

**AsahiKASEI**

# Sustainability Briefing

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## Outline

- 1 Sustainability with Green/Digital/People**
- 2 Green** Green Transformation
- 3 People** HR Transformation
- 4 Risk Management**



# 1 Sustainability with Green/Digital/People

# Major changes in 2022

**Russia–Ukraine  
situation**

**Growing divisions  
in the international  
community; higher  
geopolitical risks**

**Inflation, rising interest  
rates, falling stock  
prices, lower yen value**  
Economic measures in EU, US, Japan, etc.

**Resumption of  
economic activity  
after COVID-19**

**Launch of Prime market  
segment on the Tokyo  
Stock Exchange**

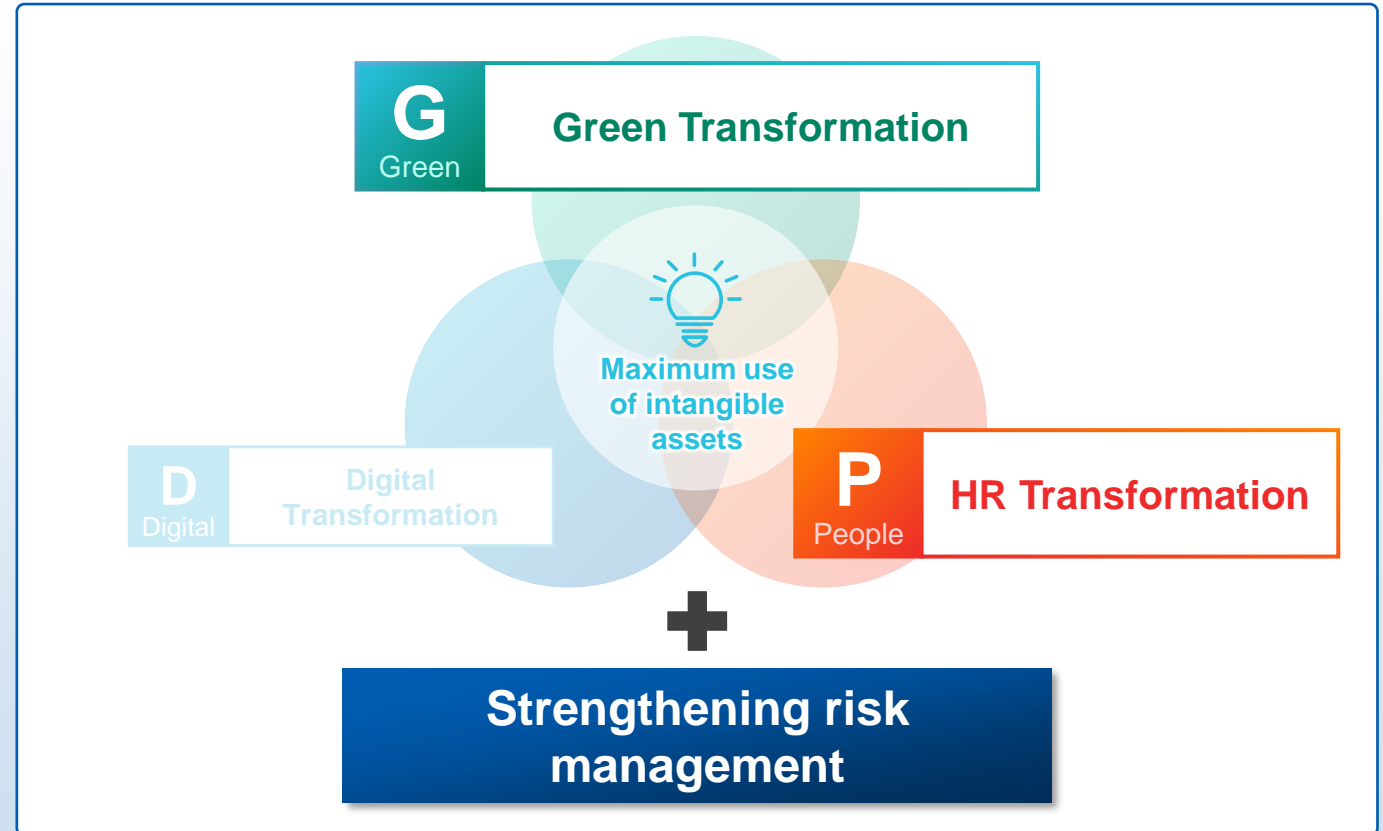
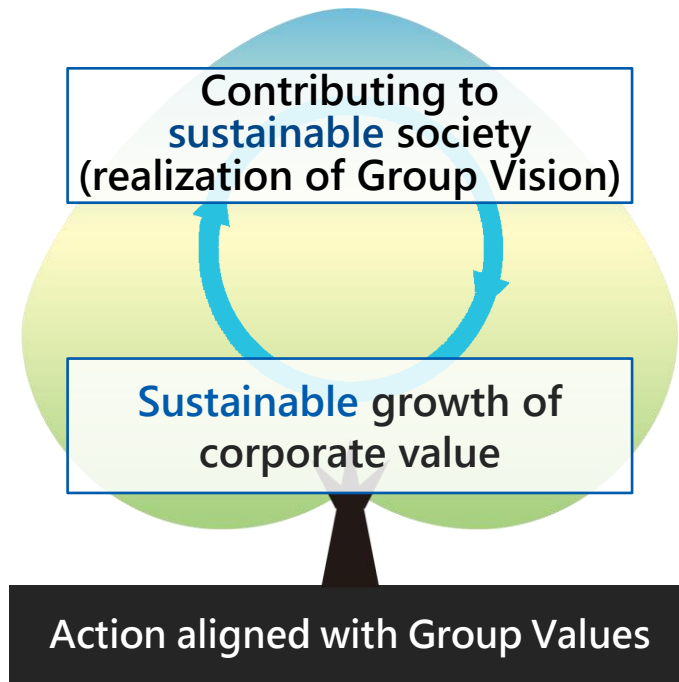
**New medium-term  
management plan (MTP)  
and centennial of Asahi  
Kasei's founding**

# Our aims

**Group Mission**

**We, the Asahi Kasei Group, contribute to life and living for people around the world**

## Two aspects of sustainability for Asahi Kasei





# 2 Green

## Green Transformation

# Initiatives regarding climate change

**Climate change** (from +1.5°C to over +4°C scenario)



\*10 Growth Gears: Businesses to lead next growth

Risks

# Risk control

## Transition risks

Decarbonization

Changes in market  
structure

etc.

- Efforts toward carbon neutrality
- Developing and promoting practical application of recycling technology
- Utilization of biomass raw materials
- Optimization of management resource allocation

## Physical risks

Serious storm and  
flood damageRise in  
temperature

etc.

- Measures for manufacturing sites and supply chains
- Improvement of work environment

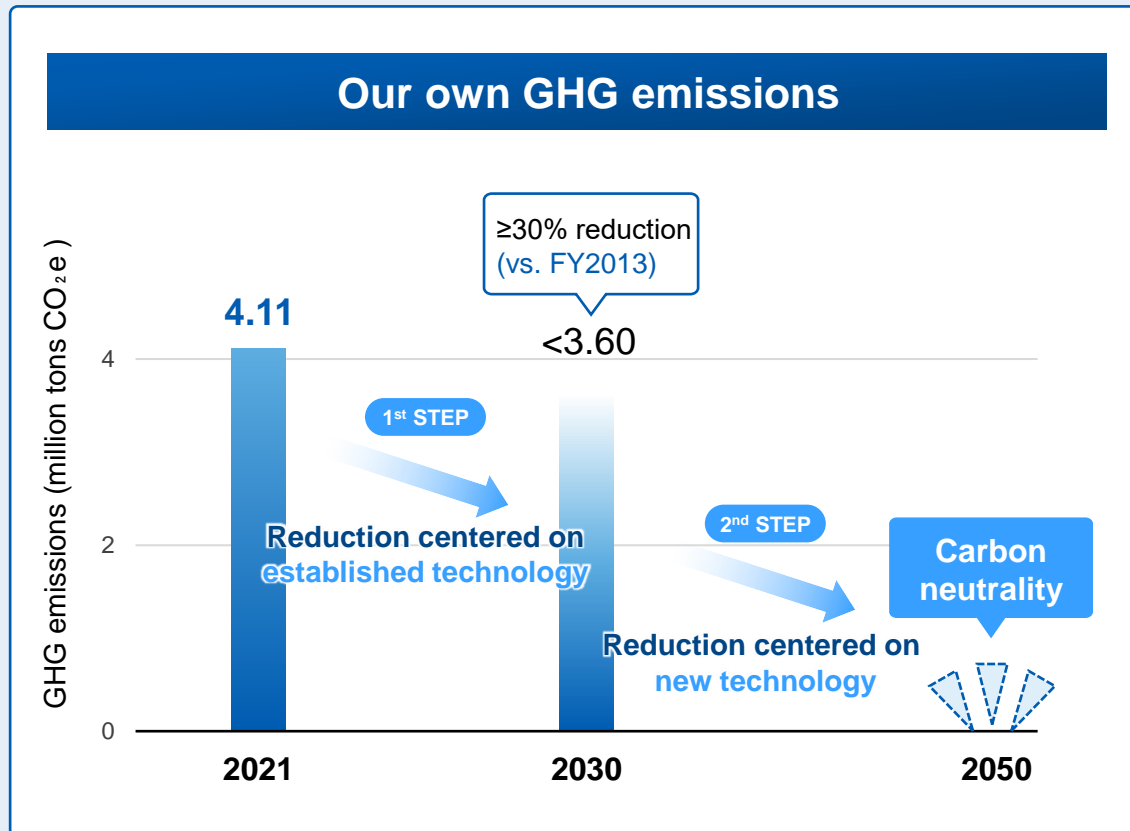
Obtaining  
opportunities



## Risks

# Action for carbon neutrality

Efforts for carbon neutrality are advancing based on our MTP 2024



## Initiatives

- **Identifying GHG reduction measures**  
→ **examining specifics, pursuing possibilities**
  - Low-carbonization of in-house power generation (phasing-out coal; utilizing hydrogen, ammonia, CO<sub>2</sub>-free methane, etc.)
  - Production process innovation
  - CCUS
- **Creating scenarios for 2030 and 2050 goals, calculating costs**
- **Business evaluation based on carbon pricing**
- **Studying collaboration with other companies**

