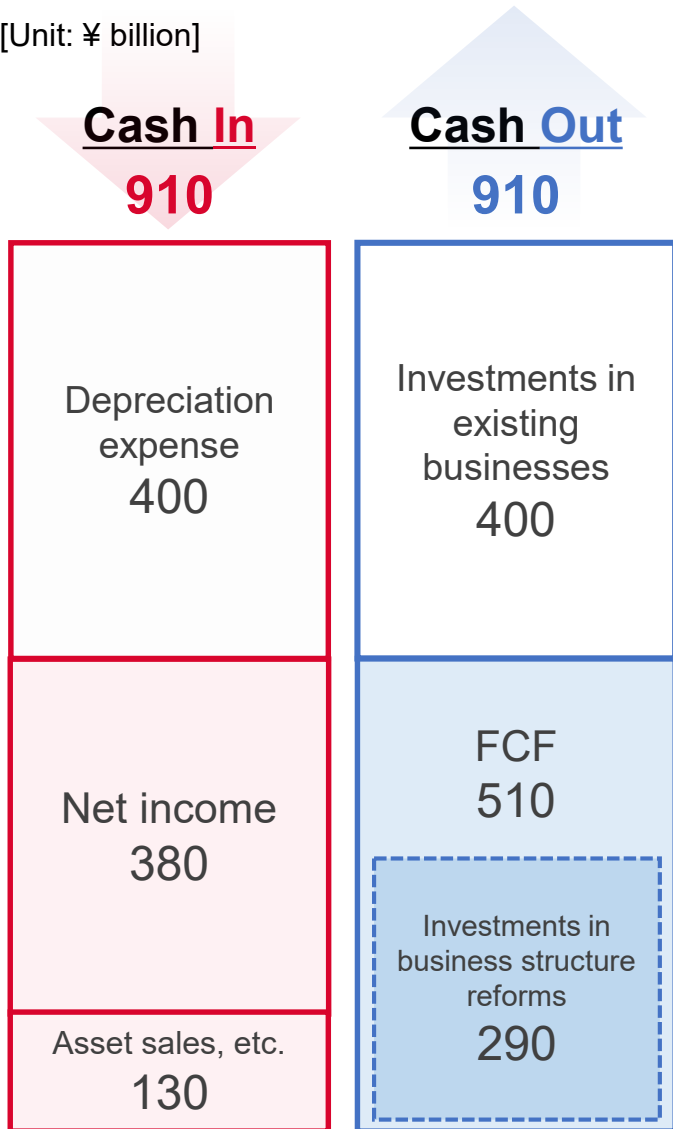
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In FY2023-2025, we believe that our key management imperative is to provide shareholder returns mainly by strengthening earnings from existing operations and achieving our earnings plan

- As in the current medium-term plan period, we plan to return **at least 50% of cumulative FY2023-2025 net income excluding inventory impact to our shareholders**
- We plan to provide stable dividends of **¥120 per share**

# Cash Flow Allocations (3 years)

[Unit: ¥ billion]



- Cumulative cash inflow of ¥910 billion over 3 years
- The ¥400 billion investment in existing businesses will basically be limited to the amount of depreciation, etc.
- Allocation of free cash flows (net income + asset sales, etc.)
  - Investments in business structure reforms: ¥290 billion
  - Shareholder returns (at least 50% of net income)
  - Maintaining a healthy financial position

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# Supplementary materials

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# Specific Initiatives in the 3 Business Domains towards 2030

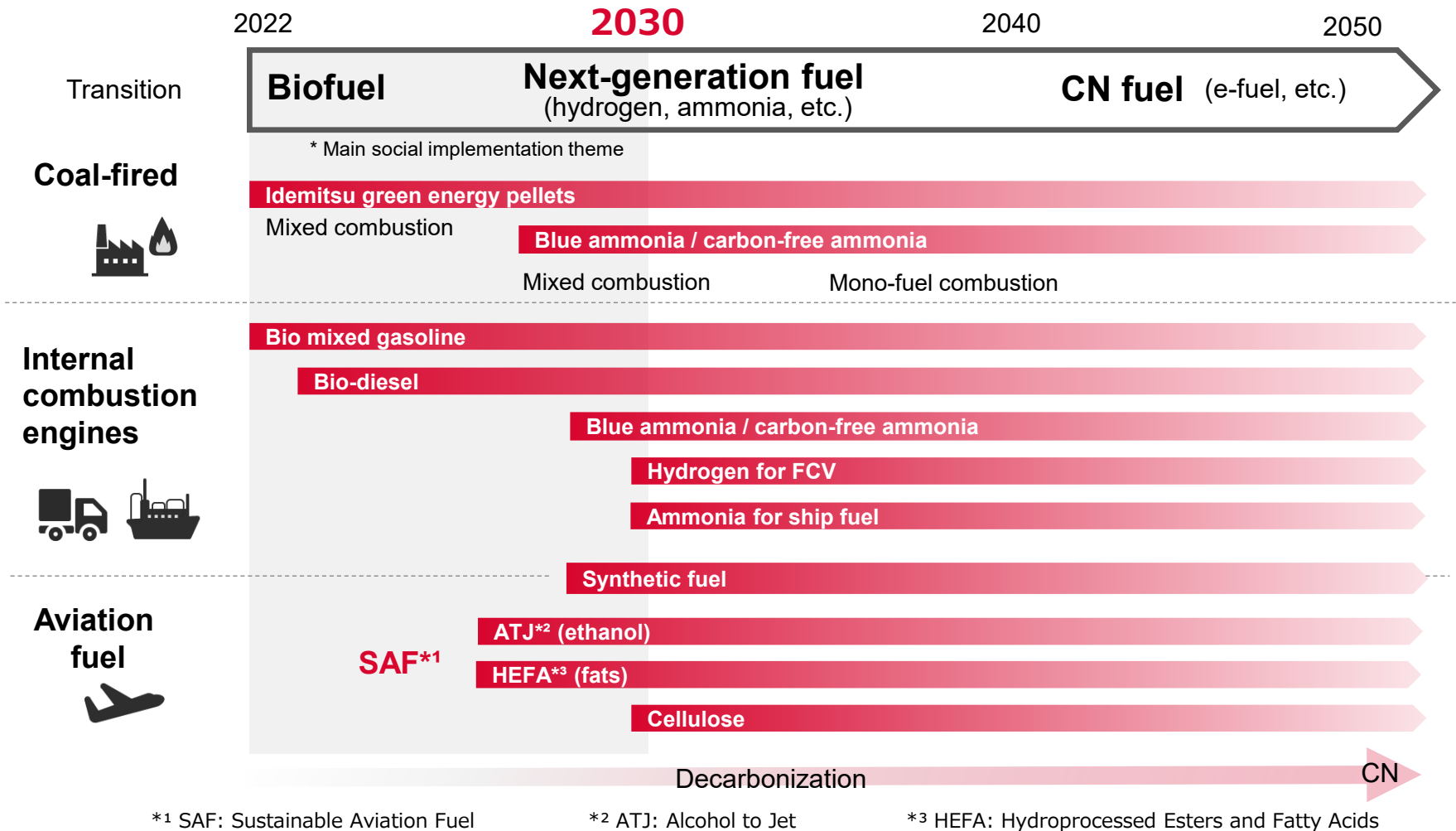
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- Energy one step ahead
- Diverse Resource Conservation / Circulation Solutions
- Smart Yorozyua

