



Second Quarter of Fiscal Year Ending March 2023

Management policy Update

November 10, 2022

Toyo Engineering Corporation

Haruo Nagamatsu, President & CEO



1. **Summary of the 1st Half**

2. Status of Major Projects

3. Medium-Term Management Plan (2021-2025)
Progress

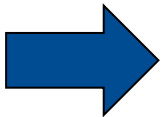
4. Topics of the 1st Half

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Summary of 1st half performance

- JPY 96.4 billion is net sales for the 1st half, 46% progress.
- Net sales are driven by biomass in Japan and Indian projects.
- Operating income (JPY 3.0 billion) was a 150 % progress due to temporary factors. It will be JPY 2.0 billion as forecasted at the end of the fiscal year.
- New orders were JPY 122.4 billion, including equity method affiliates, 41% progress.



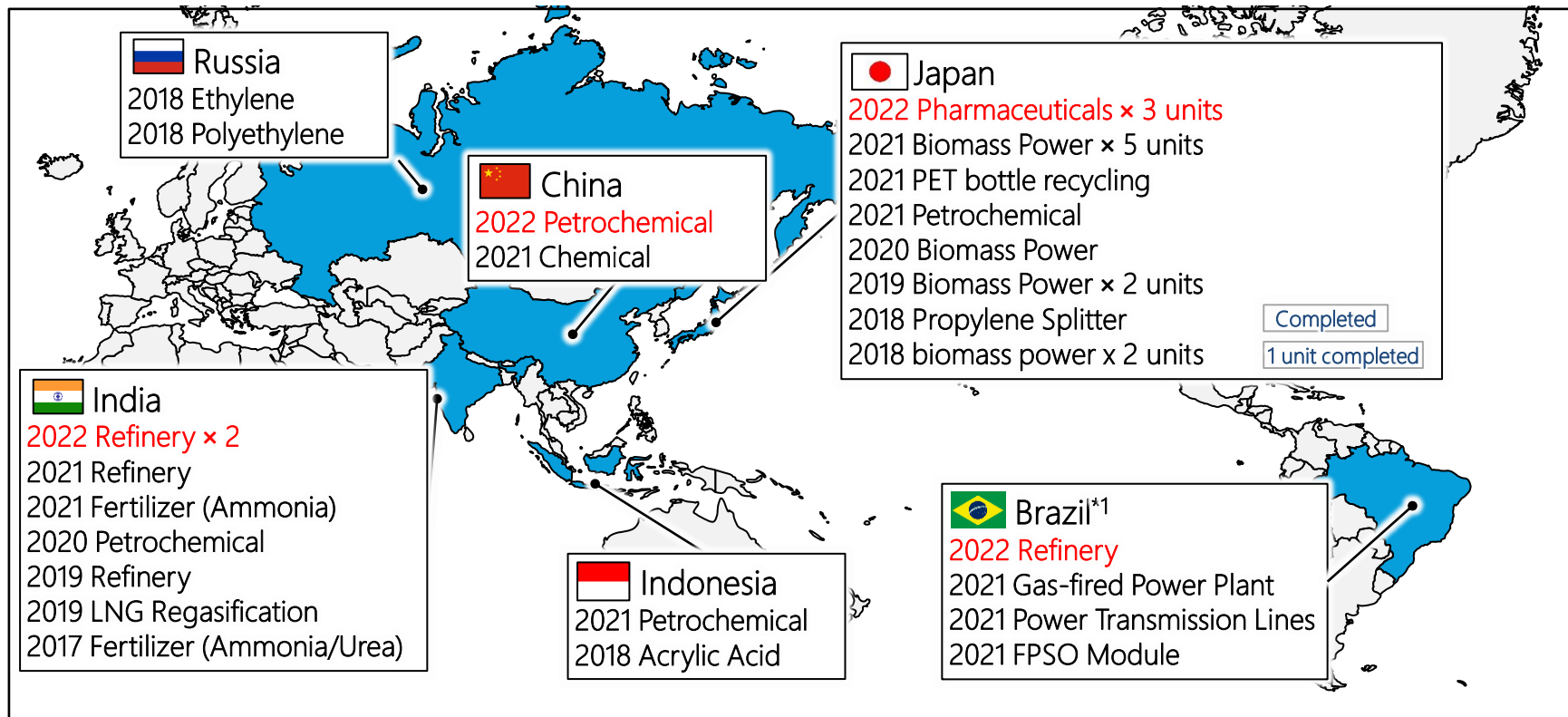
Despite concerns about a slowdown in the world economy, the inflation in each country, and the situation in Russia and Ukraine, the profit and new order outlook remain unchanged.