## Risks

## CFP\* calculation and systematization

Calculating CFP starting from businesses with high requirements + establishment of company-wide standard CFP calculation system (scheduled to start operating in FY2023)

## Background

1. Expectations for carbon neutrality throughout society
2. Ascertaining and enhancing the GHG-competitiveness of our products
3. Visualization as basis of CO<sub>2</sub> reduction

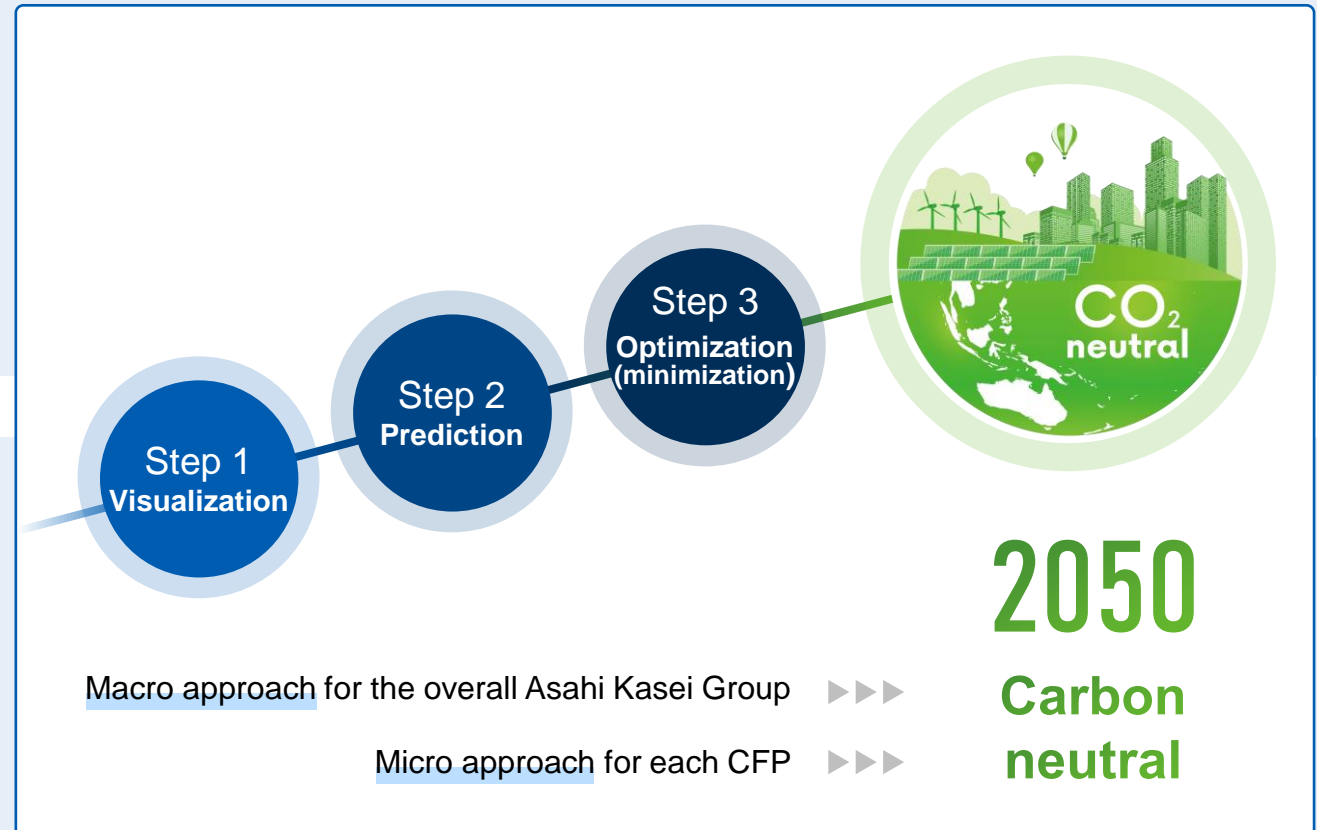


## Future direction

Using CFP visualization to **identify points for reduction**



Accelerating further reductions



\* Carbon footprint of products: Amount of GHG emissions per product

# Opportunity Obtaining opportunities

Risk control	Fields for provision of value	Businesses to lead next growth 10 Growth Gears (GG10)	Relationship with climate change scenarios <sup>1</sup>		Opportunities related to climate change		
			+4°C	+1.5°C			
	Environment & Energy	Hydrogen-related	○	⊙	Mitigation	Clean energy	
		CO <sub>2</sub> Chemistry	○	⊙	Mitigation	Carbon recycling	
		Energy Storage	○	⊙	Mitigation	Clean energy	
	Mobility	Car Interior Material	○	○			
	Life Material	Digital Solutions	○	⊙	Mitigation	IT, sensing, EVs, etc.	
	Home & Living	North American and Australian Homes	○				
		Environmental Homes and Construction Materials	⊙	⊙	Adaptation	Resilience, thermal insulation	Mitigation
	Health Care	Critical Care	⊙	○	Adaptation	Critical Care	
		Global Specialty Pharma	○				
		Bioprocess	○	○			

<sup>1</sup> Areas deemed to have a strong relationship, such as being directly mentioned in the Sixth Assessment Report of IPCC and WEO 2021, are indicated with double circle; areas expected to be broadly related, although not as strongly, are indicated with a single circle.

<sup>2</sup> ZEH (Net Zero Energy House) refers to houses with net energy consumption of zero or less through high insulation performance, energy conservation, and solar power generation, etc.

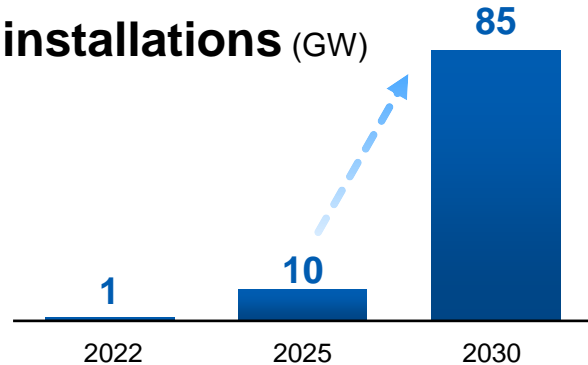
# Opportunity Hydrogen market

Substantial growth of the hydrogen market is forecasted (issues are also emerging); various countries and regions are expanding support for achieving a hydrogen society

## Forecasted market scale

### Annual electrolyzer installations (GW)

Electrolyzer installations projected to increase rapidly from 2025

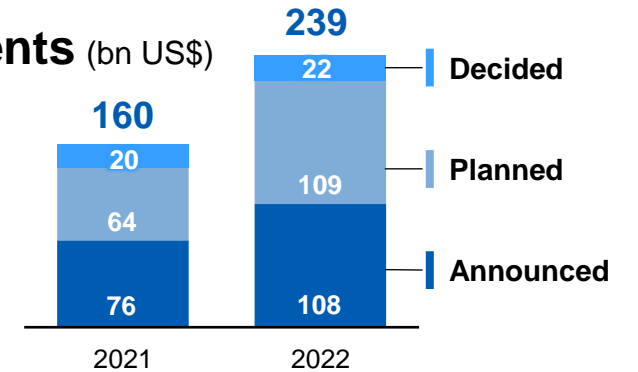


Source: BloombergNEF, Global Electrolyzer Outlook 2030

## Large-scale projects (≥1 MW)

### Hydrogen investments (bn US\$)

680 projects in 2022 (\$239 billion) of which, investment decisions on **≈10%** (\$22 billion)



Source: Hydrogen Council, Hydrogen Insights Report, September 2022

## Expanding support for hydrogen market formation



- REPowerEU
- IPCEI
- European Hydrogen Bank



- Infrastructure Investment and Jobs Act
- Inflation Reduction Act



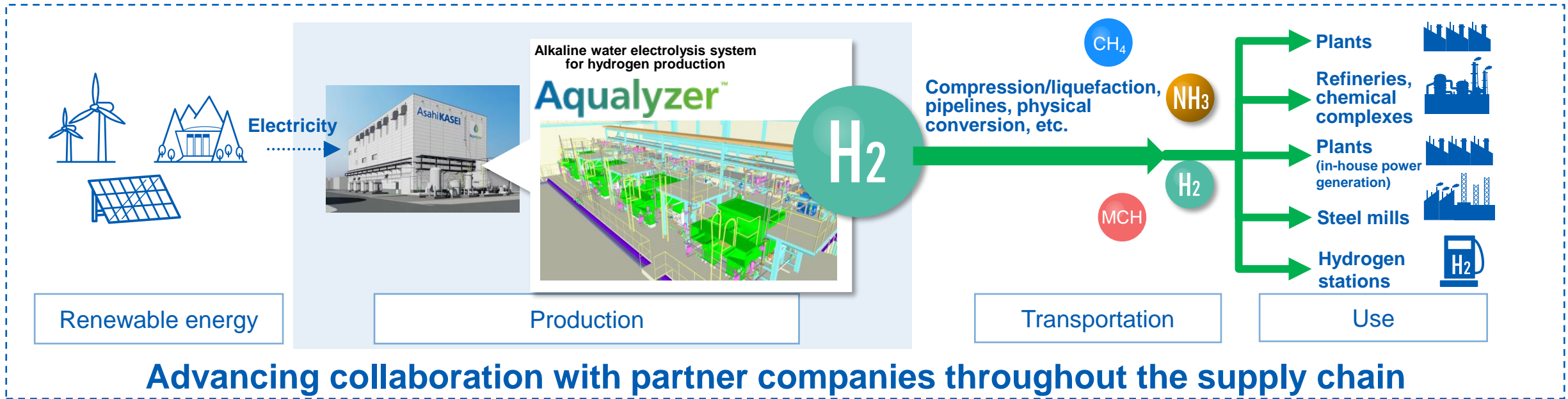
- Green Innovation Fund
- Subsidy for use as fuel to generate power (proposed)