# Energy one step ahead

Energy one  
step ahead

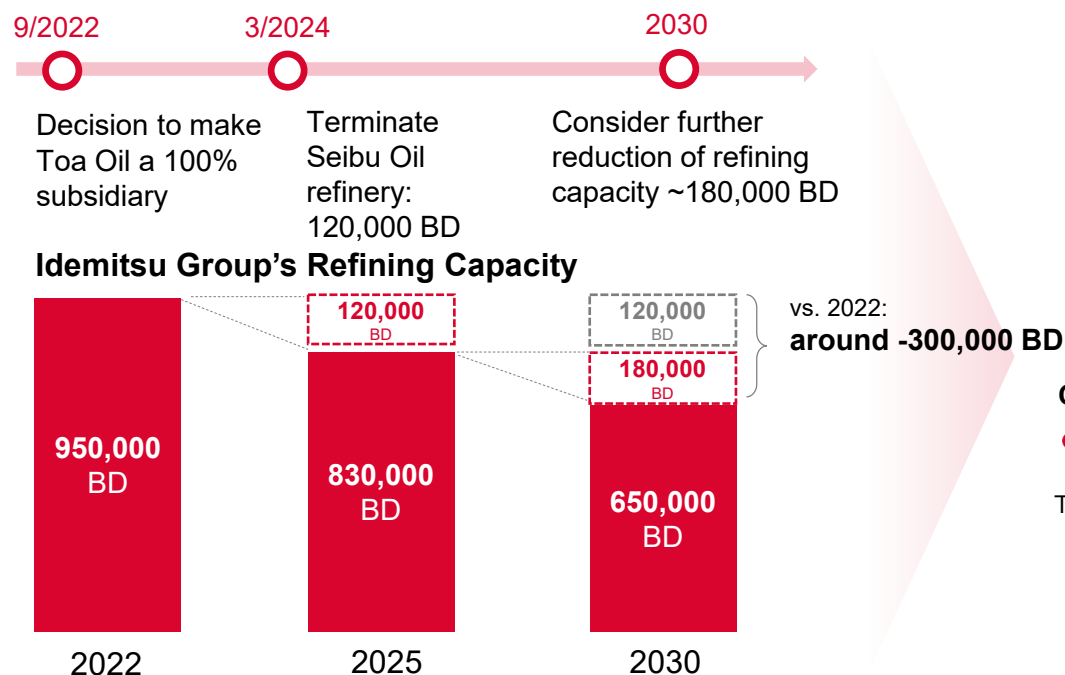
Reverse engineering from 2050 to constantly provide a stable supply of next-generation energy to **fulfill our responsibility to protect lifestyles and the environment**



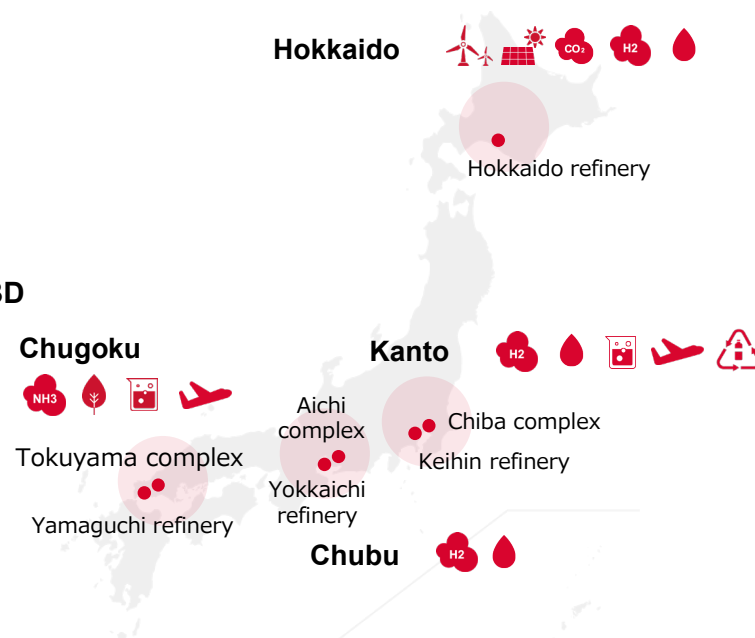
# Adjusting Refinery Capacity to Domestic Demand and Establishing CNX Centers

- Domestic petroleum demand in 2030 is expected to decrease by about 20% compared to 2022
- Planning a phased reduction of refining capacity in line with the expected fall in domestic demand to maintain the Idemitsu Group's current capacity utilization (about 90%)  
→ **Maintain safe / stable supply and profitability while improving capital efficiency**
- Simultaneously leverage existing oil-refining and petrochemical complex to establish CNX centers

## Future Directionality for Reducing Refining Capacity



## CNX Center Concept for Refineries and Complexes



# CNX Center Concept

Energy one  
step ahead

- Establish CNX (Carbon Neutral Transformation) centers suited to the unique features and demand of each region → CN + regional contribution
- Nationwide expansion after model validation

Demand for ammonia as an alternative to fossil fuel in complexes and power plants

## Chugoku



- Establish ammonia supply chain
- Manufacture SAF, bio-diesel, biochemicals
- Biomass business using domestic materials (power generation/heat supply, cellulose-based biomass materials / fuel / petrochemicals)

Tokuyama complex  
Yamaguchi refinery

Aichi complex  
Yokkaichi refinery

## Chubu



- Establish a hydrogen supply chain
- Manufacture SAF, bio-diesel, biochemicals

Hokkaido refinery

Abundant renewable energy and demand for liquid fuel due to cold climate

## Hokkaido



- Manufacture hydrogen using renewable energy
- Make CO2 a resource with CCUS
- Manufacture synthetic fuels

Large hydrogen demand in complexes (chemical plants), power plants, and iron mills

## Kanto



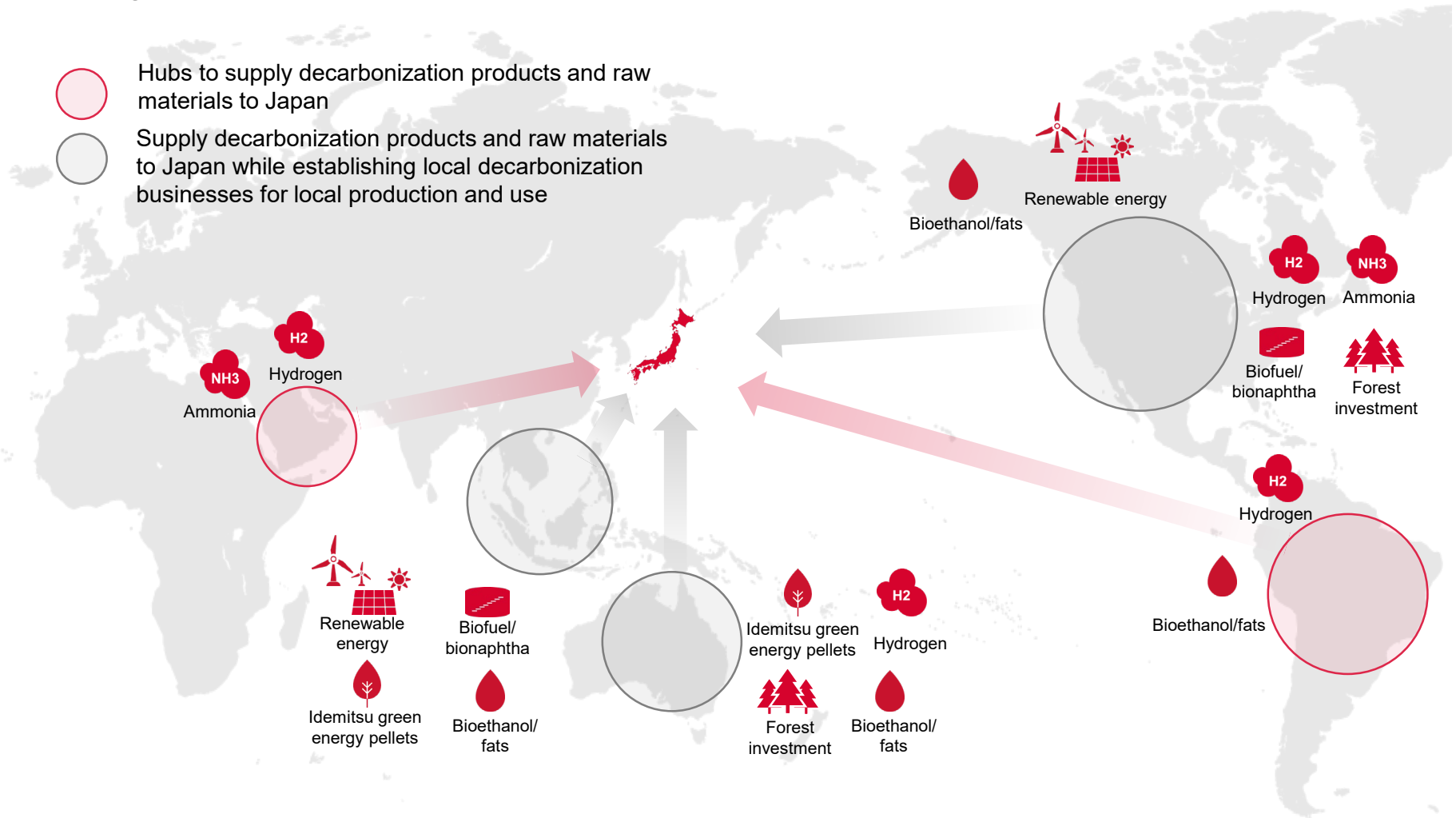
- Establish a hydrogen supply chain
- Manufacture SAF, bio-diesel, biochemicals
- Recycle used plastics