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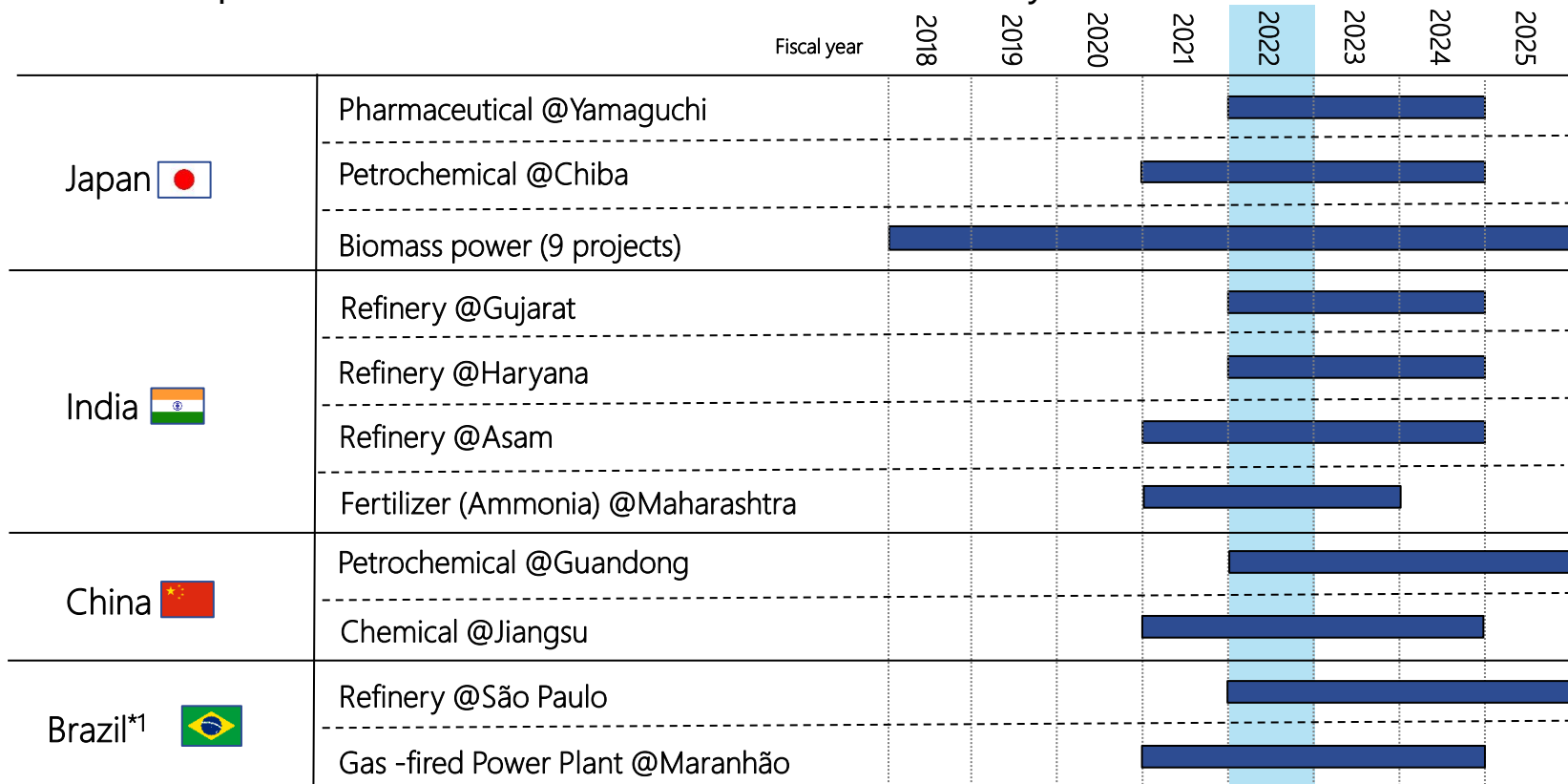
Major ongoing projects

New orders received in Japan, India, China, and Brazil



Progress of major projects

Continue to proceed in a balanced manner in each country



*1 Projects by the equity method affiliates



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Strategy “Sustainable Technology and Business Development”

- Carbon neutral, Circulating and Low environmental impact areas
 - ✓ Regarding fuel ammonia, we conducted Feasibility Studies (FS), Pre-FEED, and Proposals to customers to build value chains.
 - ✓ Various efforts are under way such as SAF, g-Methanol®, PET bottle recycling plant, waste plastics into oils, and decarbonization of ethylene cracker.
- Quality of life field
 - ✓ New orders for high-performance chemicals and pharmaceutical plants.