**Opportunity**

# Accelerating commercialization in concert with industry associations and partner companies



**Utilization of Green Innovation Fund (2021–2030): Development of large-scale alkaline water electrolysis hydrogen production system and demonstration of green chemical plant**

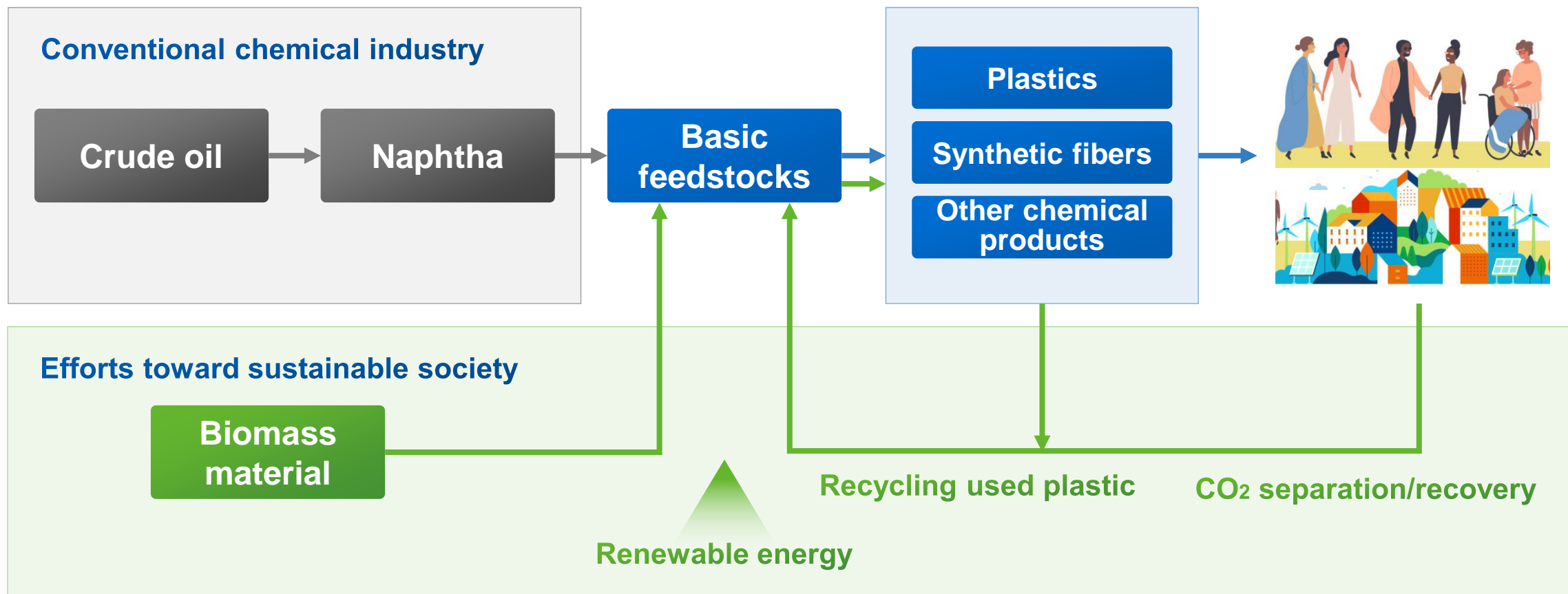


Industry associations	<p><b>Hydrogen Council: Steering Member</b> Founded in 2017 as a global initiative to promote hydrogen utilization. Includes close to 150 companies and organizations across the entire hydrogen value chain.</p>
	<p><b>Japan Hydrogen Association (JH2A): Executive Board Member</b> Founded in 2020 for deliberation and activity among industry, academia, and government for practical application of hydrogen in society. Includes 23 Executive Board Members and 207 Ordinary Members, etc.</p>

## Opportunity

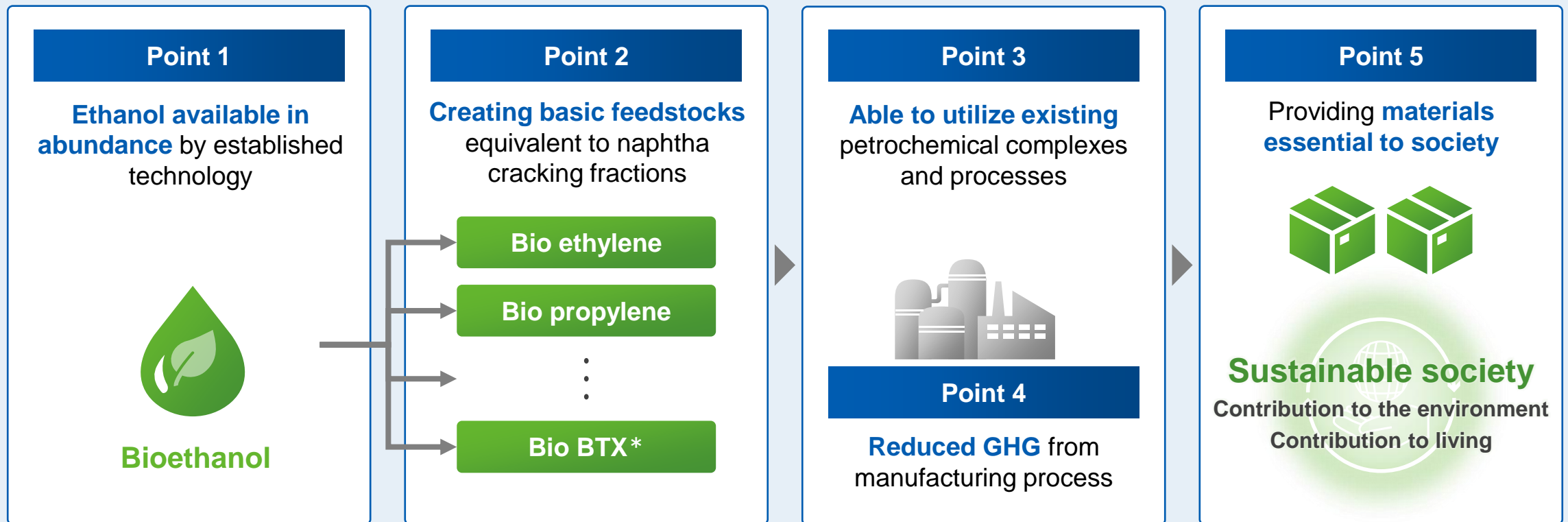
# Helping the chemical industry provide value for a sustainable society

Providing green chemical products to society



# Opportunity Our solutions Creating basic feedstocks from bioethanol

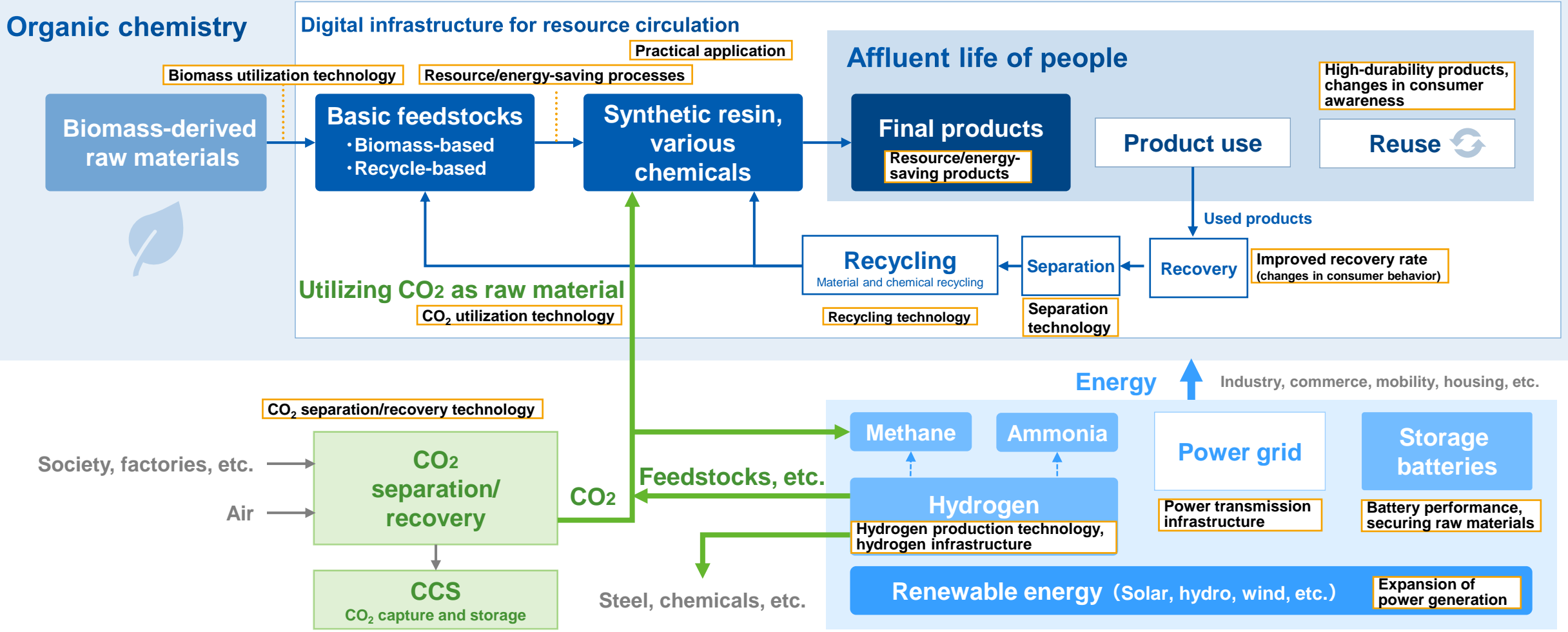
Aiming for commercialization through technological development, improvement, and verification