Large hydrogen demand in complexes (chemical plants), power plants, and iron mills

# Our Approach to Decarbonize, Creating a New Supply Chain Using Overseas Networks

Energy one  
step ahead

Create a new supply chain towards the CN by utilizing the expertise through the petroleum trading in the Pacific Rim and the power business



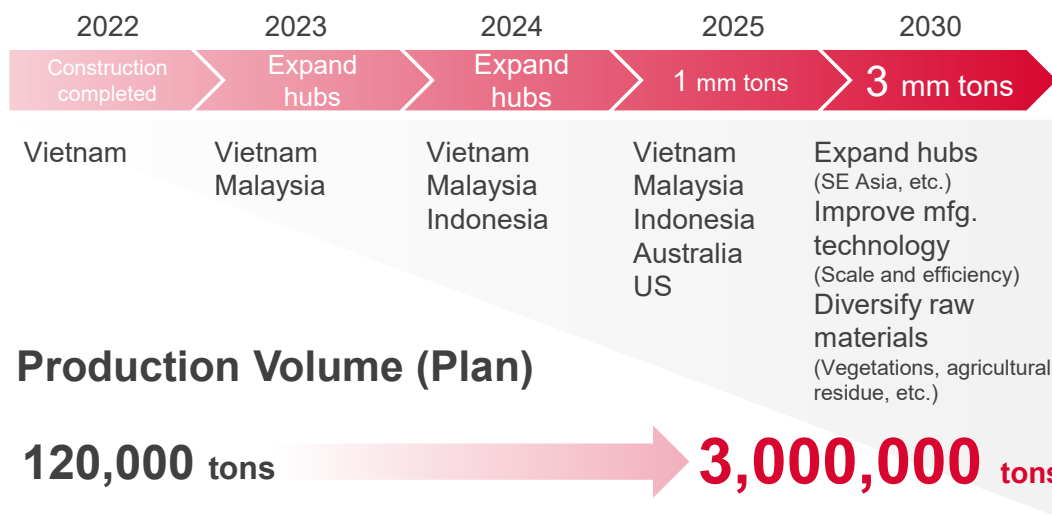


# Idemitsu Green Energy Pellets

- Constructing the first commercial manufacturing plant (production volume: 120,000 tons/year) in Vietnam with completion expected during FY2022
- Succeeded in 30% combustion experiment with coal boilers
- Launched research meeting of about 25 domestic companies to accelerate commercialization
- Aiming to provide low-carbon solutions to coal users



## Production Roadmap \*illustration



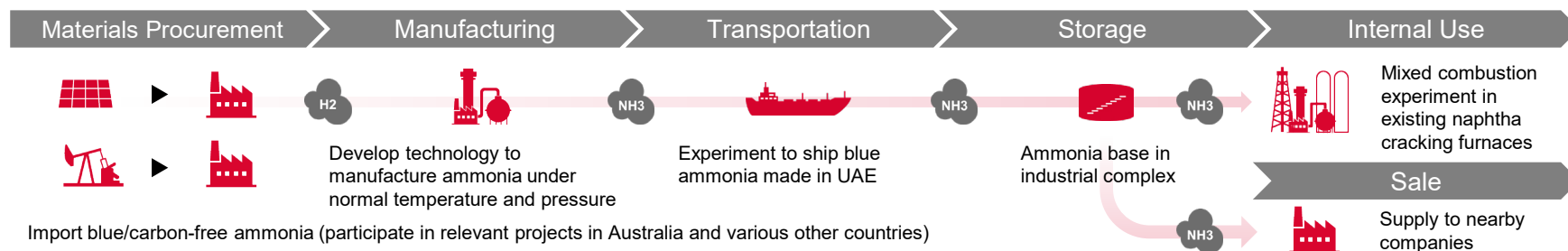
## Developing Hubs to Supply Raw Materials



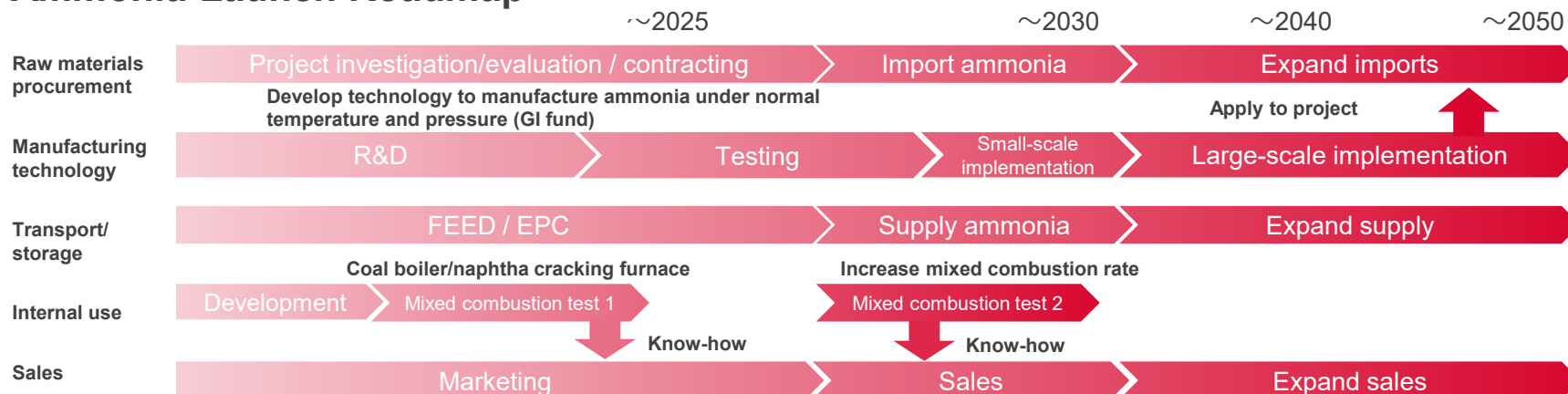
# Ammonia Supply Chain

- Create terminals for ammonia imports utilizing the existing facilities (storage facilities, petrochemical equipment, etc.)
- Aim to establish an ammonia supply chain in the late 2020s