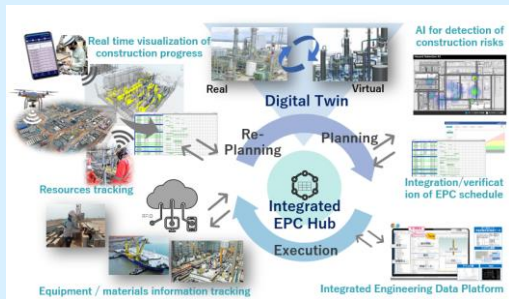
Strategy "Advanced EPC Operation"

- To win new orders and execute by group companies
 - India : Refinery
 - China : Petrochemical
 - Brazil : Refinery

- 6 times EPC productivity by 2025 through DXoT*1
 - ✓ 27% overall progress and start reaping benefits from this fiscal year.
 - ✓ Developing integrated EPC Digital Twin.



Existing Refinery (Image from PETROBRAS website)



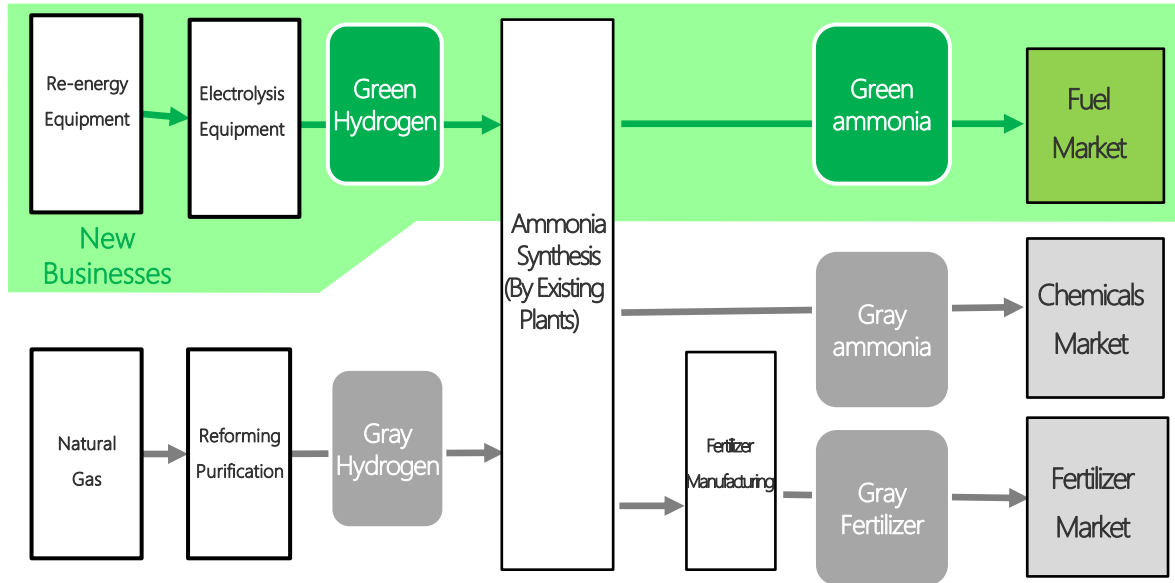
*1 Digital Transformation of TOYO



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Commencement of a feasibility study for green ammonia production in Indonesia

Minimize initial investment and operating costs by leveraging the production capacity of existing facilities and consolidating the green value of multiple plants



At the time of MOU signing

- The project was adopted by the Ministry of Economy, Trade and Industry as a project to investigate the feasibility of developing high-quality energy infrastructure overseas in fiscal 2022, and a survey was started.
- Cooperation with Pupuk Indonesia Holding Company (PIHC) and Pupuk Iskandar Muda (PIM)

Establishment of JV with MODEC, Inc. for EPCI of FPSO

Overview

- Concluded a contract regarding establishment of Offshore Frontier Solutions Pte. Ltd. (OFS) .
- TOYO's shareholding Ratio is 35%.
(Effective in October)



At the time of concluding the JV agreement

Aim

- Deepen the collaboration to carry out a large-scale difficult EPCI*1 project of FPSO*2.
- Anticipating synergies in the development of new technologies and products that contribute to the realization of an environmentally friendly, low-carbon, recycling-oriented society.