\* A mixture of benzene, toluene, and xylene

# Outline of a carbon neutral and sustainable society

Issues, keys to innovation

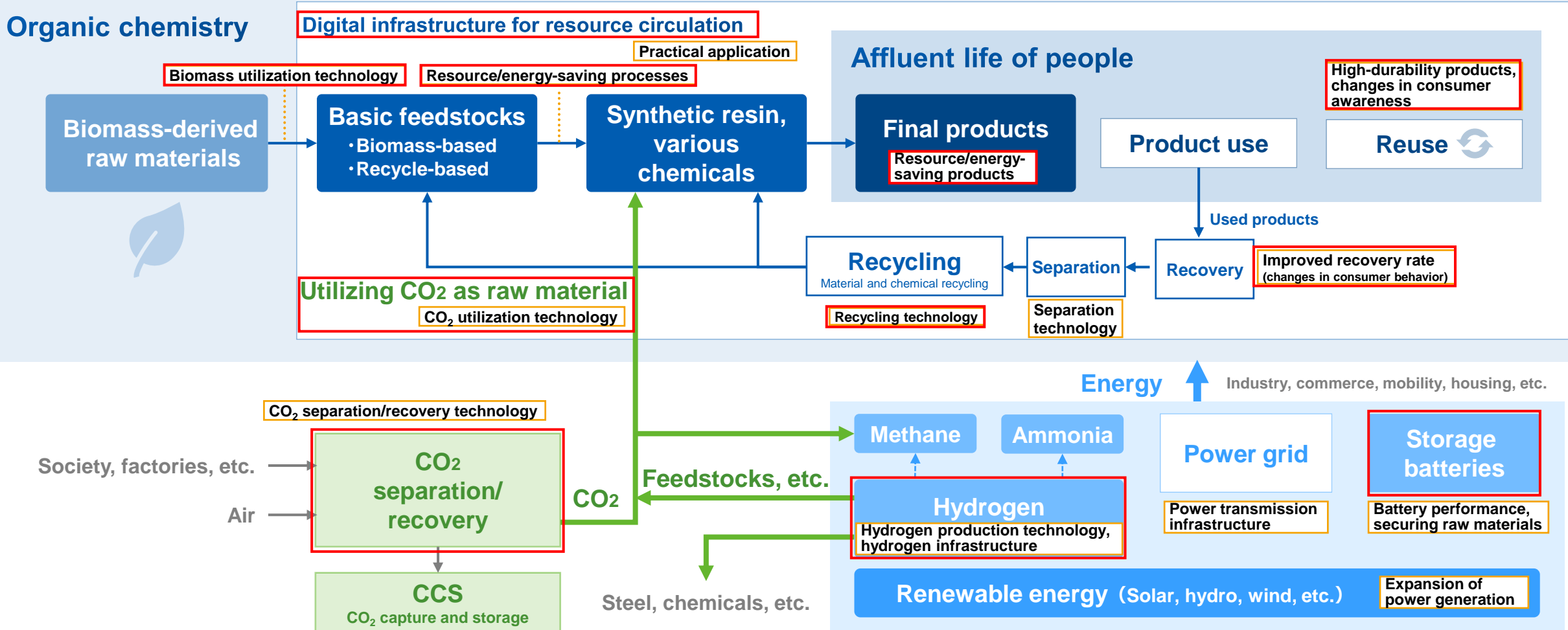




# Outline of a carbon neutral and sustainable society

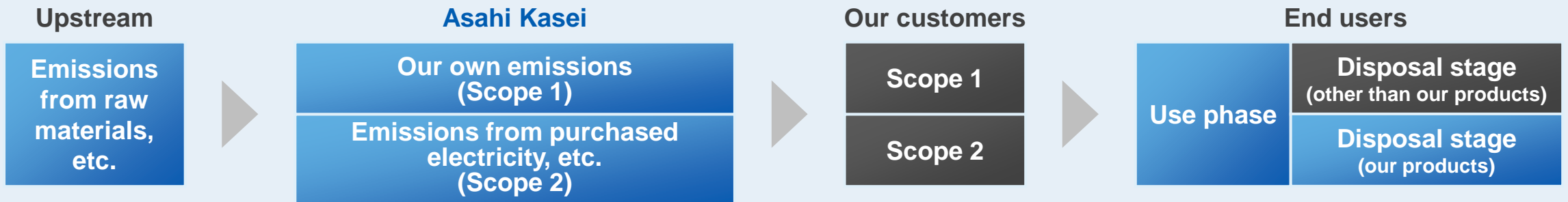
Main initiatives of Asahi Kasei

Issues, keys to innovation



# Environmental contribution products contributing to total GHG reduction including emissions by customers and end users

Promoting GHG reduction while expanding businesses by **strengthening environmental contribution**



Blue box indicates Asahi Kasei's major areas of Scopes 1, 2, and 3 ("use phase" is calculated for Hebel Haus)

Environmental contribution product examples	Environmental contribution	Main reduction stages
Hebel Haus	1) High durability 2) Energy conservation	1) Raw materials, disposal stage 2) Use phase
Ion-exchange membrane process for chlor-alkali electrolysis	Electrolysis efficiency	Our customers' Scope 2
Synthetic rubber for fuel-efficient tires	Rolling resistance of tires	Use phase
Purging agent for plastic molding machines	Cleaning efficiency	Our customers' raw materials, Scopes 1 and 2



# 3 People

## HR Transformation

# Characteristics of Asahi Kasei HR

## OpenWork workplace review site

2021 Engaging company ranking — 8th  
 2022 Overall evaluation ranking (chemical, petroleum, glass, and ceramic industries) — 1st



## METI case study report on HR management in corporations

METI (Ministry of Economy, Trade and Industry) Report in May 2022

Case 1: Asahi Kasei Corporation

HR creatively obtaining personnel and enhancing engagement as needed to create value in diverse businesses

**Asahi Kasei Corporation**  
 Tokyo, founded 1922  
 Chemical manufacturing → manufacture and sale in Material, Homes, and Health Care sectors

## HRX of The Year 2022 Excellence Award

by HR Executive Consortium



**People are our most valuable assets, everything starts from people**

Lifelong growth of diverse individuals + system to foster digital personnel for future competitiveness

# The theory of evolution

**It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is most adaptable to change.**

# Look back on the path we have travelled

Achieving growth by constantly transforming our portfolio and taking on the challenges of social issues that change with the times over the 100 years since our founding

## History of net sales portfolio

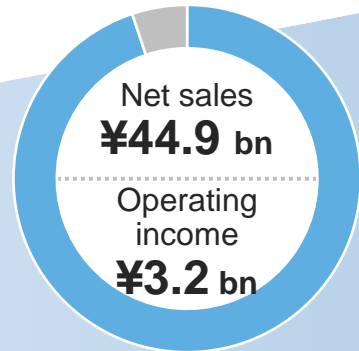
■ Material ■ Homes ■ Health Care ■ Others

**Founding**  
(Asahi Fabric Co., Ltd.)

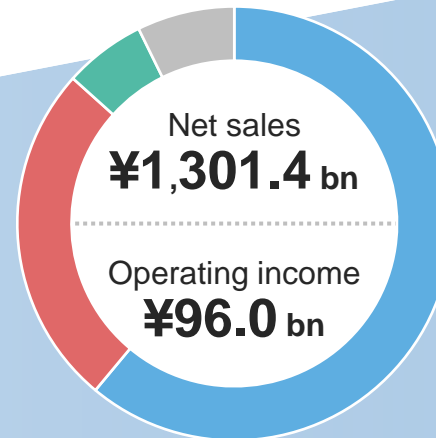
**FY1922**



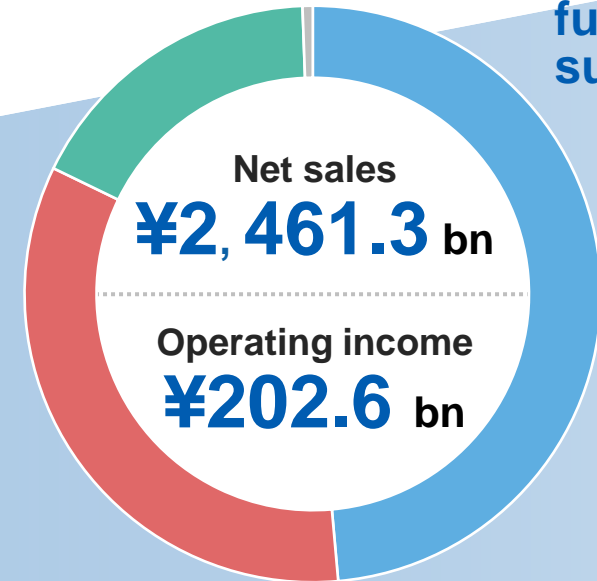
**FY1960**



**FY1990**



**FY2021**



Transforming further for sustainability

Chemical fertilizers, regenerated fibers, explosives

Petrochemicals, synthetic fibers

Construction materials and homes, pharmaceuticals and medical devices, electronic components and materials

Global healthcare, digital and environmental solutions

Business creation and development for social issues

# Requirements of personnel and organizations, outline of HR strategy

## A-Spirit

- 01 Ambitious motivation**  
We will boldly challenge ourselves with high goals, not being satisfied with the current situation

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- 02 Healthy sense of urgency**  
We will have a strong commitment to goals and focus on generating results

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- 03 Quick decisions**  
We will rapidly and boldly take actions with nimble connections and genuine communication