## Considerations for an Ammonia Supply Chain



## Ammonia Launch Roadmap

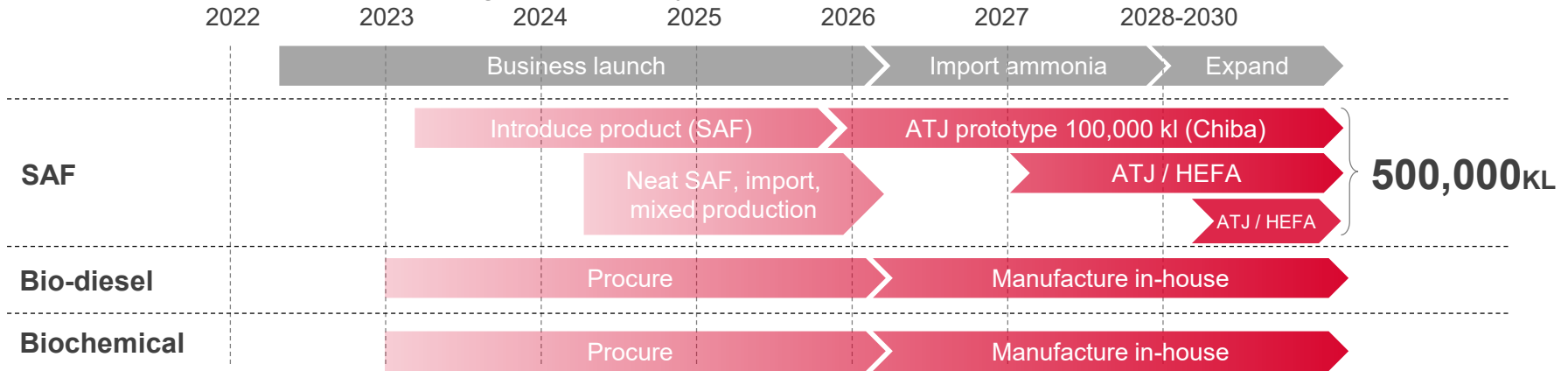


# Biomass Introduction Roadmap / Supplying SAF

Energy one  
step ahead

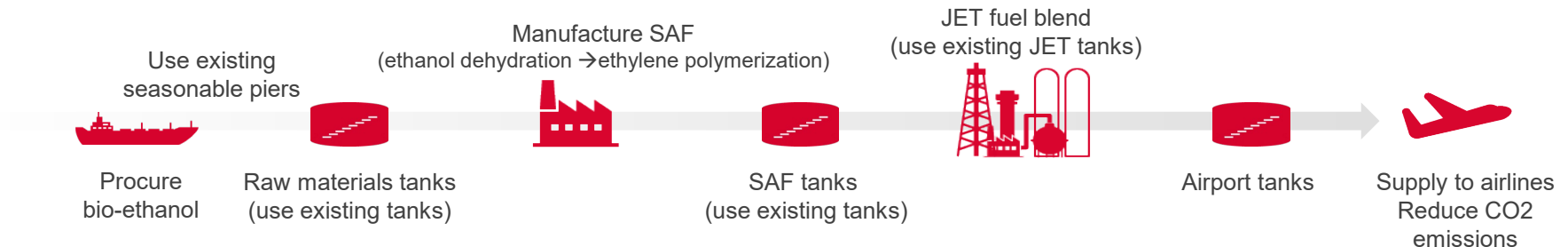
## Biomass Introduction Roadmap

- Establish biomass-based green supply chain



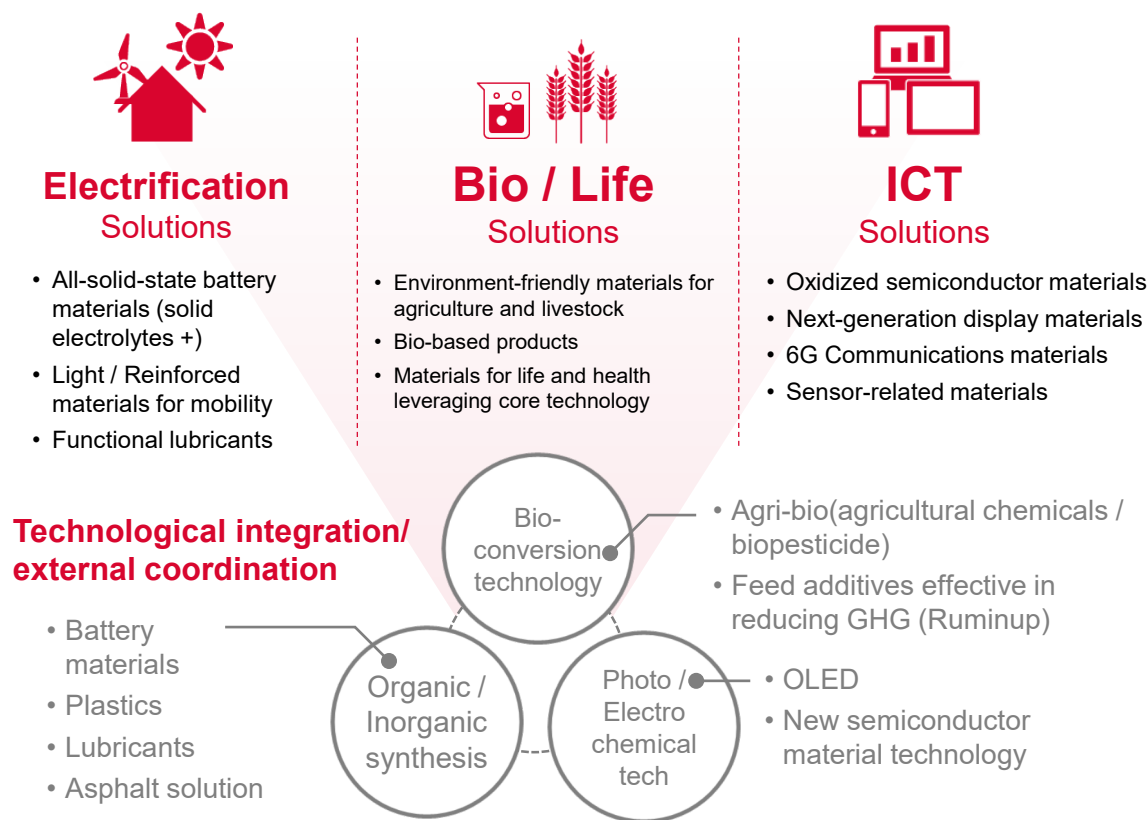
## Supplying SAF

- Constructing **state-of-the-art SAF manufacturing facility** (production volume: 100,000KL) within the Chiba Complex → expecting to commence supply in 2026
- Planning to achieve **domestic production capacity of 500,000KL/year** by 2030
- The initiative was selected for **NEDO's Green Innovation Fund**



Provide CN solutions to businesses and consumers (Scope3) to **leverage technology to contribute to CN / circulatory society**