*1 Engineering, Procurement, Construction and Installation

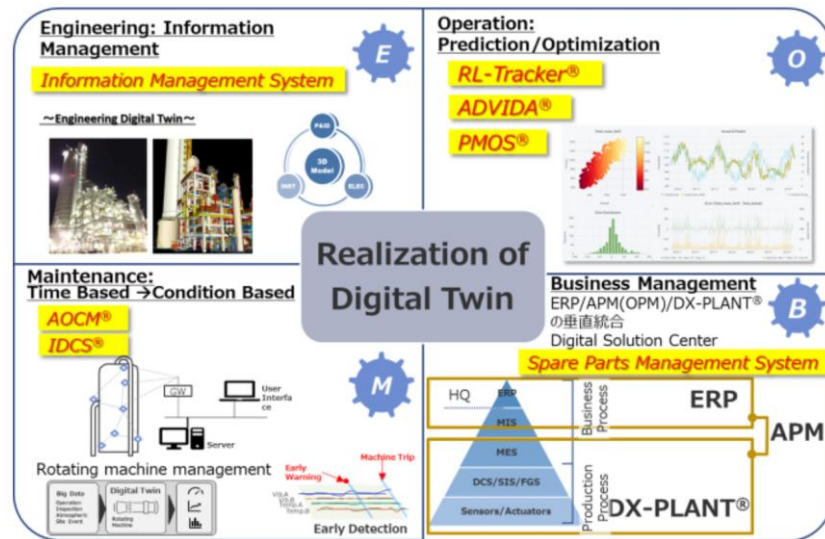
*2 Floating Production, Storage and Offloading system

Concluded a DX-PLANT[®] service agreement for ethylene plant of Maruzen Petrochemical Co., Ltd.

Outline of the Solution

<p>Operation Optimization of Charge Gas Compressor</p>	<ul style="list-style-type: none"> ● Increase of production and less operation costs by appropriate operation through performance monitoring. ● Anomaly detection, prediction and root cause analysis.
<p>RL-Tracker[®]</p>	<ul style="list-style-type: none"> ● Support for optimized planning of cracking furnace operation.
<p>Dashboard to Visualize Plant Operation</p>	<ul style="list-style-type: none"> ● Plant operation data are summarized and visualized on the cloud platform, and users can monitor the plant operation with various devices regardless of the location.

Overview of DX-PLANT[®] Solutions



- DX service platform mounted on the cloud to improve plant operating efficiency.

- First applied to ethylene plant in addition to urea plants.

Two new orders for refinery plants in India

Panipat and Gujarat Refineries for Indian Oil Corporation Limited (IOCL)

Overview

- New vacuum gas oil hydrotreater unit and vacuum distillation unit.
- Consulting services for the construction of new complexes at other refineries are also under way for IOCL.



Characteristics

- Bharat Stage-VI oil refinery expansion project.
- To reduce the sulfur content of the refined fuel oil.



New orders for diesel hydrotreating and hydrogen recovery unit

Replan Refinery for PETROBRAS

Overview

- New diesel oil hydrotreating unit and hydrogen recovery unit.

Characteristics

- Increase production of S-10 diesel (ultra-low sulfur diesel) by 63,000 bpd.
- To reduce the sulfur content of diesel oil refined at refineries.
- Toyo has been implementing projects for PETROBRAS since 1965, and this is the 32nd project.