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- 04 Spirit of advancement**  
We will create new ways of doing things without being constrained by existing frameworks



**Promoting challenge and growth**

**Lifelong growth**

**Leveraging diversity**

**Co-creativity**



Further enhance and apply

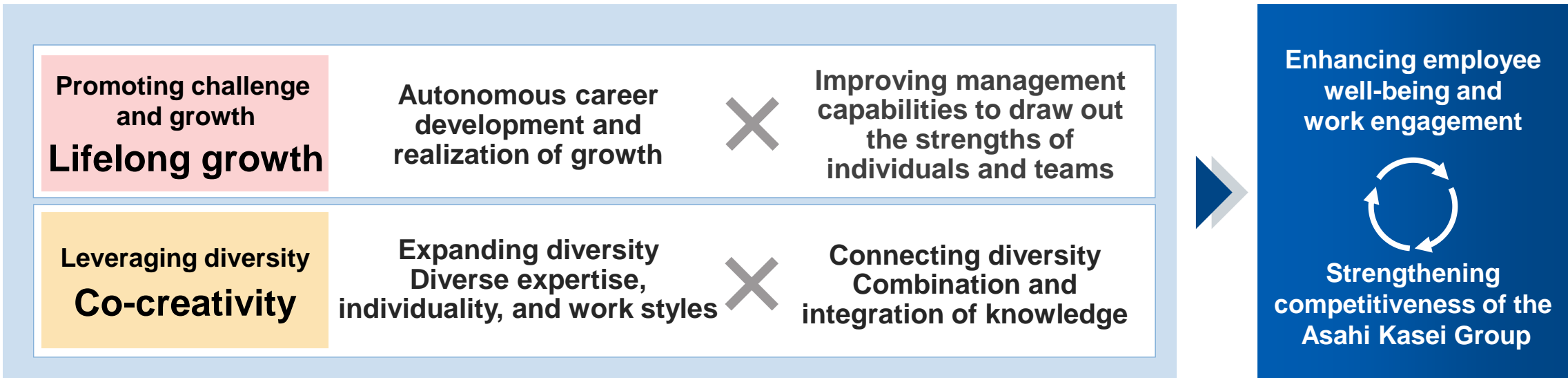
## Intangible assets cultivated since our founding

<p><b>Group Values</b></p> <p>Sincerity, Challenge, Creativity</p>	<p><b>Diversity</b></p> <p>Diversified technologies, businesses, and market contacts</p>	<p><b>Open and frank corporate culture</b></p> <p>Friendly atmosphere between top management and employees</p>
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# Human strategy – outline


**People are our most valuable assets, everything starts from people**


**Discovering the future with lifelong growth and co-creativity of diverse individuals**



**Main KPIs**

**Number of Group Masters**  
**FY2024: 300**  
 FY2021: 259 in 64 fields

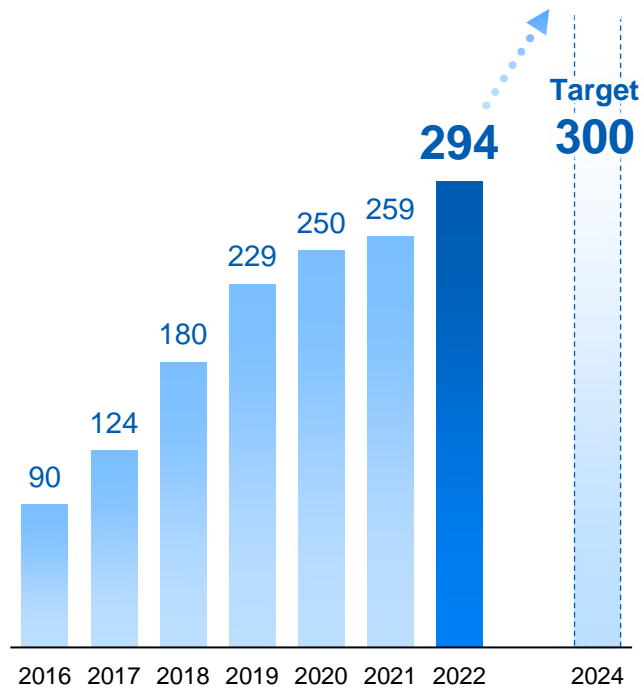
**Growth behavior index**  
 Continuous actions to monitor and maintain/improve  
 Engagement survey results on 5-point scale  
 FY2020: 3.65, FY2021: 3.69

**Diversified HR index**  
**Proportion of women working as managers and Group Masters**  
**FY2030: 10%**  
 (FY2018: 2.2%, FY2021: 3.4%)  
 Proportion of women and non-Japanese executive officers  
 FY2018: 8%, FY2022: 22%