## 1 Growth of the Functional Materials



Around ¥30 bn/year to be expected for the R&D

## 2 Recycle

Used plastics



Solar panels



All-solid-state lithium batteries



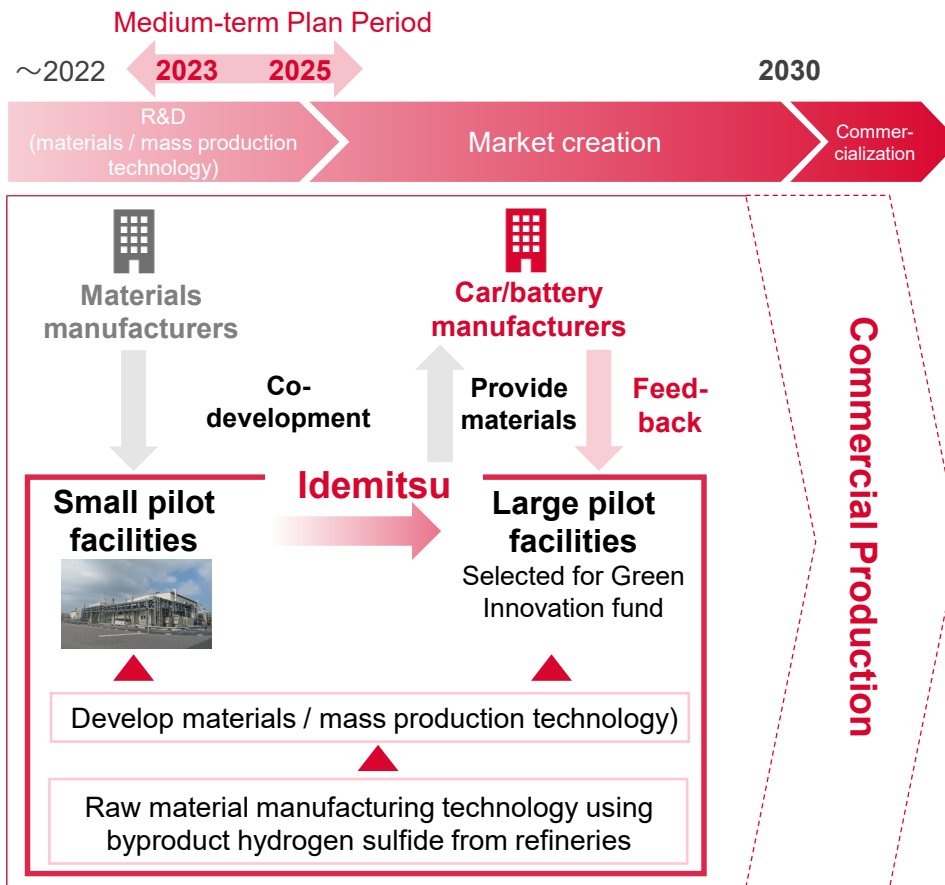
## 3 ccus

Performing validation testing with METI, etc., and planning to pursue commercialization

# Commercializing Lithium Solid Electrolytes

Diverse resource  
conservation /  
circulation solutions

- All-solid batteries are a promising technology that fulfills various performance needs including EV safety enhancement, large capacity, and rapid recharging
- We aim to contribute to an electrified society by providing solid electrolytes, which are a key component



## Initiatives towards commercialization of solid electrolytes

- **Validate mass production process with small pilot facilities**  
Plant 1 (launched 11/2021)  
Plant 2 (to be launched in 2023)
- **Validate mass production process with large pilot facilities** using the NEDO Green Innovation Fund
- **Co-develop** new materials combining positive electrode materials and solid electrolytes **with a materials manufacturer**

## Initiatives to expand business domains

- Develop next-generation battery materials (sulfur positive electrode materials, etc.)
- Recycle all-solid lithium-ion batteries

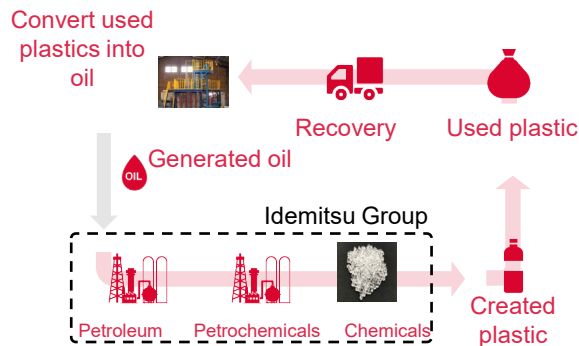
# Resource Circulation / Recycling

Diverse resource  
conservation /  
circulation solutions

## Used Plastics

### Transition to a resource circulating value chain with used plastics

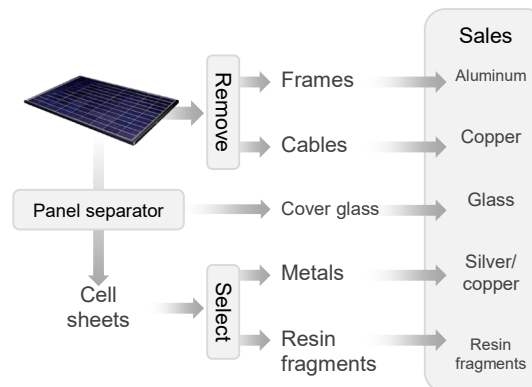
- Amid a heightened social need for recycling of used plastics, we aim to commercialize the used plastic to oil conversion business in FY2025
- Generated oil will be converted into chemicals using petroleum and chemical plants and provided as renewable chemicals



## Solar Panels

### Creating a solar panel recycling business

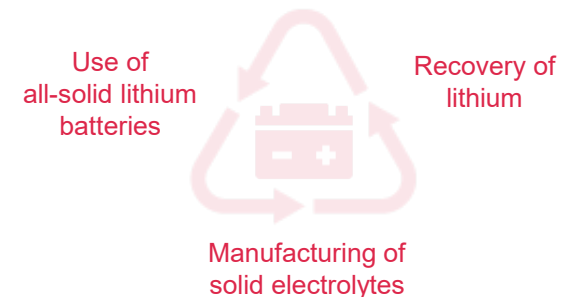
- Rapid growth in used solar battery modules expected from the 2030s
- Aim for >90% material recycling rate and commercialization in FY 2024



## All-solid Lithium Batteries

### Establishing recycling technology and considering a recycling scheme of all-solid lithium battery

- Growth in EV demand is expected to create a long-term shortage of raw materials such as lithium
- Aiming to add value to the all-solid battery value chain through a recycling scheme for disposed batteries in the future



# Initiatives for Resource Conservation / Circulation Solutions

Diverse resource  
conservation /  
circulation solutions

Promoting initiatives aimed at the development and social implementation of resource conservation / circulation solutions

## Development of a Next-generation Environment-friendly Lubricant

- Launched “idemitsu AshFree” in September 2022. A diesel engine oil first, ash-free low-phosphorus
- Original Idemitsu product that contributes to longer life, reduced DPF\* trouble, and lower replacement frequency and fuel consumption

\*DPF: Diesel Particulate Filter

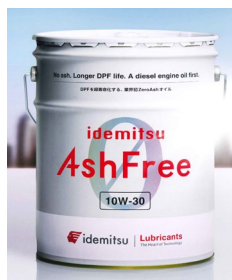
### Resource conservation through “idemitsu AshFree”

- Reduction of fuel consumption
- Contribution to the longer life of DPF

Per truck per year:

about

**130,000 tons\***



Impact on total cost reduction: About **¥130,000/year\***

\*1 DPF manual replacement per truck reduced from 48 hours/year (using Idemitsu's DH-2 oil) to 12 hours with idemitsu AshFree

## Carbon Reduction in the Livestock Sector and Resolution of Regional Challenges



**Idemitsu**

Support in resolving regional challenges using corporate hometown tax donation program

100% subsidiary



**SDS Biotech**

Support carbon reduction through fodder

Minamiaso, Kumamoto | Business to protect Aso's scenery and groundwater

### Creating an ethical livestock sector

Production of Kumamoto Akaushi cows adapted to ethical consumption and maintaining the grassland environment



Source: Minamiaso website

### Aim to reduce methane gas excretion from cows

by giving fodder including cashew nut shell liquid

→ **About 36% reduction\*** of methane gas in tests that reproduce bovine rumen fermentation [about 0.5 t-co2 per cow per year]



\* Suppression effect observed in artificial rumen tests with cashew nut shell liquid concentration of 50 ppm (Watanabe et al. 2010)



# Smart Yorozuya (Smart one-stop shop)

apollostation will be positioned as a **lifestyle support hub** which supports the people of each town and their comfortable daily lives

One-time shop for energy which links people to **diverse energy**



Fulfill our responsibility to provide petroleum, biofuel, electricity, hydrogen, synthetic fuels, dispersed energy, etc.