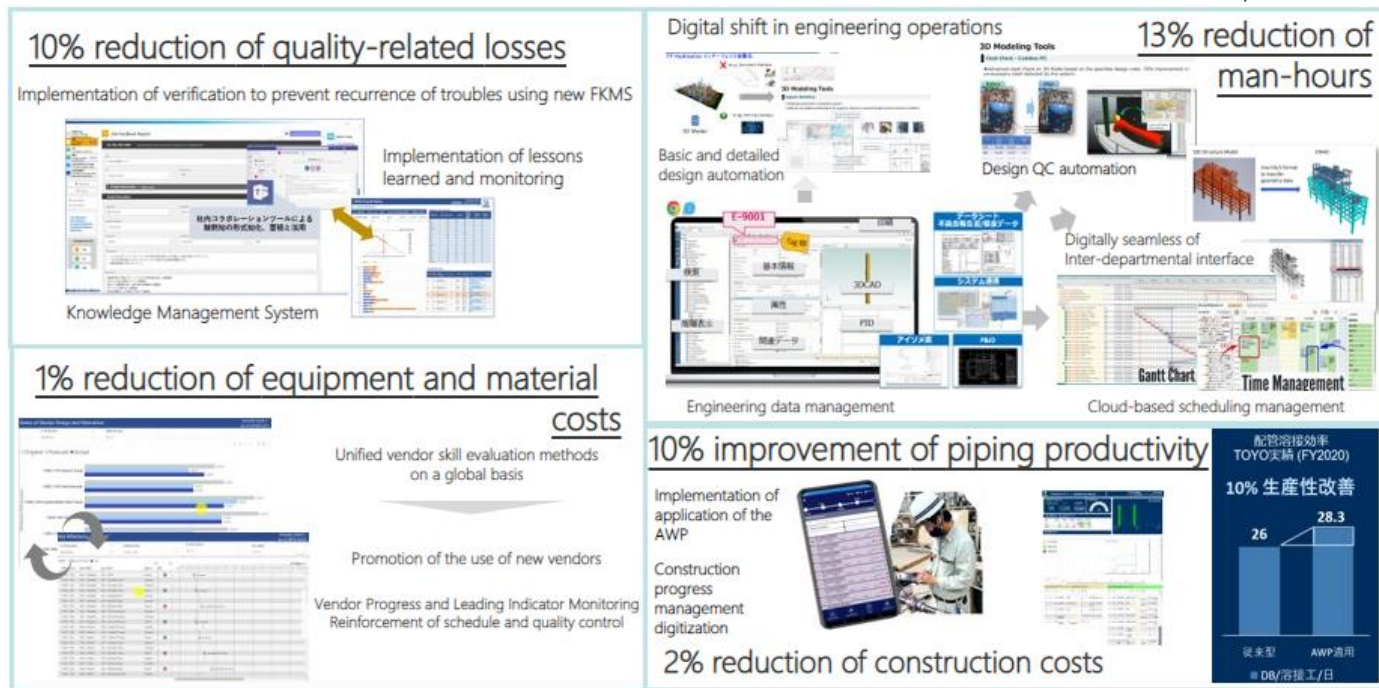


An overview of Replan (Image from PETROBRAS website)

DXoT progress

Building an integrated EPC Digital Twin to promote productivity improvement

As of September 2022



- In December 2022, 34 systems comprising the EPC integrated Digital Twin will start operation (39 systems will be introduced by the end of this fiscal year).
- Detecting and responding to risks through simulation in Digital Twin (virtual space).

Initiatives for Sustainability

Promoting sustainability initiatives starting with response to climate change

1. Response to climate change

- Disclosure based on TCFD recommendations
(See [the Web](#) for details)



- Set metrics and targets for 2050 and 2030 to reduce GHG emissions

Scope 1 & 2

- Achievement **net zero emissions** by **2050**
- **Reduce emissions 30%** by **2030** compared to 2021 (based on GHG emissions per employee)

Scope 3

We will contribute to the reduction of emissions by cooperating with stakeholders and providing technologies, products, and solutions.

2. Formulation of sustainability basic policy

Sustainability Basic Policy

TOYO will contribute to the sustainable development of corporate value and the sustainability of the global society based on our mission of "Engineering for Sustainable Growth of the Global Community".

In response to various issues, TOYO will fulfill our unique role as an engineering company by providing solutions that realize the harmony between the supply of energy and materials and global environmental conservation, which are indispensable for the sustainable growth of the global community.

TOYO is committed to addressing environmental (E), social (S), and governance (G) issues and sustainability based on the materiality of "Aim to realize an environmentally friendly society", "Enrich people's lives", "People of diverse backgrounds engage in active, meaningful work" and "Establish an organization with integrity and discipline".

3. Participation in initiatives

Endorse and sign the ten principles of UNGC*1

Participating in discussions in support of the GX League Basic Plan

Participating in the Human Capital Management Consortium

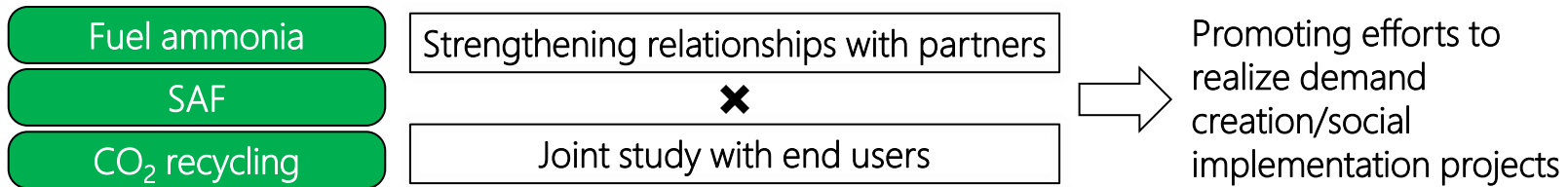
*1 United Nations Global Compact (UN Global Compact)