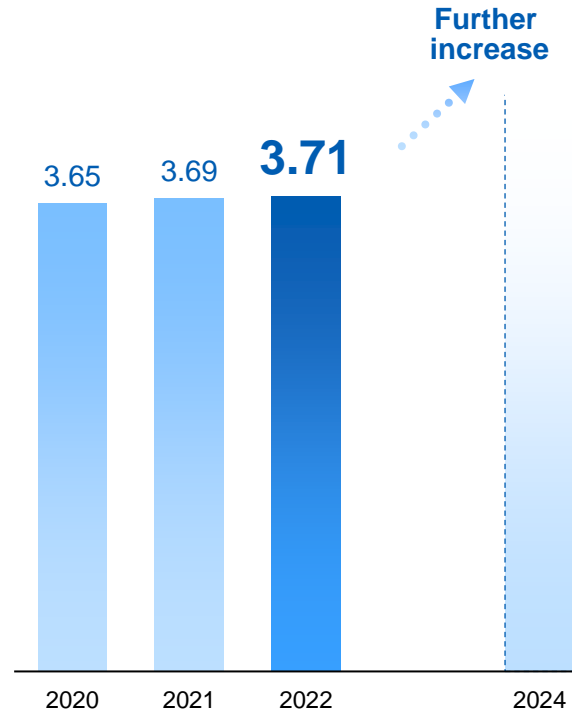


# Human resources KPIs

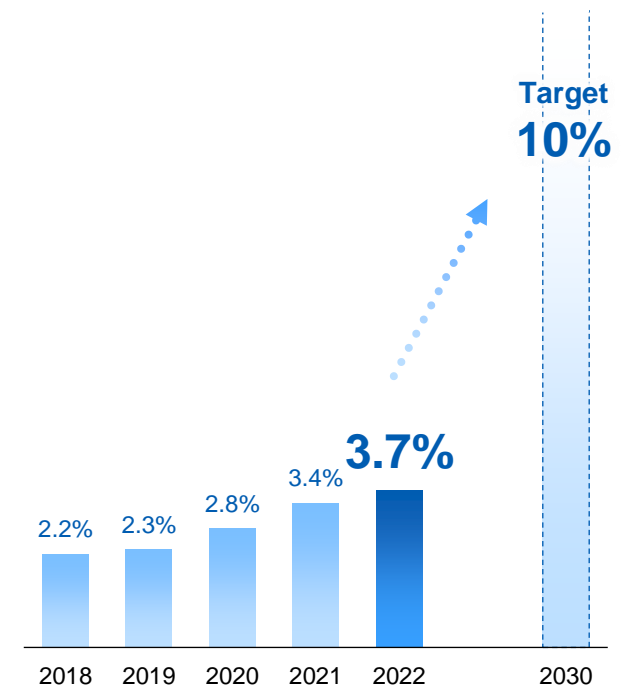
## Number of Group Masters



## Employees work engagement survey results on 5-point scale

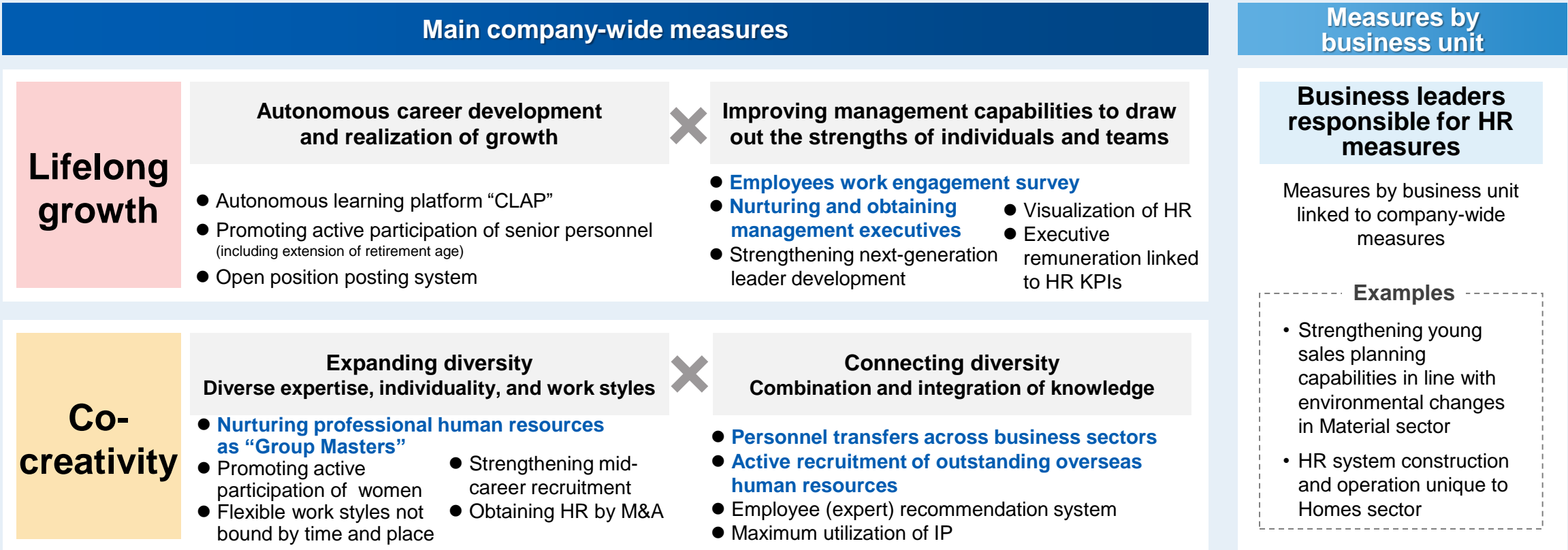


## Proportion of women working as managers and Group Masters



# HR strategy – specific measures

HR measures on 2 axes: **company-wide** and **by each business unit**



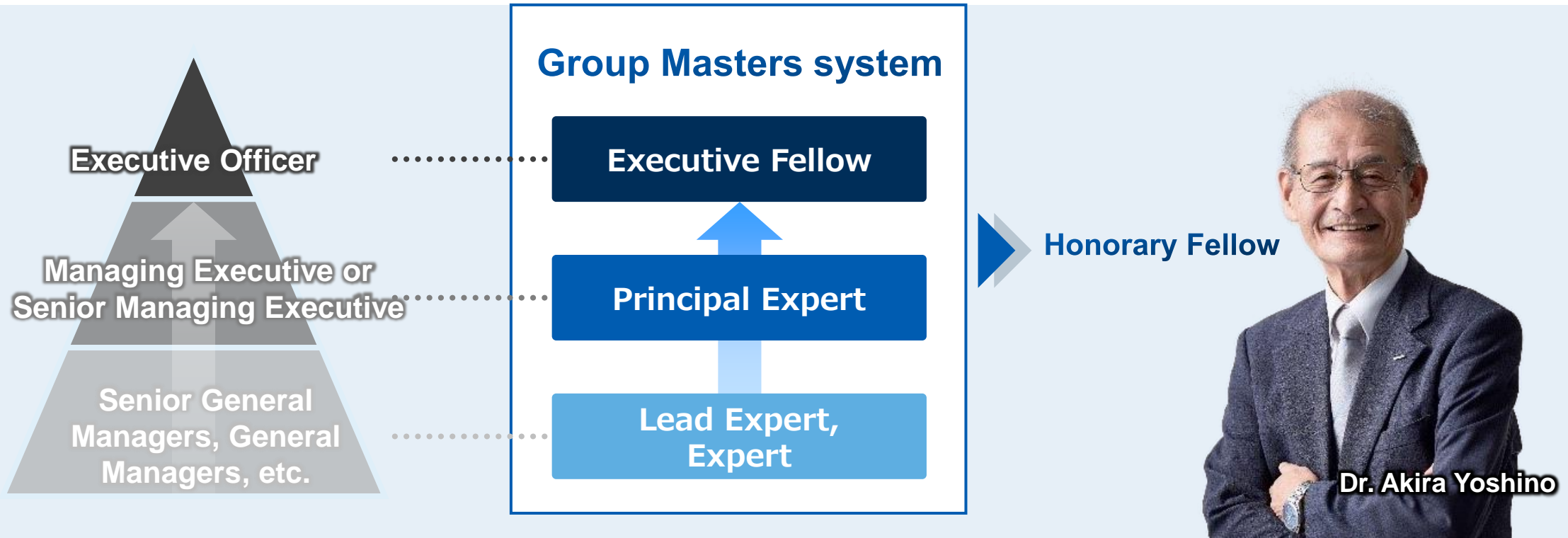
**Bold blue:** Additional description on following pages

Co-creativity **Group Masters – overview**

**Continuous development of professional human resources** who contribute to new business creation and business enhancement

**Roles**

- 1) New business creation & strengthening operations, 2) **Fostering younger personnel**



Co-creativity

# Group Masters – significance and operation

## Significance of Group Masters

Development, acquisition, and retention of professional human resources necessary for business expansion



- Strengthening technologies that are sources of business competitiveness
- Heightening business activities
- Reinforcing risk management



**New business creation and enhancing existing businesses**

**Fields for appointment are reviewed annually in line with business strategy**

### Main recent reviews of fields for appointment

FY2018	Core platform field	“Digital innovation” newly established
FY2019		Alignment of formerly dispersed digital-related technologies
FY2021	Core technology field	“Biotechnology” newly established
FY2022	Core technology field	“Pharmaceutical marketing” and “China pharmaceutical business” newly established in Health Care
	Core Platform field	“Machine safety,” “Internal audits,” and “Trade and customs” appointment requirements changed

## Current fields applied to Group Masters

Sector-specific fields		
● Homes	● Material	● Health Care

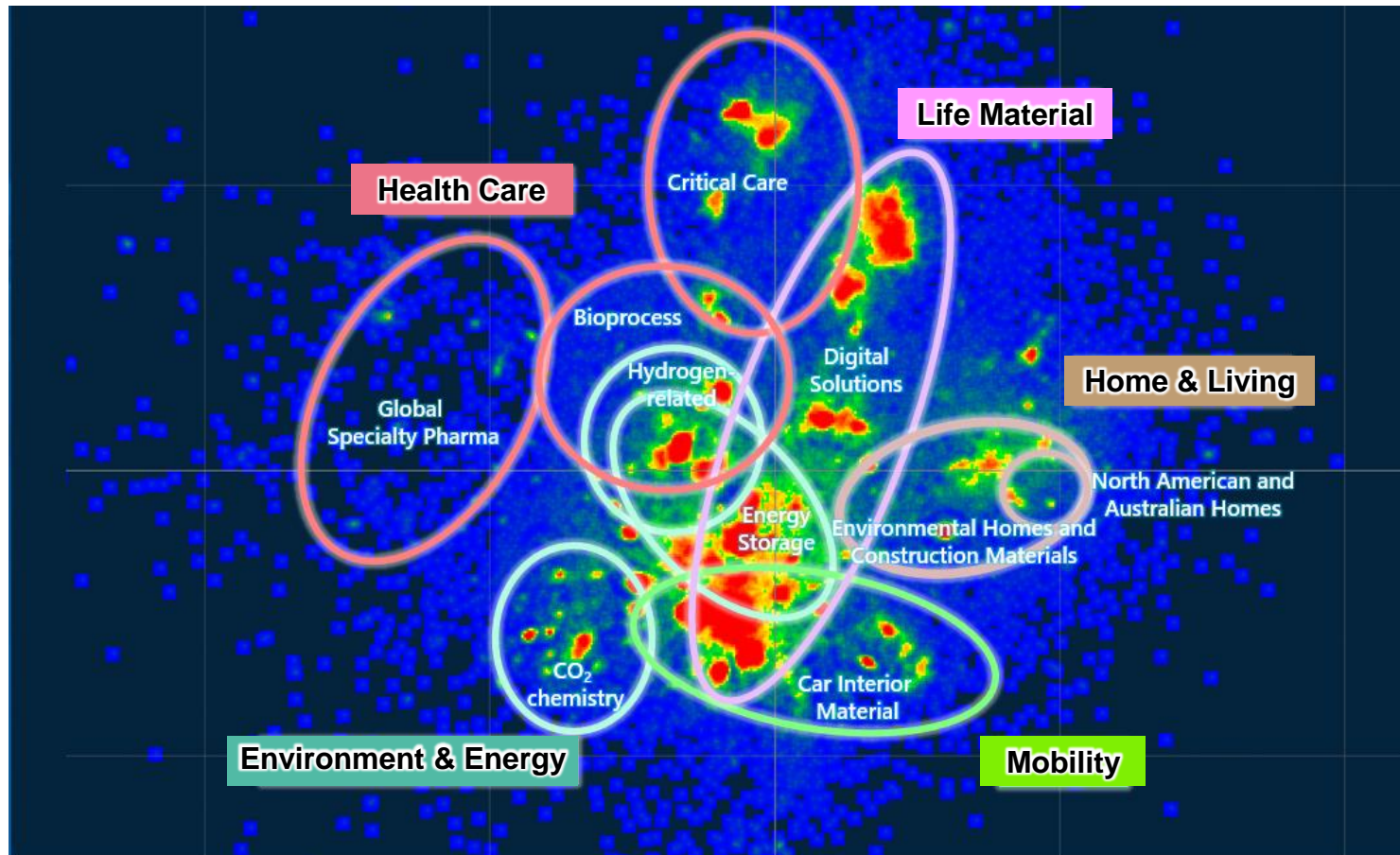
Core technology fields		
● Membranes and separation	● Catalysts, chemical processes, and inorganic synthesis	● Product design and advanced control
● Electrochemistry	● Analysis and simulation	● Plant engineering
● Fibers, polymers	● Process development and construction technologies	● Biotechnology
● Compound semiconductors		

Core platform fields		
● Process safety	● Trade and customs	● IT
● Quality assurance	● Accounting and taxation	● Intellectual property
● Chemical management	● Organizational development	● Legal affairs
● Digital innovation	● Machine safety	● Internal audits, etc.