One-time shop for mobility which links people to **future transportation**



Support regional transportation through the sales/maintenance of gasoline, diesel oil, etc. for cars and next-generation mobility and as a MaaS center

Provide solutions that cannot be solved through digital technology alone through brick-and-mortar stations

**Support the people of each town and their comfortable daily lives**



# Smart Yorozuya (YOROZU)

- YOROZU means “infinite, diverse”
- apollostation will evolve into a YOROZU (infinite and diverse) shop **suited to the needs of each town**

## ① Environment-friendly eco stations



Scenery protection + promoting use of domestic timber + circular stations

## ② Dispersed energy supply stations



Energy systems for local production and local consumptions

## ③ Truck / logistics stations



Diesel + biofuel + hydrogen

## ④ EV recharging / maintenance stations



Security of EVs

## ⑤ MaaS stations



Short-distance transport

## ⑥ Community support stations



Regional community

The possibilities are endless. **A place to support energy / mobility** in each town

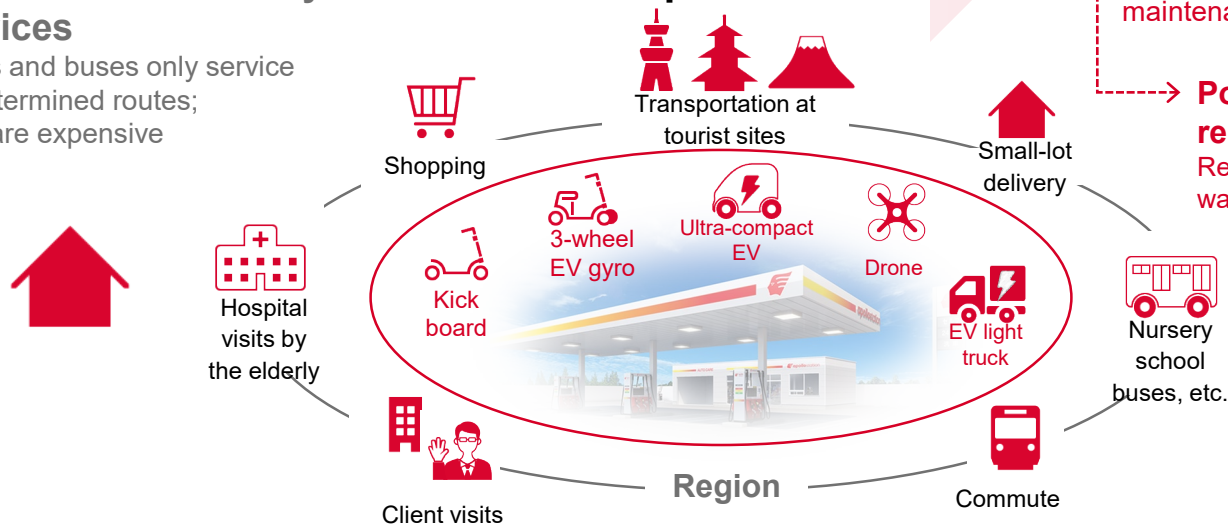
# Mobility Services (MaaS Station)

## Up to Now

- **Excessive capacity**  
Use of cars to transport one person, small / light trucks for parcel deliveries
- **Standardized or costly services**  
Trains and buses only service predetermined routes; taxis are expensive

## Micro-mobility

### On-demand services for various short-distance transport needs



## Going Forward

- **Casual, diverse options**  
On-demand options for short rides
- **One-stop services**  
Neighborhood needs for maintenance, sharing ports, etc.
- **Potential to contribute to regional society**  
Reliable mobility center within walking distance

Ultra-compact EV  
under development



2022



Under development  
to meet safety  
standards

2023



Obtain  
homologation,  
market launch

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# Initiatives in Existing Businesses

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- Status of Nghi Son Refinery & Petrochemical (NSRP)
- Business Structure Reforms at Solar Frontier (SF)

# Status of Nghi Son Refinery & Petrochemical (NSRP)

- Supply about 35% of domestic petroleum demand in Vietnam, making it a critical facility from the perspective of ensuring energy security
- Contribute to stable supply and to pursue profitability, where domestic petroleum demand in Vietnam is expected to continue to grow going forward following the forecasted economic growth of more than 5% per annum
- Advocate the cooperation among the governments and sponsors as one of the biggest projects between Japan & Vietnam

## Earnings Plan

- FY2022:
- Achieved profitability in 1H due to high crack spread in Singapore products market
  - Forecasting net loss for the full FY due to reduced spread etc., despite expected positive operating income and cash flows
- FY2023:
- Forecasting net loss due to reduced refinery utilization for periodic shutdown maintenance (about 2 months) and product spread, despite a ~¥5 billion expected increase in future income resulting from transformation initiatives
- FY2024/2025:
- Forecasting continued stable operations and positive operating income and cash flows

## Equity Income

Forecasting break-even equity income for FY2022-2025

(Assuming the aggregate loss for FY2022-2025 attributable to Idemitsu is within the amount of the loss on write-down of long-term loans recorded in FY2021)

## Operational Outlook

Stable operations expected to continue in FY2024 and beyond while attempting to further increase refinery utilization by enhancing the reliability of its facilities

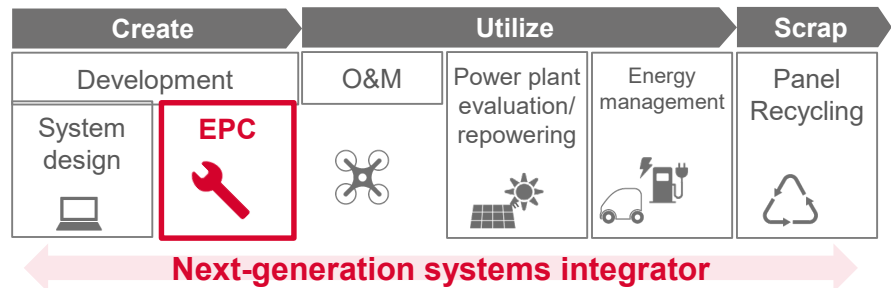
# Business Structure Reforms at Solar Frontier (SF)

## Business environment

- Expansion of the self-consumption market towards a shift to solar power as the main power source

## Key Initiatives during the Medium-term Plan Period

- Internalize and strengthen EPC<sup>\*1</sup> functions
- Go beyond power plant installation work to provide integrated services including O&M<sup>\*2</sup>, repowering<sup>\*3</sup>, and panel recycling



Aim to secure stable earnings by providing solution throughout the life cycle of power plants

- Develop/construct equipment/systems/methods to further expand locations for installation
- Power plant maintenance/equipment renewal (including repowering)
- Analyze accumulated data to evaluate power plants
- Energy management to optimize power creation/use/storage
- Recycle panels for disposal

## Earnings Plan during the Medium-term Plan Period

Forecasting **positive segment profits in FY2024** by improving earnings in the power business and Solar Frontier

<sup>\*1</sup> EPC: Engineering Procurement Construction

<sup>\*2</sup> O&M: Operation & Maintenance

<sup>\*3</sup> Repowering: Reinforcing output by replacing deteriorated equipment, adding modules, etc.


















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# Sustainability

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- Materiality (Key Challenges)
- Idemitsu Engagement Index

# Materiality (Key Challenges)

Key Items	KPI / Progress Management	Major Related SDGs
1. <b>Contribute to carbon neutrality / circulatory society</b>	<ul style="list-style-type: none"> <li>Reduce CO2 (Scope1+2)</li> <li>Contribute to Scope 3</li> <li>Investments / business strategy</li> <li>ROIC, targeted earnings</li> </ul>	   
2. <b>Contribute to regional society (energy and mobility)</b>	<ul style="list-style-type: none"> <li>Investments / business strategy</li> <li>Number of customers</li> </ul>	  
3. <b>Maximize employee growth and engagement</b>	<ul style="list-style-type: none"> <li>Employee engagement indicators</li> <li>Human capital investments</li> </ul>	 
4. <b>Deepen D&amp;I</b>	<ul style="list-style-type: none"> <li>Female recruiting ratio</li> <li>Female ratio in key positions</li> <li>% males taking childcare leave</li> </ul>	 
5. <b>Acceleration of digital innovations</b>	<ul style="list-style-type: none"> <li>DX investments</li> <li>Enhancement of productivity</li> </ul>	  
6. <b>Progress in governance</b>	<ul style="list-style-type: none"> <li>Effectiveness of board meetings</li> </ul>	
7. <b>Ensure the health, safety, compliance and human rights</b>	<ul style="list-style-type: none"> <li>Management health indicators</li> <li>Human rights due diligence</li> <li>Major compliance violations</li> <li>Safety indicators (# accidents, etc.)</li> </ul>	 