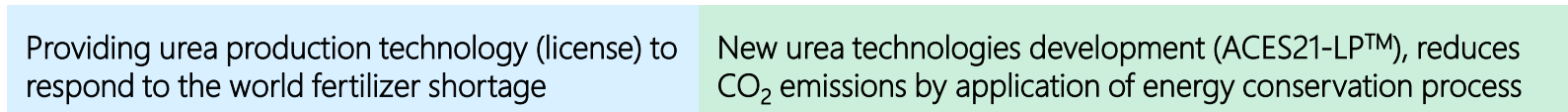
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Priority measures for the 2nd Half

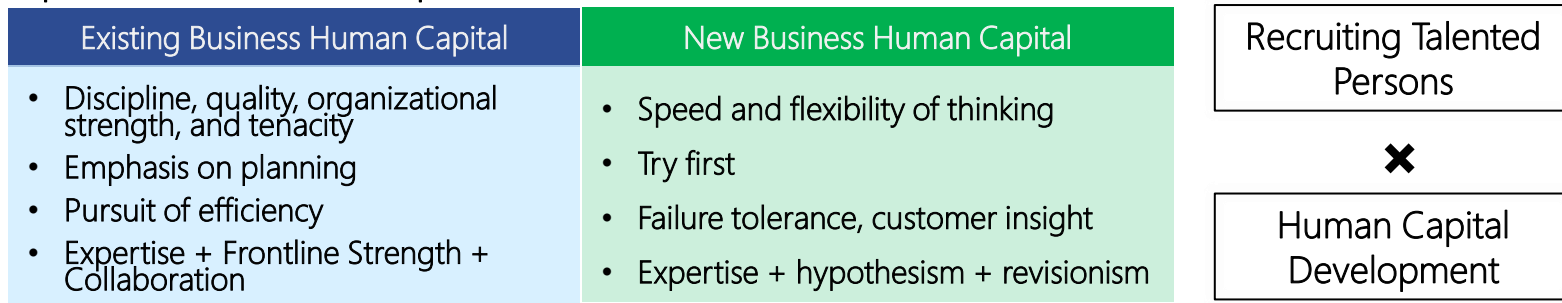
1. Promotion of carbon neutral fields



2. Promotion of the fertilizer (urea) field



3. Expansion of human capital



Business environment and new order target in the 2nd half (1/2)

Target for FY2022: JPY 300 billion*¹ (1st half year result : JPY 122.4 billion*²)

	Business environment	Main areas in the second half year
New business fields	<ul style="list-style-type: none"> • Study to build energy value chains such as hydrogen, fuel ammonia, methanation, and SAF for carbon neutrality are accelerated both in Japan and overseas. • There are inquiries about green methanol. • Demand for biopharmaceuticals and middle molecule pharmaceuticals are strong. 	<ul style="list-style-type: none"> • Construction of hydrogen / ammonia (blue / green) value chain • CO₂ recycling / CCS • Pharmaceuticals and high-performance chemicals • Comprehensive customer support service PMC、HERO*³、DX-PLANT[®]

*1 Including JPY 50.0 billion for an equity method company

*2 Including JPY 21.0 billion for an equity method company

*3 Plant Energy-saving GHG Reduction Service

Business environment and new order target in the 2nd half (2/2)

	Business environment	Main areas in the second half year
Existing business fields	<ul style="list-style-type: none"> • Despite the risk of slowing demand due to the global economic downturn, demand in the fertilizer, chemicals, energy, and power sectors continues to increase with population increase. • Demand for oil, gas, and FPSO projects for transition energy and energy security will continue. 	<ul style="list-style-type: none"> • Petrochemicals/Chemicals: Japan, India, China, South Korea, and Southeast Asia • Fertilizer: Africa • Oil/Gas/FPSO: India, Latin America • Power generation (Geothermal/Gas-fired): Indonesia and Brazil



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 - **First-half results**
 - **KGI and KPI**

The 1st half performance

80% progress of profit compared with the revised forecast

New orders progress is slightly less than half of progress

Unit: JPY billion	1 st half results (A)	Forecast 2023/3	Revised forecast 2023/3 (B)	Progress (A/B)
Net sales	96.4	210.0	210.0	46%
Gross profit	13.3	21.5	23.0	58%
Gross profit margin	13.8%	10.2%	11.0%	—
SG & A expenses	10.2	19.5	21.0	49%
Operating income	3.0	2.0	2.0	150%
Non-operating income & expenses	Δ0.5	0.5	0.5	Δ100%
Ordinary income	2.5	2.5	2.5	100%
Profit attributable to owners of parent	1.2	1.5	1.5	80%
New orders	101.4	250.0	250.0	41%
New orders including the equity method affiliates	122.4	300.0	300.0	41%