## Co-creativity

# Group Masters – creating new businesses, enhancing existing businesses

Group Masters lead R&D in core technology fields and connect various technology and people to expand growth-driver businesses (GG10)



◀ Asahi Kasei's patent map

- **Red** shows patents concentrated in core technologies
- Decreasing sequentially in **yellow**, **green**, and **blue**



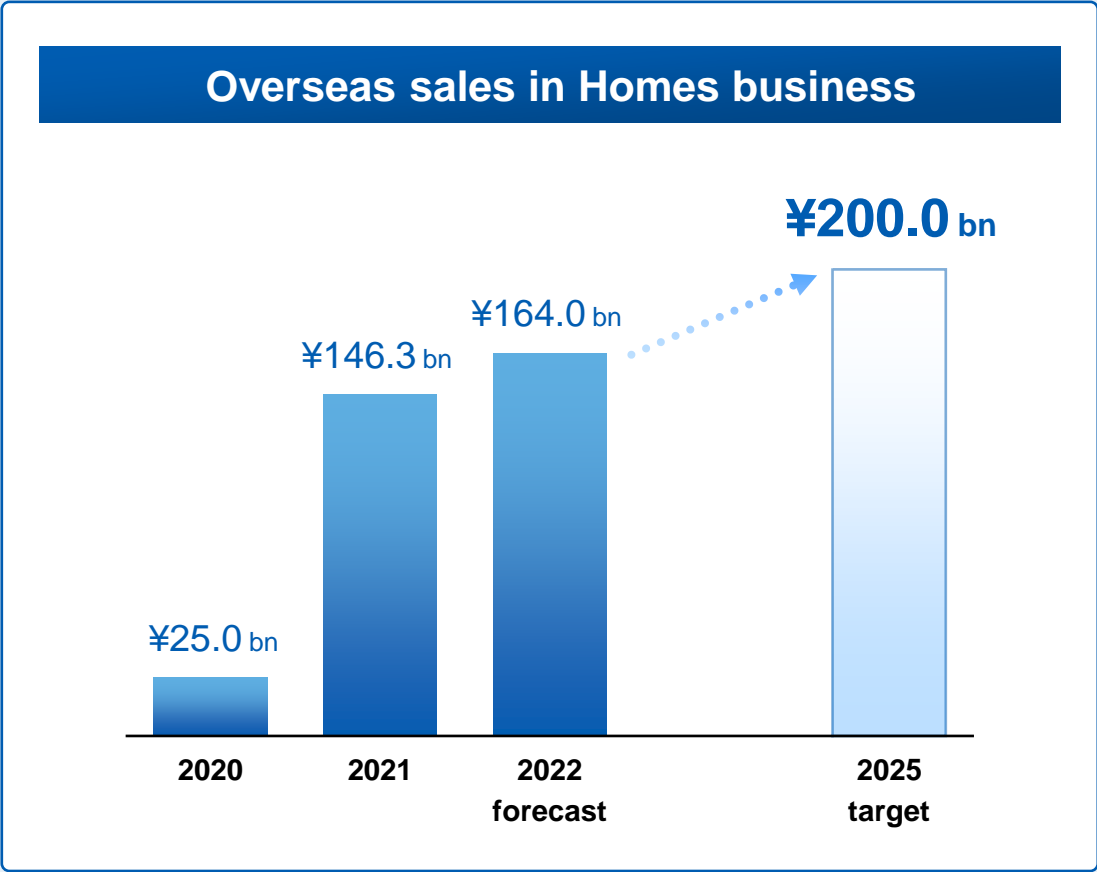
**Co-creativity** **Personnel transfers across sectors**

**Fully leveraged personnel and know-how for overseas expansion of the Homes business** which had been focused on the domestic market

Leveraged know-how and personnel with M&A experience in the Health Care sector, corporate venture capital (CVC), etc., to accelerate overseas business development in Homes



<b>Australia</b>	2017	Investment in McDonald Jones Homes; fully acquired in 2021
<b>North America</b>	2018	Acquisition of building component supplier Erickson
	2020	Acquisition of electrical, concrete, and HVAC group Austin



Lifelong growth

# Vitality and Growth Assessment to improve work engagement

Visualizing the work status of individuals and organizations and implementing PDCA cycle

➔ Enhancing work engagement and action to take challenges and drive growth

## Vitality and Growth Assessment

### Characteristics

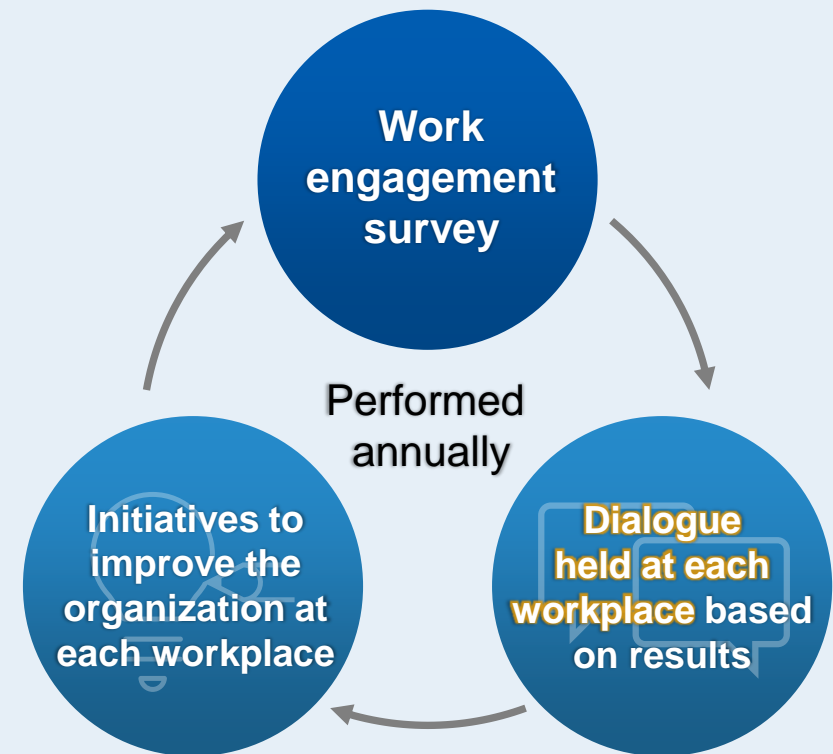
- 1 Gauging the following **3 indicators**

Superior-subordinate relationships,  
workplace environments

Employee  
empowerment

Action driving growth

- 2 Optimum proprietary framework designed together with Osaka University
- 3 Appointed **3 Group Masters** in HR and organizational development fields → supporting line managers



Lifelong growth

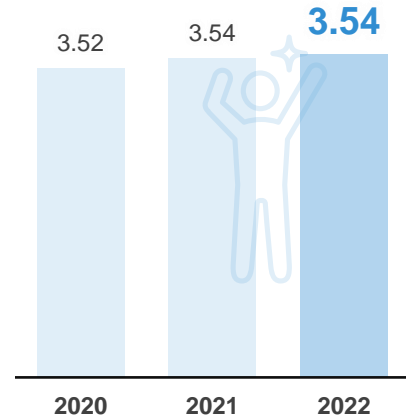
# Vitality and Growth Assessment to improve work engagement