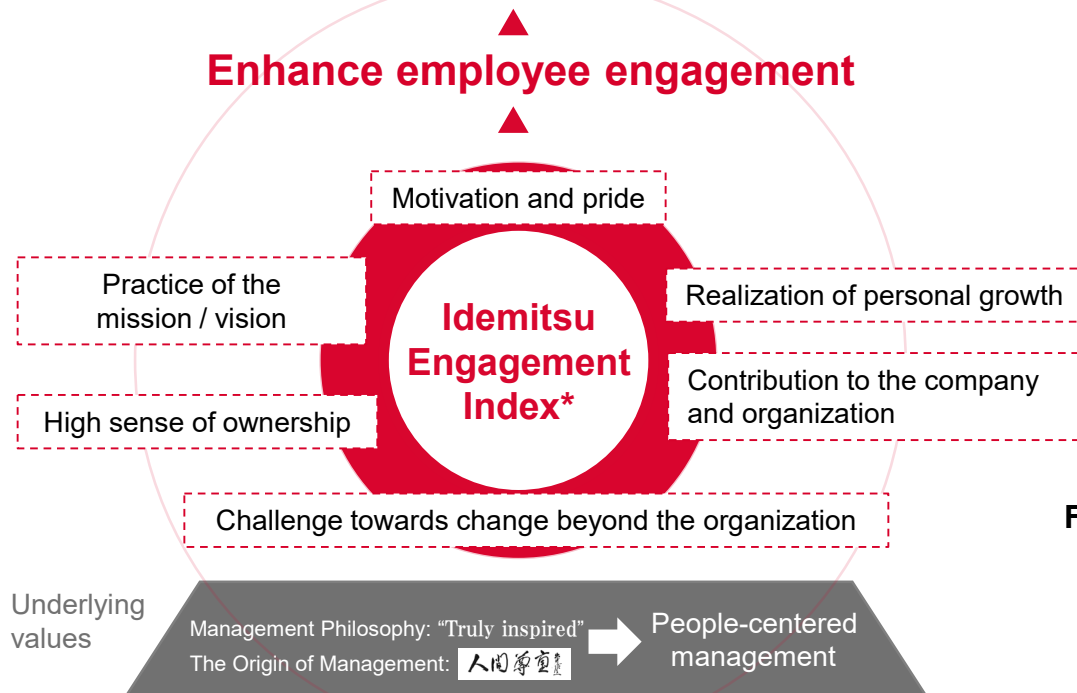


# Idemitsu Engagement Index

- We will implement various measures focused on human capital investments based on our belief that **steadily improving the Idemitsu Engagement Index, which reflects commitment to our mission and core values, will lead to sustainable growth**
- The index will be monitored through annual Employee Engagement Surveys in order to brush up improvement measures

**Idemitsu's sustainable growth**

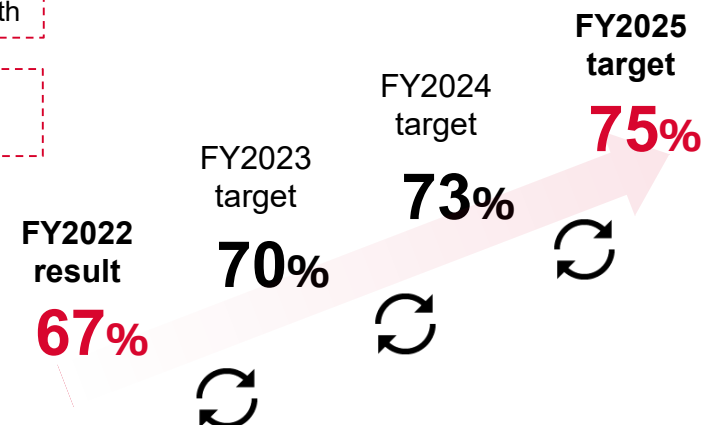
**Enhance employee engagement**



\* Reliability of Idemitsu Engagement Index has been statistically proven

## Target of “Idemitsu Engagement Index”

Aim to achieve a **level which can be considered as a strength (75%)** towards the final year of the medium-term plan





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# Assumptions

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- Progress in the Current Medium-term Plan (financial targets, investments)
- Long-term Energy Business Environment Scenarios towards 2050
- Assumptions
- Sales Volume
- Production Volume
- Segment Operating + Equity Income (excluding inventory impact)
- Disclaimer on Forward-looking Statements

## Progress on Financial Targets and Investments in the Current Medium-term Plan

- FY2020-2022 profits significantly exceeded the current medium-term plan due to soaring resource prices, etc. Financial targets for ROIC, ROE, etc. are also expected to be achieved
- Major strategic investments during the period are expected to be lower than the plan, despite CNX-related investments in gas field development in Vietnam, lithium solid electrolytes, Idemitsu Green Energy Pellets, etc.

[Unit: ¥ billion]

	FY2020-2022 Medium-term Plan	FY2020-2022 Forecast	Difference	(Reference) After Revising Assumptions
Operating + Equity Income <sup>*1</sup>	410	639	+ 229	-
Net Income <sup>*1</sup>	220	388	+ 168	-
ROIC <sup>*2</sup> (End of FY2022)	4.2%	8.1%	+ 3.9%	4.1%
ROE (End of FY2022)	8.0%	21.0%	+ 13.0%	7.6%
Investments	570	498	- 72	-

**\*1 Income figure excludes inventory impact**

**\*2 Revised definition of ROIC**

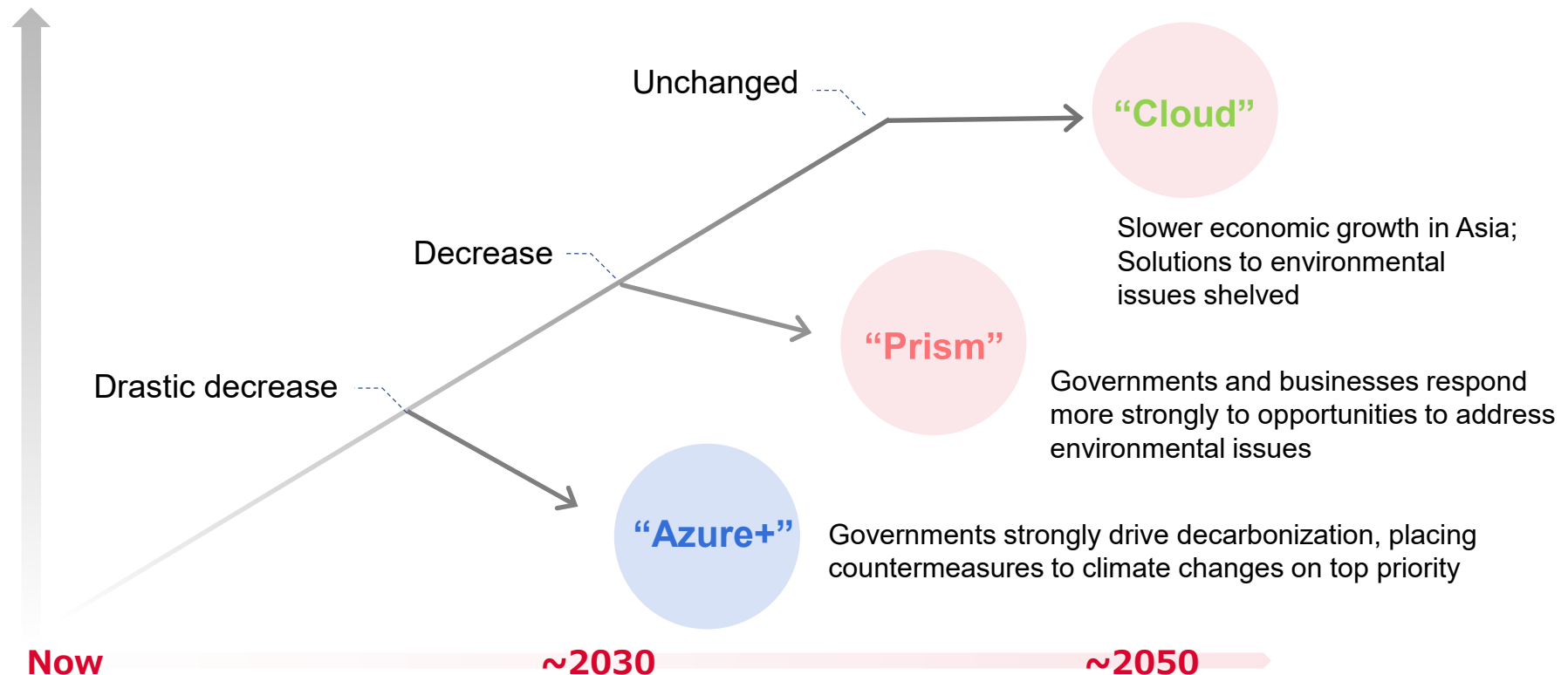
The denominator (invested capital) was revised to only include shareholders' equity which is directly related to cost of capital: (current) net assets + interest-bearing debt → (new) shareholders' equity + interest-bearing debt