Exchange rate for the forecast : 1US\$ = ¥145

Medium-term Management Plan (2021-2025) Progress

KGI (Key Goal Indicator)

Target	FY 2022 1st half
Consolidated net income <ul style="list-style-type: none"> ● Average of 5 billion yen or more from FY 2023 to 25 ● FY2030 ⇒ 10 billion yen 	¥1.2 billion (Yearly forecast of ¥1.5 billion)
Consolidated net sales <ul style="list-style-type: none"> ● Focus on profit rather than net sales ● Sales target : 300 billion yen 	¥96.4 billion (Yearly forecast of ¥210 billion)
ROE <ul style="list-style-type: none"> ● FY2025 ⇒ 10% or more ● FY2026 - : Stably 10% or more 	— (Yearly forecast of 3.3%)
Dividends <ul style="list-style-type: none"> ● Aim to distribute dividends within the medium-term management plan 	—

KPI (Key Performance Indicator)

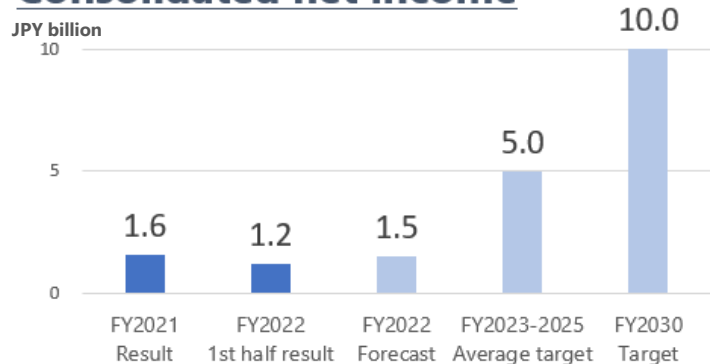
Target	FY 2022 1st half
Non-EPC ^{*1} gross profit Composition <ul style="list-style-type: none"> ● FY2025: 25% or more ● FY2030: 50% 	38%
New business areas Gross Profit Composition <ul style="list-style-type: none"> ● FY2025: 25% or more ● FY2030: 50% 	25%
Gross Profit Composition (Group companies) <ul style="list-style-type: none"> ● FY2025: 45% or more ^{*2} ● FY2030: 50% 	59%
Employee's satisfaction <ul style="list-style-type: none"> ● Improved from the previous year 	3.63 (highest in 5) in the previous year. Next time is in FY2023
Number of employees <ul style="list-style-type: none"> ● Toyo-J : To double resources from 110 for new technology and business ● Group companies : Increase / decrease according to their needs 	About 130 employees A total of 6,000 employees

*1: Non-EPC = Business except -EPC/EP Lump-Sum Projects

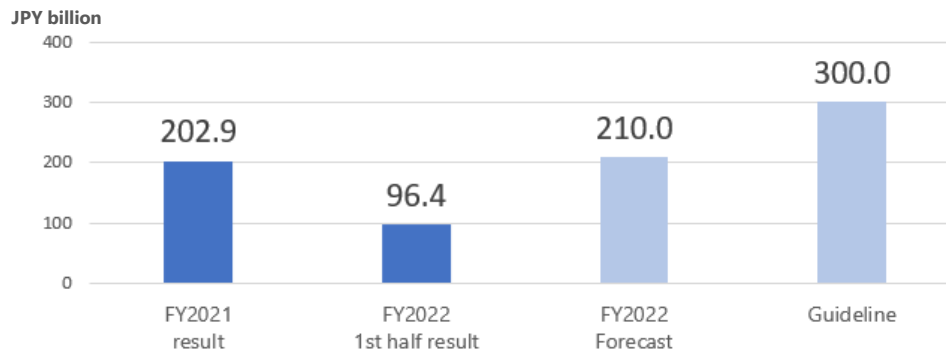
*2: TSPI (Brazil) is not included because of an equity method company