## 3 indicators on 5-point scale

Superior-subordinate relationships, workplace environments

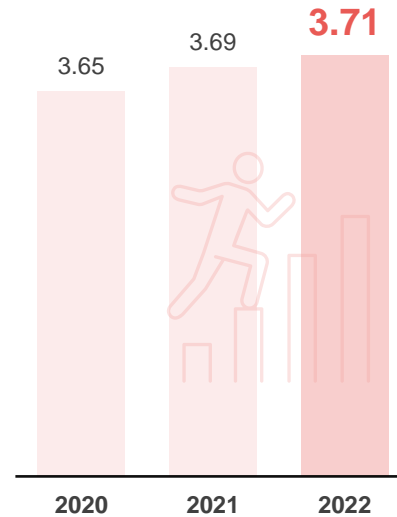


Employee empowerment



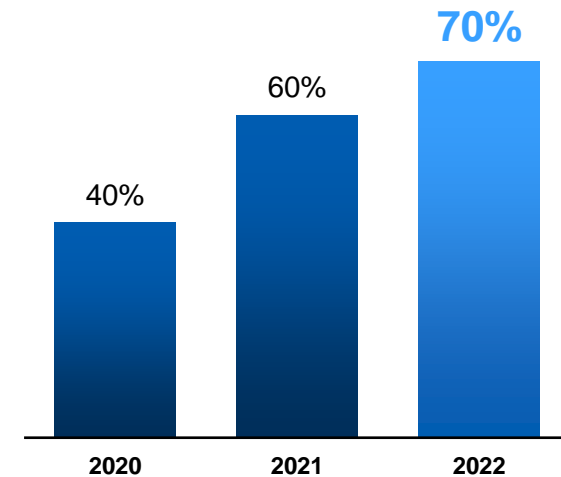
Action driving growth

Closely monitored as KPI of taking challenges and growth



## Rate of implementing workplace dialogue

Closely monitored as action for improvement at each workplace

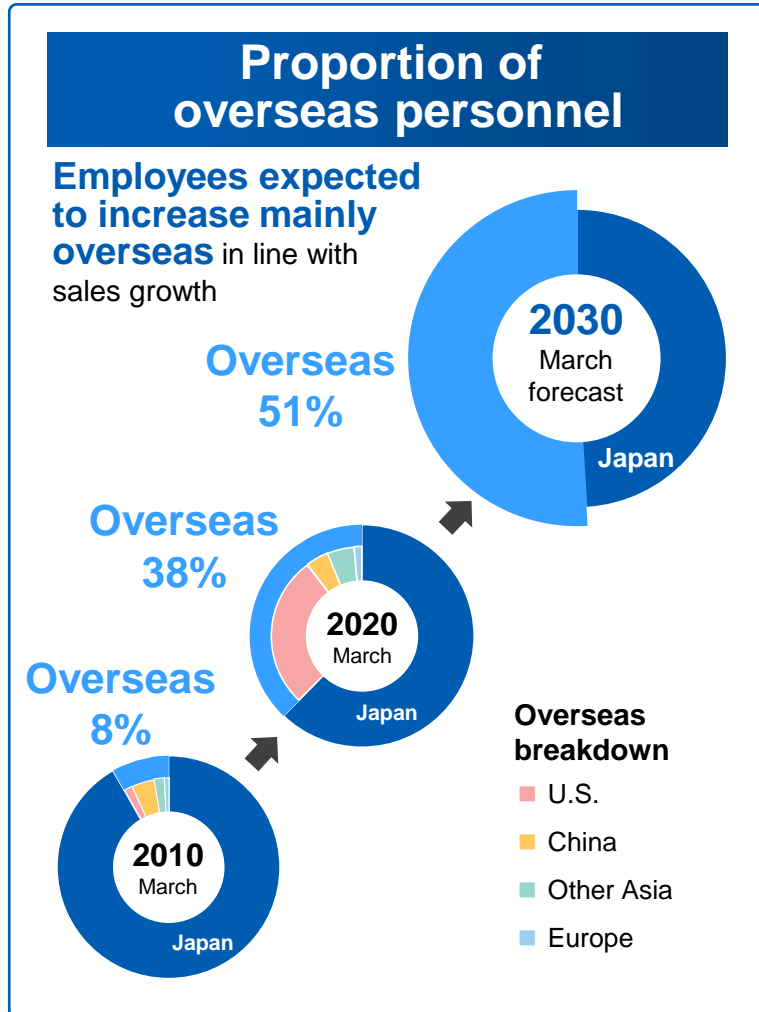


- Confirmed that dialogue leads to steady improvements in the workplace



Co-creativity

# Utilizing overseas personnel

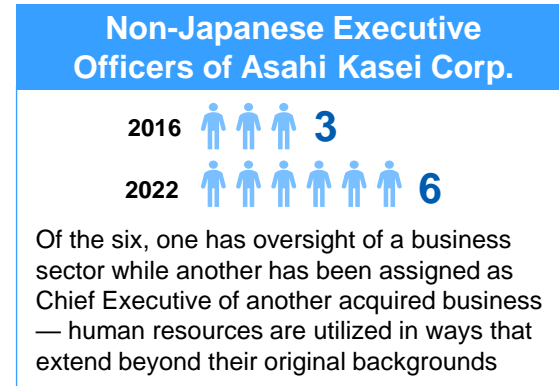


## HR support systems tailored to regional characteristics

Locally hired HR managers in U.S. and Europe

## Assignment to overall management

When acquiring overseas businesses, outstanding personnel are brought into Asahi Kasei Group management in addition to serving as Executive Officers of core operating companies



## Fostering next-generation leaders

Outstanding personnel hired locally are not only utilized in each respective business but also fostered to be leaders who can contribute to the overall Asahi Kasei Group

**Example**

In formulating the MTP which began in 2022, next-generation leaders in the U.S., Europe, and China joined a workshop discussing the ideal future for Asahi Kasei

Overseas personnel with highly specialized skills are assigned to head office in Tokyo, etc.



# 4 Risk Management

# Asahi Kasei Group risk management

## Dramatic changes in the operating environment

- Changed values due to the COVID-19 pandemic
- Higher tension in international relations etc.



## Reinforcement of risk management

Autonomous risk management in each organization



### Reinforcement 1

Clarification of risk management framework and roles of involved parties

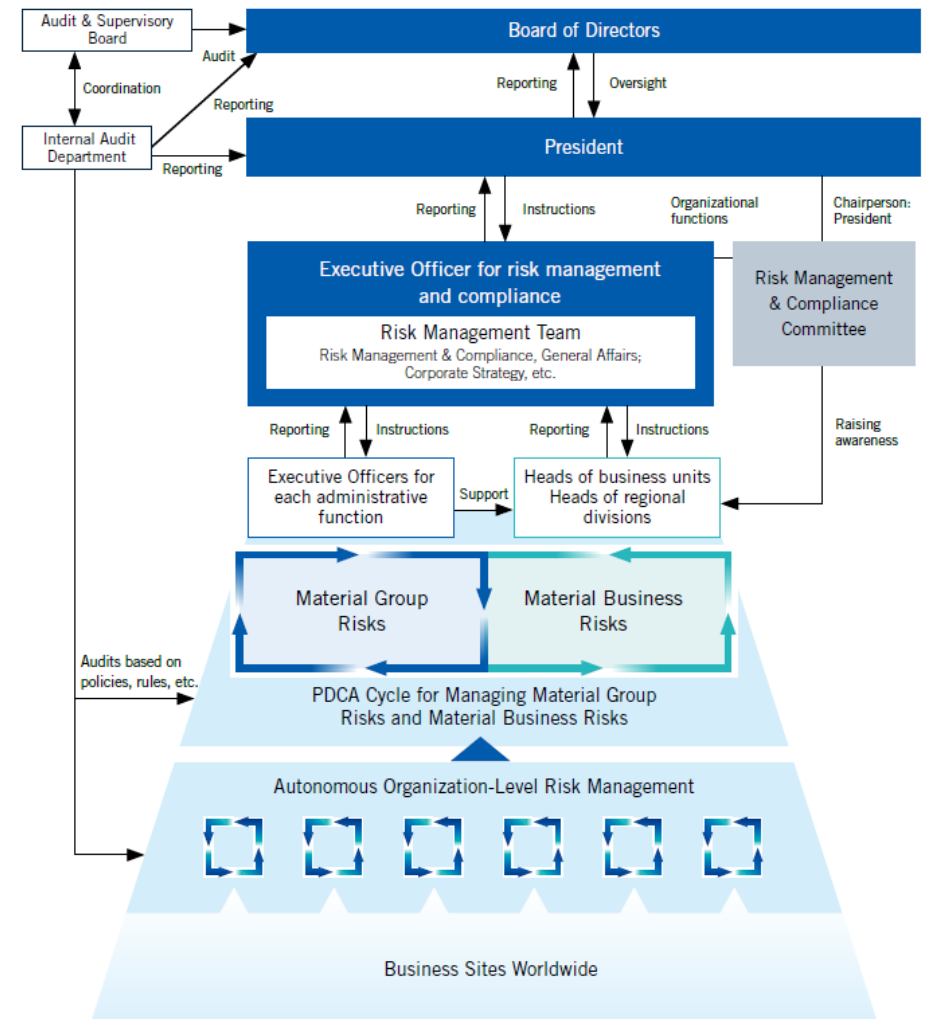


### Reinforcement 2

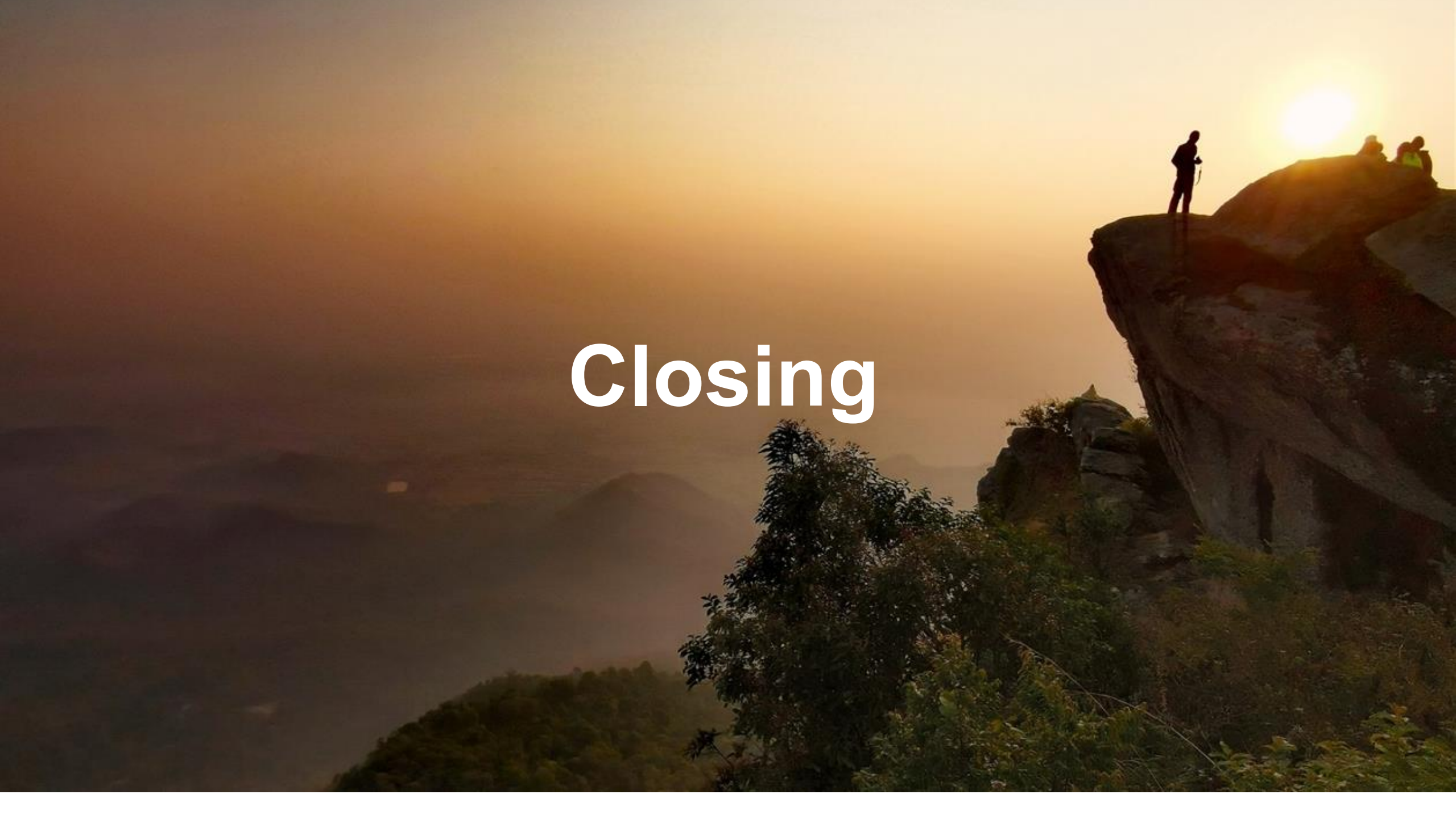
Enhancement of risk management PDCA cycle



## Risk management framework and roles of constituents



# Closing



# AsahiKASEI

## *Creating for Tomorrow*

### THE COMMITMENT OF THE ASAHI KASEI GROUP:

To do all that we can in every era to help the people of the world make the most of life and attain fulfillment in living.

Since our founding, we have always been deeply committed to contributing to the development of society, boldly anticipating the emergence of new needs.

This is what we mean by “Creating for Tomorrow.”