As there have been significant fluctuations in crude oil, foreign exchange, etc. since our announcement of ROIC-based management in May 2021 and as further fluctuations may occur in the future, we will continue to disclose "ROIC excluding inventory impact" going forward

# Long-term Energy Business Environment Scenarios towards 2050

- Trends toward decarbonization accelerated further through the pandemic
- “Azure” was applied as a premise of this medium-term plan

Asian-Pacific  
Petroleum Demand



# Assumptions

	Metric	Unit	FY2022	Medium-term Plan		
			Forecast	FY2023	FY2024	FY2025
Crude oil	Dubai	\$/BBL	96.2	90	90	90
	Brent	\$/BBL	102.4	93.5	93.5	93.5
Coal	Australian spot	\$/t	347.8	170	120	110
Foreign exchange	USD	JPY/ USD	139.5	130	130	130
Basic chemicals: Spread on Asian products	Paraxylene	\$/t	330	270	330	330
	Styrene monomer	\$/t	460	460	470	530

# Sales Volume

Unit :Thousand KL

	FY22 Forecast	Medium-term Plan		
		FY2023	FY2024	FY2025
Gasoline	12,960	12,550	12,230	11,920
Kerosene	3,900	3,750	3,630	3,520
Diesel oil	10,310	10,160	10,110	10,080
A heavy oil	3,290	3,090	2,970	2,870
4 core products subtotal	30,460	29,550	28,940	28,390
Jet fuel	2,280	2,380	2,380	2,370
Other	3,020	2,190	1,490	1,300
Domestic fuel subtotal	35,760	34,120	32,810	32,060
Exports	9,600	9,650	5,720	5,180
Petroleum total	45,360	43,770	38,530	37,240

Unit: Thousand t

Basic chemicals	3,760	4,050	3,920	4,020
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# Production Volume

Unit: Thousand BOED

	FY22 Forecast	Medium-term Plan		
		FY2023	FY2024	FY2025
Norway	14.8	13.6	12.3	11.6
Vietnam	16.3	13.5	13.3	13.3
Petroleum/gas total	31.0	27.1	25.6	24.9

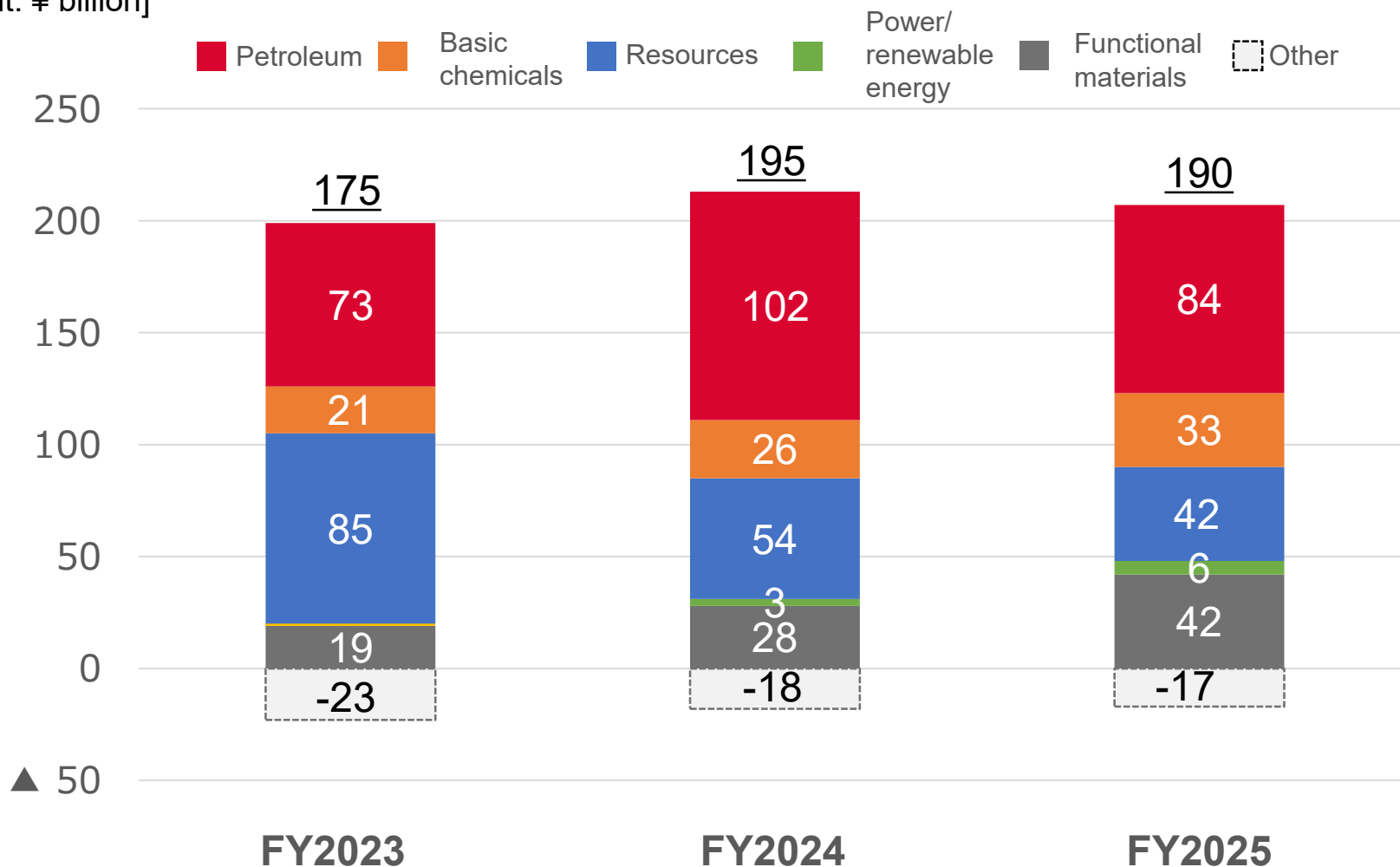
Unit: Thousand t

Ensham*	2,910	-	-	-
Muswellbrook*	940	-	-	-
Boggabri	5,320	5,700	5,900	5,900
Australia total	9,170	5,700	5,900	5,900

\* Production of Ensham and Muswellbrook are not included after FY2023 due to the termination of the operation, etc.

# Segment Operating + Equity Income (excluding inventory impact)

[Unit: ¥ billion]



# Disclaimer on Forward-looking Statements

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Information on performance forecasts, strategy, and management policies, etc. stated herein other than historical facts are forward-looking statements which have been prepared by Idemitsu's management based on currently available information.

Many factors with potential risks and inherent uncertainties may affect actual performance, including macroeconomic trends, crude oil prices, trends in demand for petroleum products, market conditions, foreign exchange rates, and interest rates.

As a result, please be advised that actual performance may differ significantly from forecasts, etc. due to fluctuations in such factors.