KGI

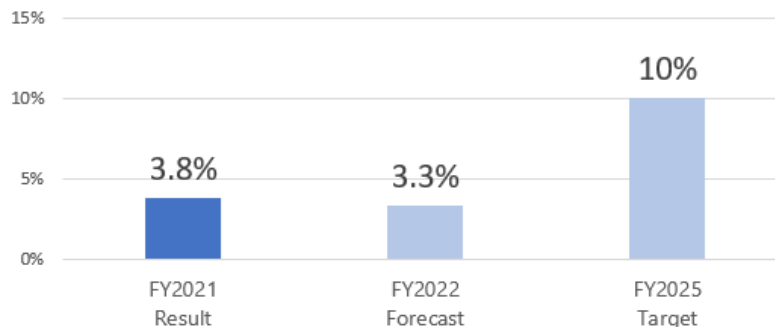
Consolidated net income



Consolidated net sales



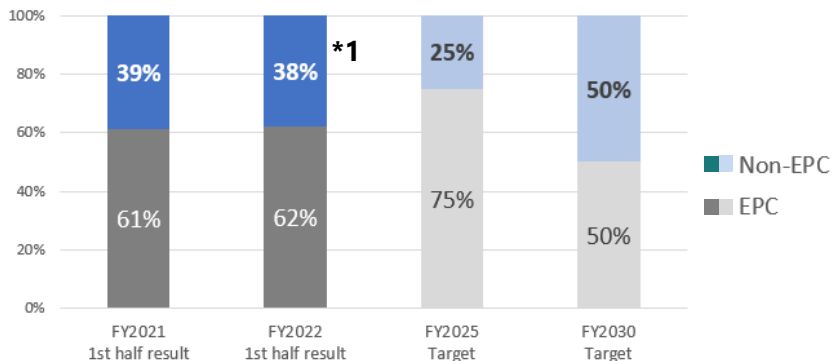
ROE



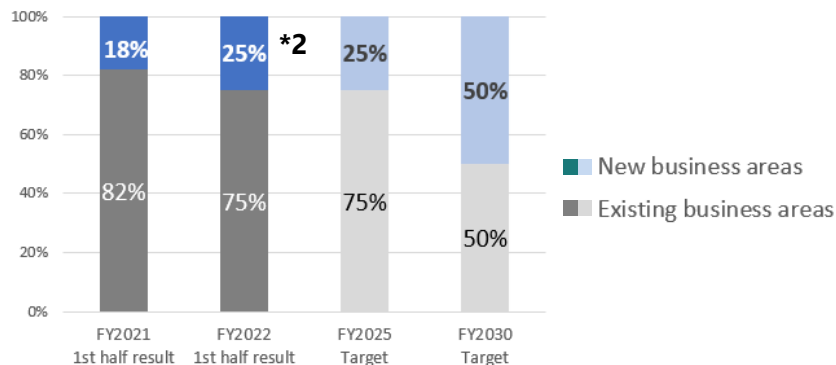
- Consolidated net income**
 Achieved 80% of progress due to high profitable projects completed in the 1st half year.
- Consolidated net sales**
 Progress of projects in India is expected and net sales will improve in the 2nd half of the year.
- ROE**
 Improve profit levels toward ROE target in FY2025.

KPI

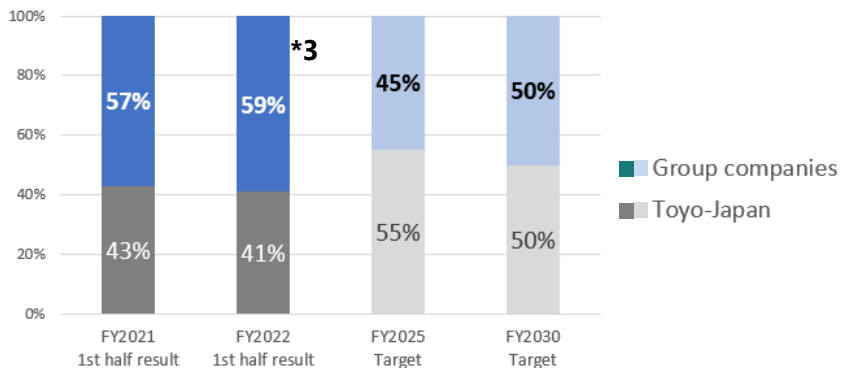
Non-EPC gross profit composition



New business areas gross profit composition







Group companies gross profit composition



*1: Major Non-EPC Projects: Petrochemical FEED (China)
Refinery PMC (India)

*2: Major New Business Projects:
High-performance chemicals (South Korea and China)
Methane hydrate (Alaska)
Energy-saving GHG reduction service (domestic and overseas)

*3: Major Projects of Group Companies:

-  Toyo-India (Refinery, Chemicals/Fertilizer)
-  TPS (Maintenance, Pharmaceuticals)
-  Toyo-China (Chemicals, Petrochemicals)
-  Toyo-Korea (Semiconductor-related)

TSPI (Brazil) is not included as an equity-method affiliate.



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